Chapter 2
Examining the Possibilities:
Gameful Learning as an Innovative Pedagogy for Teacher Preparation Programs

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ABSTRACT

This chapter examines the efficacy of Gameful Learning, an emerging pedagogy, as a learning and assessment strategy. The theoretical foundation supporting its use is reviewed along with an emerging research base supportive of its use. The chapter also explores lessons learned from the initial integration of Gameful Learning into one junior level teacher preparation course. Recommendations for those interested in implementing Gameful Learning are offered. The chapter concludes by offering a set of concrete recommendations for future research regarding Gameful Learning's efficacy for teacher education programs.

INTRODUCTION

Gameful Learning is an emergent pedagogy developed by faculty in the Center for Academic Innovations at the University of Michigan. It is an approach to learning and assessment that supports positive learner engagement within a context of personalized and autonomous learning. Instructional use of Gameful Learning is intended to encourage learners to engage deeply with course content, take risks, and be resilient while working towards academic success (Holden, et al., 2014).

To achieve these goals, Gameful Learning instructors rely on a set of core ideas grounded in motivation theory. They are also mindful of the critical attributes of well-designed games (Gee, 2003). Dechev, Dicheva, Angelova, & Agre (2014) identified the following seven critical elements of Gameful Learning: 1) goals that the student seeks to achieve or master; 2) actions that the student can perform while seeking to reach a desired goal; 3) a game state wherein the student operates; 4) feedback provided by the game (or instructor); 5) a rule system that determines how the student will operate within the Gameful Learn-

ing system; 6) a challenge, or set of challenges, that the student will master; and, finally, 7) a means of understanding of how to achieve goals. Grounding course design in these concepts and goals, Gameful Learning instructors seek to establish active, autonomous learning environments appropriate for both online and traditional learning courses.

THEORETICAL FOUNDATION

Gameful learning is grounded in an understanding of the role of games in supporting learning (Gee, 2003). Likewise, self-determination theory (Dechev, et al., 2014; Deci & Ryan, 1985; Ryan & Deci, 2000), with its emphasis on intrinsic and extrinsic motivation, (Holman, & Fishman, 2015) as drivers for competence (Ryan & Deci, 2001) and autonomous learning is important to consider. Autonomous learning occurs when the learner is asked to "solve problems or develop new ideas through a combination of divergent and convergent thinking" and is asked to do so "with minimal external guidance" from the facilitator (i.e., instructor) (Betts & Knapp, 1981, p. 30). Autonomous learning is reflective of mastery and personalized learning, sharing many of the same critical attributes and goals. As such, it is viewed as supporting a sense of competence which then serves as an intrinsic motivator. Within this context, choice is viewed as a form of "non-controlling instruction" (Ryan, Rigby, & Przybylski, 2006. p. 345) that serves to motivate the learner even as it allows him or her to demonstrate competence. Within the context of Gameful Learning, competence is further enhanced via the use of challenging tasks that demonstrate mastery of knowledge, skill, and/or dispositional learning. Likewise, it is possible that Gameful Learning can, to some degree, create a sense of presence for the learner that allows him or her to feel in control of the learning experience (Rigby, 2004).

Gameful Learning and Constructivism

Constructivist learning, with its emphasis on learner centric instructional methods (Piaget, 1959; Vygotsky, 1978), also informs understanding of Gameful Learning. Focusing on authentic, meaningful, and active learning along with learner choice, constructivism aligns well with Gameful Learning's goals. Considerations regarding how to demonstrate knowledge, skill, or dispositional learning (i.e., show what you know) bring Gameful Learning squarely into this domain of understanding. Gameful Learning provides a safe place where trial and error (i.e., freedom to fail) can occur within an a flexible, but scaffolded environment, wherein learner needs are supported as much or as little as desired by the instructor or required by the curriculum (Ryan & Deci, 2000).

AN EMERGING LITERATURE BASE

The objective of a gameful learning course design is the creation of a learning environment that supports a sense of autonomy, competence, and relatedness within learners thus leading to enhanced intrinsic motivation and engagement (Aguilar, Holman, & Fishman, 2015)**.** Holden, et. al, (2014) outline the capacity of Gameful Learning to function as a "descriptive framework to better understanding teaching and learning with games" (p. 15) and other improvisational methods of learning. The authors further argue

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