

Classification of (Serious) Games

QUESTLINE OVERVIEW



Classification of (Serious) Games

Quest	Task
Action Games	Study / Explore
Adventure Games	Study / Explore
Board Games	Study / Explore
Puzzles	Study / Explore
Quiz / Trivia	Study / Explore
Role-Playing Games	Study / Explore
Sandbox Games	Study / Explore
Treasure / Scavenger Hunt	Study / Explore
Simulators	Study / Explore
Sports Games	Study / Explore
Strategy Games	Study / Explore
Level	2
Challenge	Identify one digital educational game for at least 2 categories.
Boss Fight	Quiz-Based Game
Experience Points	200
Achievement	Hunger for Games

QUESTLINE DESCRIPTION



Highlights

- ✓ Different games appeal to different people.
- ✓ Researchers have broadly categorised digital games in terms of:
 - (1) Genre: Drama, Crime, Fantasy, Horror, Mystery, Science Fiction, War & Espionage
 - (2) Type: Action, Adventure, Puzzle, Role Playing, Simulations, Sports, Strategy
- ✓ Modern (educational) games take the best of 'all worlds' and incorporate them into a thoroughly entertaining collection of game mechanics and storytelling conventions.
- ✓ Choosing the appropriate game type for educational purposes depends on the content to be learned and /or the mental processes to be developed.

ACTION GAMES



Informational

- ✓ In 'Action Games' the player controls a digital personality (avatar), via which assumes the role of a protagonist, who is called to complete a specific mission or fulfill a specific goal.
- ✓ As the sensory-motor skills prevail over the cognitive abilities, the players—while attaining the game objectives—may face unforeseen dangers, pitfalls, and/or manage dilemmas—framed under different kind of activities (e.g., exploration, racing, shooting)—which usually require the performance of short-term action sequences.
- ✓ When it comes to educational action games, students are called to utilise their common thinking skills to progress through different levels and ultimately complete the game.

ADVENTURE GAMES



Informational

- ✓ 'Adventure Games' have more thoughtful gameplay, unfolded via a series of adaptive storylines (plots), which aims at arousing players' mental stimulation.
- ✓ Since adventure games are driven by storytelling emphasis is given on the character development (personal and emotional growth) rather than on the acquisition of new powers or abilities that affect the gameplay.
- ✓ In educational adventure games, students are required to apply their problem-solving skills to collect and combine information or objects which are required to solve the major storyline mystery.
- ✓ The context of the storyline (e.g., the basic environment, the theme of the plot, the involved characters) is usually adjusted to or aligned with the subject under investigation (e.g., mathematics, physics, biology, language).

BOARD GAMES



Informational

- ✓ 'Board Games' are considered to be one of the earliest forms of entertainment.
- ✓ They involve counters moved or placed on a pre-marked surface (playing board) according to a set of rules (e.g., possible moves) and restrictions (e.g., number of players).
- ✓ As a general rule, board games can be divided into three categories: (a) war games, (b) race games, and (c) alignment games.
- ✓ Some board games are based on pure strategy, but many contain an element of chance, and some are purely chance, with no element of skill.
- ✓ Educational board games can help students develop their logical (e.g., pattern sequencing, matching) and critical thinking (e.g., information analysis and interpretation, decision making) skills in addition to the so-called 'soft skills' (e.g., communication, negotiation, teamwork/cooperation) as they require two or more people joining the game.

PUZZLES



Informational

- ✓ A 'Puzzle' is a baffling or confusing task, with connotations of mysteriousness, that is to be solved.
- ✓ It can be a question or a problem purposely made perplexing enough to intricate the mind and test one's ingenuity.
- ✓ Puzzles are broadly classified in view of their type (e.g., cryptic, logic, math, trivia, word pattern guessing, riddles, mechanical) and difficulty level (i.e., the complexity of the techniques required to reach a solution).
- ✓ When it comes to educational puzzles, students can develop a wide variety of competencies ranging from physical skills (e.g., hand-eye coordination, gross motor skills, fine motor skills) and cognitive abilities (e.g., shape recognition, memory training, problem solving) to enhancement of emotional intelligence (e.g., setting goals, persistence).

QUIZ / TRIVIA



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- ✓ 'Quiz' is a type of game in which participants test their academic knowledge by answering questions about different topics.
- ✓ A 'Trivia' game or competition is a subcategory of 'quiz', usually organised as part of contests, where participants have to get as many correct answers as possible about insignificant facts of history, culture, art, and science in order to win.
- ✓ In the context of the wider evolution of personalised learning, adaptive quizzes have gained significant ground as a mechanism to keep students motivated and engaged in their own learning progress throughout the teaching period.
- ✓ From the pedagogical point of view, educational quizzes enable learners to acquire knowledge by building associations between different concepts and gain skills by performing progressively complex actions.

