


Chapter 45

Gamification in Adult Learning

Abdulmenaf Gul

 <https://orcid.org/0000-0002-3683-8441>

Hakkari University, Turkey

Cigdem Uz Bilgin

 <https://orcid.org/0000-0001-6997-344X>

Yildiz Technical University, Turkey

ABSTRACT

Various methods and technological tools have been utilized to meet the unique needs of adult learners. One of the recent methods is gamification, in which game elements and mechanics were utilized within a non-gaming context. This chapter reviews the literature and presents an overview of gamification implementations to develop systematic understanding of how gamification can be integrated into the adult learning process. An electronic search of articles from 2009 to 2019 was conducted, and 23 studies were reviewed in detail. The study shows gamification has mainly been utilized within the workplace environment and in the health education. The principle investigated constructs were satisfaction, motivation, engagement, and knowledge acquisition. Although the reviewed papers reported promising results in terms of utilizing gamification for adult learning, further research is needed.

INTRODUCTION

Demographic changes and the aging worldwide population, especially in developed countries, have become important issues for today's modern world. This change has led to significant challenges in many areas, including education. Education and training in the workplace and lifelong learning have gained recognition, so that researchers, practitioners, and policymakers are searching for more effective and efficient teaching methods. Various emerging technologies have been investigated for their potential affordances to meet this emerging demand in adult education. These technologies have created new opportunities for the teaching of adults as their affordances are consistent with the principles of adult learning (Knowles, Holton, & Swanson, 2005). Online learning, mobile learning, and game-based learning have been gaining popularity among organizations that deliver adult education programs.

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The utilization of digital games for educational purposes is not a new phenomenon, but their application within adult learning contexts has recently become more popular. Thus, the effectiveness of games and gamified learning for adults is an area that needs scientific study and exploration. Gamification is a relatively new phenomenon that is derived from the design techniques and mechanisms of digital games. Some researchers have proposed a broad definition of gamification as; the method of using game elements and mechanics in non-gaming contexts (Deterding, Sicart, Nacke, O'Hara, & Dixon, 2011). In addition to this generic definition, Kapp (2012) proposed a more specific definition as “using game-based mechanics, aesthetics and game thinking to engage people, motivate action, promote learning, and solve problems” (p. 10). Gamification uses a wide range of game elements which are categorized as mechanics and dynamics. Badges, points, virtual rewards, and levels, etc. are some of the most commonly used examples of game mechanics. Dynamics, on the other hand, are abstract concepts that emerge from a player's interaction with game mechanics. Achievement, reward, and competition are examples of game dynamics. Unlike digital games, gamification is not limited to a specific technology or environment such as immersive or simulated 3D environments. Rather, gamification is a method that can be integrated into a wide range of real-world scenarios to transform entire learning processes into game form by utilizing game mechanics. The increasing popularity of gamification has led researchers and practitioners to apply this method to a variety of domains such as corporate training (Hamari, Koivisto, & Sarsa, 2014; Sailer, Hense, Mandl, & Klevers, 2017), marketing (Dicheva et al., 2015), health and wellness (Seaborn & Deborah, 2015), as well as education and training (Hamari et al., 2014; Lee & Hammer, 2011; Muntean, 2011). Even though the application of gamification in education has been still an emerging trend, current research shows that this method can be particularly effective in fostering motivation, engagement, and knowledge acquisition (De Sousa Borges, Durelli, Reis, & Isotani, 2014; Dickey, 2007; Domínguez et al., 2013; Grünewald, Kneip, & Kozica, 2019; Su & Cheng, 2015).

The question of whether gamification is an appropriate method for adult education requires special consideration. Various technologies have been utilized to support the needs of adult learners, with many organizations offering online and mobile learning solutions both within formal and informal settings in order to increase productivity. It is important to underline that educational researchers and practitioners need to carefully consider the unique characteristics and needs of adults while designing and implementing technology-based learning methods and techniques. Adult learners' background, characteristics, and goals differ significantly, thus traditional learning methods, which are developed mostly for children, may not be all that effective for the education of adults (Illeris, 2010). Several theories and methods have been designed in order to understand the nature of adult learning processes and to provide guidelines for designing and delivering effective educational programs (Merriam, 2010). Adult learning theories emphasize the importance of learner-centered, self-directed, flexible and experience-focused approaches. As Knowles et al. (2005) state, technology provides many learning opportunities based on the autonomous and self-directed principles of adult learning. Therefore, well-designed technology-supported gamification tools and techniques have the potential for resolving issues related to adult learning, and thereby increased learner motivation, engagement, and productivity (Grünewald et al., 2019).

A significant amount of the research into gamification has been conducted in the context of higher education and within formal learning environments. However, a systematic understanding of how gamification can be integrated into adult learning environments is still lacking. Therefore, the purpose of the current study is to review the current gamification and adult learning literature, and then to investigate how gamification applies within adult learning context to better understand the tendencies and emerging trends in this field.

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