Using Gamification Strategies to Cultivate and Measure Professional Educator Dispositions

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ABSTRACT

One of the most important outcomes of pre-service teacher education is the transition from assignment-oriented students to service-oriented education professionals. Faculty can assist in this process by cultivating professional educator dispositions within their courses. Gamification strategies can be an effective way to provide students with timely feedback regarding their progress toward professional educator dispositions. This study investigated the effectiveness of points, timely feedback, and leaderboards on cultivating and measuring specific professional educator dispositions among pre-service teachers. Data was collected in four domains - personal responsibility, intellectual engagement, professional ethics and stewardship, and supportive interactions - where gamification strategies were additively implemented over five semesters. Results from this study indicate gamification strategies, when bundled together to leverage motivating factors such as competition and personalization led to increased gains in the four domains of professional educator dispositions.

KEYWORDS

Educator Dispositions, Gamification, Leaderboard, Points, Teacher Education

INTRODUCTION

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In 1982, Atari attempted to ride the momentum from the summer blockbuster, E.T.: The Extra-Terrestrial, by hastily creating a video game based on the movie while it was still surrounded by hype and good box office sales. Surely people who liked the movie would buy the video game and experience the same feelings when advancing through each level with their favorite characters. As it turned out, Atari learned the hard way that an idea based on a popular movie, when poorly designed, will not naturally lead to success. Thousands of copies of this game were unable to be sold and were eventually dumped in a landfill. Similarly, an estimated 80% of game-based or gamified initiatives will fail due to poor design (Petty & van der Meulen, 2012).

The same principle applies to teacher education: placing pre-service teachers in schools and requiring them to write lesson plans will not inherently develop effective education professionals. Pre-service teacher experiences and exercises must be carefully planned and intentionally target specific outcomes related to effective instructional practice; these outcomes cannot be left to chance. The DOI: 10.4018/IJGBL.2019010102

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entire spectrum of teacher knowledge and skills -- everything from knowledge of child development and theories of learning to skills in classroom management and instructional planning -- must be intentionally taught, supported, measured, and refined. Perhaps the most difficult of the teacher education outcomes to support and measure is professional educator dispositions (Hargreaves, 2000).

Pre-service teacher preparation marks an important transition in the professional lives of educators, moving from an orientation focused on personal achievement and individual responsibility to student achievement and responsibility for the success of others (Sutherland, Howard, & Markauksaité, 2010). Most of the gains pre-service teachers make toward professional behavior, including their commitment to teaching, task orientation, professional orientation, and self-efficacy, are incremental and achieved over a period of time (Lamote & Engels, 2010). A teacher’s professional orientation may include increased awareness of the importance of such behaviors as punctuality, preparation, reputation among those inside and outside the school community, contributing to the culture of the school, and continuous improvement through self-reflection.

The purpose of this study was to investigate the effectiveness of gamification strategies on cultivating and measuring professional educator dispositions among pre-service teachers. Specifically, this study focused on the effect of gamification strategies on pre-service teachers’ personal responsibility, intellectual engagement, professional stewardship and ethics, and supportive interactions. Each of these factors could be considered a precursor to the professional behaviors an educator will one day be expected to demonstrate in the classroom (Smith & Lev-Ari, 2005).

Gamification, Professionalism, and Technology

Gamification

Gamification, the use of game mechanics in non-game environments to increase user engagement, motivation, and satisfaction, is a growing trend in the areas of education, healthcare, commerce, and fitness, to name a few (Deterding, Sicart, Nacke, O’Hara, & Dixon, 2011). Principles of gamification, or game mechanics, can be applied across a variety of contexts and are used to motivate people to engage in particular targeted behaviors (Landers, 2014). Volkswagen applied this concept in 2009, when they developed the Fun Theory marketing campaign (www.thefuntheory.com). The purpose behind this series of commercials was to investigate whether or not people would be more likely to participate in mundane tasks by making them more motivating, engaging, and satisfying. Whether it was turning stairs into a piano, making a recycling bin into a game, or using a lottery system to reward drivers who follow the speed limit, concepts of gamification were applied to successfully modify human behavior.

Game mechanics include elements such as points, levels, challenges, virtual goods and spaces, leaderboards, and gifts and charity (Sicart, 2008). Game mechanics interact with sources of human desire and motivation -- reward, status, achievement, self-expression, competition, and altruism -- to fuel an individual’s willingness to play the game (Bunchball, 2010). For example, players of an arcade game interact with various game mechanics: they earn points for completing game tasks, they potentially move up to higher levels with progressively harder challenges, and results are ranked on a high score leaderboard. The game dynamics fueling the actual act of playing the game may be the reward of earning extra lives to extend the game, unlocking unknown levels of the game thus enhancing the experience, and being able to add the gamer’s name to a high score board. In other words, people are more likely to buy-in to something if they perceive there is a payoff for doing it, or if it resonates with personal goals or desires.

Game mechanics equally apply to non-game environments. Game mechanics such as badges, leaderboards, avatars, and levels can be applied to various contexts to increase motivation, engagement, and satisfaction. For example, a waste management company may reward a certain number of points each week based on the weight of a resident’s recyclable materials, and those points can be redeemed for discounts at stores and restaurants. Even though the residents are not playing a real game, the game mechanic of points is being used. Residents may choose to buy into the recycling program