ROLE-PLAYING GAMES



Informational

- ✓ In 'Role-Playing Games' players engage in a rich storytelling scenario via which they assume different roles and immerse themselves in the character's situation.
- ✓ The players progress through the game's narrative via a variety of quests as well as by competing with or against other players.
- ✓ Players' success is overly dependent on the structured decision-making as well as the accuracy of acting out their role when engaging in the various challenges/tasks.
- ✓ Educational Role-Playing games foster the acquisition of curriculum-related competencies and further facilitate the development of social and intellectual skills.
- ✓ In order for such gamified scenarios to be successful, a formalized debriefing session is recommended so as to enable students (players) reflect on the game experience and discuss the skills used to overcome the challenges presented.

SANDBOX GAMES



Informational

- ✓ The term 'Sandbox Game' comes from an analogy to kids playing in a sandbox (i.e., a square area filled with sand where children can create anything they wish within it).
- ✓ In contrast to the traditional games—which have predetermined narrative and objectives—sandbox games offer users the freedom to craft the emergent gameplay out of their creativity and imagination.
- ✓ The free play element and the high scalability aspect that such artificial environments offer, provide multiple benefits to users including boost to decision-making, enhancement of self-control, and development of creativity skills.
- ✓ As an education aid, sandboxes provide fertile ground for the conduct of various activities aligned to the principles of the (Social) Constructivism approach (e.g., Project-/Problem-Based Learning).

TREASURE / SCAVENGER HUNT



Informational

- ✓ The terms 'Treasure Hunt' and 'Scavenger Hunt' are often used interchangeably as both games require participants to solve riddles and complete missions.
- ✓ In treasure hunts the players are presented with a series of challenges, the solution of which provides clues and requirements for the subsequent missions.
- ✓ In scavenger hunts, the players receive a list of actions that need to perform (e.g., item discovery, object collection).
- ✓ The diversity in the gameplay defines the objectives of each game.
 - ✓ In treasure hunts, the main goal is to solve the cryptic clues and complete the final mission which leads to a large prize (the 'treasure').
 - ✓ In scavenger hunts, each completed task is worth a certain number of points and thus, at the end of the game, the team with the most points is named the winner.
- ✓ Regardless of the version chosen, the educational potential is endless as they enable students exercise both body and mind.

SIMULATORS



Informational

- ✓ A 'Simulator' is a computer-generated (artificial) environment used to create a virtual version of a real-world system or a hypothetical model.
- ✓ The term 'microworlds' refers to the educational application of simulators or, otherwise, the 'world' in which learners are placed by the teacher for instructional, training or experimentation purposes.
- ✓ The high visual realism as well as the high degree of freedom (trial and error) that simulators offer:
 - ✓ facilitate the demonstration of abstract concepts,
 - ✓ promote the active participation of students in tasks that involve too high risk or bear prohibitively expensive operational cost in the real world, and
 - ✓ enable learners to construct deep understanding of the key concepts under investigation without significant impact on the learning experience.

SPORTS GAMES



Informational

- ✓ The 'Sports Games' genre is one of the oldest genres in gaming history.
- ✓ Electronic sports games simulate the practice of real sports including the contextual setting and the gameplay setup.
- ✓ Aligned to the competitive nature that sports have, networked (online) sports games usually display a scoreboard or leaderboard to track and illustrate how well the players have performed.
- ✓ From the educational perspective, electronic sports games can be utilised to either teach students about the particular characteristics of a sport (e.g., the rules, the required equipment) or as a means to embed educational tasks in them (e.g., exercises related to specific subjects).
- ✓ In either case, engagement with sports games fosters the development of both motor skills and cognitive skills.

STRATEGY GAMES



Informational

- ✓ 'Strategy Games' are considered to be descendants of war games as they emphasise on players' tactical abilities and logical skills to achieve victory while the element of chance has minimal or no impact at all.
- ✓ Strategy games usually involve a great deal of exploration and economy management which unfolds in the context of different historical themes, events, and settings.
- ✓ Despite the wide adoption of strategic games in military education and training, the efforts to incorporate such games into the formal education curriculum are limited and scarce.
- ✓ However, after considering that intellectual growth is amongst the most notable benefits that (digital) strategy games can facilitate, the necessity to integrate such alternative educational approaches becomes apparent.