

## CHAPTER II

### REVIEW OF RELATED LITERATURE

#### 2.1 Introduction to Gamification

Gamification is the process of introducing elements from games like leaderboards, badges, and points into non-gaming contexts to enhance user engagement and enjoyment. This idea has gained a lot of traction across several fields, including education. Modern students, are often uninterested in traditional teaching methods. Teachers can make their lessons more dynamic and engaging by incorporating game elements. Gamification, according to Deterding et al. (2011), makes use of the "motivational power of games" to promote effort and participation. Enhancing learning outcomes and increasing student involvement are the goals of this strategy. Students are more likely to remain motivated and engaged in their studies when they find the material enjoyable. Gamification, then, is a useful tool for teachers who want to improve the learning environment.

#### 2.2 Key Concepts Driving Gamification

The foundation of gamification lies in a number of significant psychological theories that explain its effectiveness. One of the theories is self-determination. Deci and Ryan (2000) Self-Determination Theory, people feel more motivated when they have a sense of competence, relatedness, and control over their lives. By providing tasks that are appropriate for their skill level, gamification assists students in achieving this state of flow. The idea that rewards and feedback have a major impact on behavior is supported by recent studies in behavioral psychology and educational technology. The concepts of self-determination theory emphasize the

significance of both internal and external motivators in encouraging involvement and ongoing effort, according to studies by Deci and Ryan (2020). By utilizing these ideas, gamification promotes positive behavior and consistent effort by offering quick feedback and rewards. A more recent theory, Siemens' Connectivism (2005), emphasizes the importance of networks and connections in the learning process, highlighting that learning occurs through the connections we make with others and with information sources. These theories offer a solid framework for comprehending the ways in which gamification in education can be beneficial.

### **2.3 Key Elements of Gamification**

A number of essential components of gamification make education more interesting and inspiring. Students receive points for finishing assignments, which gives them instant feedback and a sense of success. Students are encouraged to keep participating because these points serve as an actual measure of their progress. As clear markers of accomplishment, badges motivate students to meet predetermined objectives. Students feel appreciated and rewarded for their efforts when they receive badges. Leaderboards add a friendly competitive element by motivating students to beat their peers. Students' achievement may increase and a sense of community may be fostered by this competition. With the help of structured goals and a clear sense of direction, challenges and quests help students navigate their learning process.

By demonstrating to students their growth over time, levels and progression systems fosters a mastery. Rewards and feedback systems are essential for sustaining motivation, accepting work, and offering helpful criticism. As mentioned by Kapp (2012), these components can greatly improve learning by making it more

engaging and interactive when they are combined in a productive way. Teachers can create a dynamic and stimulating learning environment that keeps students engaged by incorporating these game-like elements.

## **2.4 Gamification in Education**

Gamification has been effectively implemented in a variety of educational environments, including universities and elementary schools. Students of all ages benefit from this method's increased interactivity and engagement in the classroom. For instance, *Kahoot!* and *Duolingo* use gamified components to enhance learning. With the help of games and *Quizzes*, *Kahoot!* creates an engaging and competitive learning environment where students can learn while having a good time. On the other hand, *Duolingo* makes learning a new language fun and rewarding by using levels, streaks, and points to encourage language learners. Gamification has the potential to increase student engagement and motivation in elementary school by bringing science and math to life. Instructors note that students are better at remembering the material and are more willing to participate in class.

Gamification in higher education transforms lectures into interactive narratives or missions, which helps students remain engaged in difficult courses like biology or history. As stated by research by Hamari, Koivisto, and Sarsa (2014), gamification boosts student motivation, engagement, and participation in educational settings. These platforms use leaderboards, badges, and points to create an exciting, competitive learning environment that motivates students to participate fully and meet their learning objectives. Furthermore, gamification can support

customized learning by letting students advance at their own speed and meeting their unique learning requirements and learning styles.

## **2.5 Benefits of Gamification**

There are many benefits to Gamifying education, but three in particular include stress reduction, vocabulary growth, and motivation. Gamified learning platforms like *Quizizz* and *Kahoot!* make learning fun and stress-free, allowing students to take on assignments with confidence. Better focus and engagement are fostered by this stress reduction. Through interactive games, streaks, and instant feedback, platforms like *Duolingo* and *Wordwall* are excellent at enhancing vocabulary acquisition, making learning fun and efficient. Furthermore, immediate incentives like badges and points boost motivation, inspiring students to continue participating and work towards advancement.

In line with Seaborn and Fels (2015), gamified learning environments keep students engaged and motivated, which dramatically improves academic achievement. In addition to improving retention and comprehension, these resources assist students develop important life skills like cooperation and problem-solving.

To put it briefly, gamification makes learning more dynamic and stress-free, which enhances results and makes learning more interesting and approachable.

## **2.6 Game Mechanics in Education**

Using game-like elements like leaderboards, badges, levels, and points to improve student learning is known as gamification in education. Inspired by the dynamics of video games, these elements foster a sense of accomplishment, progress, and competition. Gamification greatly boosts student enthusiasm, engagement, and participation, creating a more fruitful learning environment,

according to research by Hamari, Koivisto, and Sarsa (2014). Teachers can create activities that motivate students to advance and accomplish goals by combining these components. For example, students can obtain badges for learning skills, receive points for finishing activities, and compete on leaderboards. In addition to making learning more interesting, this helps students concentrate on successfully completing their coursework.

