



Gamified Education

Games-Based Learning & Gamification in 3D Virtual Learning Environments



QUESTLINE OVERVIEW

Gamified Education

Quest	Task
Games-Based Learning	Study
Digital Games-Based Learning	Study
Gamification	Study
Edutainment	Study
Serious Games	Study
Level	1
Boss Fight	Interactive Quiz
Experience Points	100
Achievement	Spectral Teacher

QUESTLINE DESCRIPTION



Highlights

- (Digital) Games-Based Learning is usually associated with the terms Gamification, Edutainment, and Serious Games.
- The main idea of this approach is that students learn through the game instead of how to play the game.
- The essence of this model is to invoke psychological experiences—similar to the ones that games do through their rich and visual appealing aesthetics—and motivate learners to engage with the learning activities.
 - 3D Virtual Worlds provide fertile ground for gamified learning and training activities.
 - ' Educators have opted to combine the use of 3D Virtual Worlds in order to perform gamified scenarios spanning a wide diversity of educational contexts and scientific fields.

GAMES-BASED LEARNING



- Prensky introduced and described Game-Based Learning as the marriage of educational content and computer games.
- ✓ The Game-Based Learning activities can be distinguished into two main categories:
 - (1) Learning directly from [playing] the game (constructivist approach)
 - (2) Learning from teacher-driven activities related to the game (instructional approach)
- Proponents of active construction emphasise the opportunities offered to learners to practice the so-called soft skills (e.g., decision-making, problem solving, communication, collaboration, teamwork) that cannot be easily taught in isolation.
- ✓ Those soft skills can, however, be practiced through coopetition—collaboration with group members and competition between groups—or player-learner experience.

DIGITAL GAME-BASED LEARNING



- Digital Game-Based Learning is another example of student-centered learning model.
- Digital gamified activities should be implemented with the same affordances required to design and develop virtual games in order to motivate and engage learners.
- ✓ There are different factors to consider before adopting a Digital Game-Based Learning approach.
 - One such factor is the development of a clear understanding of the subjects that Digital Game-Based Learning can support, as well as of the skills that can be developed in order to benefit learners.
 - Another factor is the identification of the most suitable game for a given subject, as well as of the learning stage and the instructional method that should be deployed.
- Educators are advised to blend the game elements with the instructional activities so as to further extend the context of the game into the physical classroom.



GAMIFICATION

- Researchers refer to gamification as the use of game design elements in non-game contexts.
- This bridging has resulted in a great number of positive outcomes, especially on motivation and engagement, compared to just employing traditional learning techniques.
- However, despite the reported benefits and applications of gamification, researchers still maintain a high degree of scepticism towards its effectiveness on the learning process.
- Therefore, balancing between playability and pedagogy is a rather challenging task that educators and instructional designers ought to consider carefully and sensibly.



EDUTAINMENT

Informational

Edutainment is defined as the implementation of technological innovations (e.g., multimedia, computer software) in traditional education, where games whose first purpose is not mere entertainment are introduced, aiming to support learning in its broadest sense.



Hopscotch



Guitar



Dance Pad



Piano





Sand Castle Building



Laptop



E-Book

Lego

Graph

3x3x3 Puzzle Block



SERIOUS GAMES

- The Serious Games Initiative aimed at bringing together "[...] developers, researchers and industrial people, who are looking at ways to use video games and video games technologies outside entertainment".
- Serious (Educational) Games aim at engaging users in interesting (learning) activities via which they can either experience the premade storyline or even shape its path via their decisions.
- Supporters of Serious Games promote immersive learning wherein the student-users reach a state of deep learning that enables them to conceptualise, process, and reflect on the subjects under investigation.
 - The consequences of trial and error (i.e., the failure to achieve the game's goals) can be transformed or translated into feedback on and explanation of the learners' actions. This way, students can evaluate their decisions and take ownership over their future actions.