## **2.7 Types of Educational Games**

Role-playing games, simulations, and serious games are examples of educational games that are designed to impart particular knowledge or abilities. as stated by renowned authority on game-based learning James Paul Gee (2003), "games are motivating because they allow for repeated, focused practice, often in the context of highly engaging virtual worlds." By placing students in real-world situations, these games enable them to effectively practise skills and apply knowledge.

Gamified tools with interactive features, particularly for English language learners, make the experience engaging and useful. With features like streaks, points, and instant feedback, platforms like *Duolingo* and *Wordwall* combine vocabulary challenges, narrative, and *Quizizz*. According to game-based learning supporter Jane McGonigal (2011), "well-designed games help build focus, resilience, and optimism in learners, making education more engaging and impactful."

Educational games inspire students, promote deeper knowledge, and enhance the effectiveness and enjoyment of learning by mixing interactive elements with engaging experiences.

## **2.8 Gamification for Students Engagement**

The level of focus, curiosity, interest, optimism, and passion that students suggest during their learning experiences is all included in the concept of student engagement. It displays their intrinsic motivation and active participation in learning activities. Student engagement has behavioral, emotional, and cognitive components, according to Fredricks, Blumenfeld, and Paris (2004). These components include involvement in activities, emotional responses to learning, and investment in comprehending difficult subjects.

Research suggests that the incorporation of game elements that encourage sustained motivation and active participation can greatly improve student engagement through gamification. A thorough analysis of the benefits of gamification in a variety of contexts, including education, was carried out by Hamari, Koivisto, and Sarsa (2014). Their results show how gamification techniques like leaderboards, badges, and points boost students' interest in learning by enhancing the fun and interactivity of academic tasks. Similar to this, Dichev and Dicheva (2017) stress that gamification raises student engagement by giving them instant feedback and recognition, which boosts their sense of achievement and progress.

Incorporating game features such as leaderboards, badges, and points into instruction emulates the captivating nature of games. Jesse Schell has observed that games should make things more interesting rather than easier (Schell, 2010). According to the theory of self-determination, gamified learning offers students autonomy, prompt feedback, and well-defined objectives all of which are essential components of motivation. Additionally, as students work toward common objectives and engage in a positive, competitive environment, gamification

promotes a sense of community and teamwork among them. Growing engagement with the material, this communal aspect promotes peer learning and improves social interactions.

## **2.9 Implementing Gamification in the Classroom**

Activities must be in line with educational goals while encouraging participation for gamification to be effective. According to Dr. Lee Sheldon (2011), "the best learning games are sneaky learning," in which instructional content is effortlessly incorporated into game dynamics.

With instant feedback, points, and prizes, gamified tools like *Kahoot!* and *Quizizz* help students feel competent and improve their confidence as they observe their progress. Platforms such as *Wordwall* promote interactive discussions or group challenges to improve media for discussion while encouraging communication and critical thinking. It's crucial to maintain a balance between learning objectives and game aspects. Game-based evaluations, interactive simulations, and narrative quests can all maintain motivation while producing learning objectives. In the words of Seaborn and Fels (2015), gamified settings enhance critical thinking, retention, and teamwork, transforming the educational process.

## **2.10 Impact of Gamification on Learning Outcomes**

In educational settings, gamification has proven a great deal of promise for improving a variety of learning outcomes. Research findings suggest that incorporating game features like leaderboards, badges, and points can serve as an effective means of inspiring students and enhancing their academic achievement. For example, a meta-analysis conducted in 2014 by Hamari, Koivisto, and Sarsa examined a number of studies and came to the conclusion that gamification

improves learning outcomes by encouraging students to engage and keep going through educational tasks. They discovered that gamified settings encouraged a more active approach to learning, which improved understanding and memory of the subject matter. Furthermore, Deterding et al. (2011) claim that gamification makes use of games' motivational elements to promote effort and success in learning. According to their observations, educators can design environments that are both engaging and supportive of successful learning outcomes by organizing learning activities like games.

### **2.11 The Correlation Between Gamification Contribution and Students**

The fundamental ideas and advantages of Gamification are tightly connected to how it is applied and how it affects student involvement. Gamification turns conventional teaching strategies into interesting experiences by including game components like leaderboards, medals, and immediate feedback. These characteristics are useful instruments that smoothly fit with educational objectives to boost motivation, encourage involvement, and provide a sense of accomplishment. They are not just theoretical constructs. The practical results of gamification in the classroom, where *Quizizz* and *Kahoot!* encourage teamwork and critical thinking, serve as additional evidence of this. The psychological foundations, such as connectivism and self-determination theory, offer a framework for creating gamified activities that successfully engage students' emotions and cognitive abilities. When taken as a whole, these concepts show how the gamification principles result in measurable results, making it an innovative strategy in educational settings.