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THE ROLE OF GAME APPLICATIONS IN THE TEACHING OF PROGRAMMING DEPARTMENTS

Abstract: this article provides recommendations for using a gaming app that is important to use in achieving success in education.

Key words: gaming, gaming in education, game mechanics, game technology, edu market.

Language: English

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Introduction

The main task of education today is to teach students to work independently in the growing information learning environment, the effective use of modern information technologies in various fields and the rational use of information flow, the effective use of ICT. To do this, it is necessary to create opportunities and conditions for students to work independently on a regular basis, as well as to teach them to think creatively and make independent decisions. The solution to this problem, of course, depends on the quality of training mature teachers, the main organizer of this process. The future of a society is determined by its future, its development and the level of development of the education system, which is an integral part of it. Reforming and improving the system of continuing education, raising it to a new level of quality, introducing advanced pedagogical and information technologies, and increasing the effectiveness of education has become a state policy. The ongoing socio-economic reforms in our country also highlight the need for specific changes and innovations in the education system.

Every educator knows that if students are taught through motivation, they will become more interested in learning, participating, and understanding. With this in mind, it is important to use game technology using game apps in the classroom.

Educational gameplay is a methodology designed to motivate students through the use of game

elements. Learning in game technology can be more fun, and students are becoming more involved in the learning process through game design. The play process in education helps learners to be more involved in the lesson and to work harder and achieve better results. It aims to take advantage of students' core aspirations, such as competition, achievement, awards, and status. The first elements of play in education appeared in the early 18th century, at which time educational institutions began to introduce into the educational process the opportunity to complete assignments and earn points for passing exams. For example, at the Kiev Religious Academy, references to the rating system for the assessment of knowledge have been used since 1737. Later, with the advent of psychoanalytic theory, reward management programs (scoring systems)¹ were developed that were well known. In 1956, the American psychologist Benjamin Bloom developed a classification of levels of educational behavior: cognitive (cognitive), affective (emotional), and psychomotor (movement). At the cognitive level, Bloom proposed six categories: knowledge, understanding, use, analysis, synthesis, and evaluation. Simulations and learning games are effective enough for the lower three levels of taxonomy (knowledge, understanding, use) to stimulate motivation, emotion, and attitude[9].

Games are an effective model of education. Studies show that when using the passive learning model, 40% of students forget that they learned after

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20 minutes. According to Harvard University, only 56 percent of students complete a four-year degree in six years. It is said that this is due to the existing systemic shortcomings in the educational process - the backwardness of schools. Play, in turn, provides a fun and interactive environment that makes it difficult for students to understand the material rather than simply encouraging them to memorize it. The purpose of gamification is to directly influence the behaviors and attitudes toward learning.

Game mechanics in education is a project designed to achieve the most optimal and maximum results. On the one hand, it is a mistake to think that gambling helps to increase the effectiveness of education, on the other hand, it helps to find solutions to all the problems in education. Gaming also helps bring online and offline connections closer together: **ClassDojo** and **Kahoot** are examples. Nowadays, gambling has become an effective tool. **ClassDojo** is

a service for the teacher that allows the student to express their thoughts in the form of a game instantly. Each student is a unique "monster" that can be rewarded by a teacher. It is estimated that 40 million teachers in 180 countries use this platform. **Kahoot** is an application that allows you to create game-based tests, during which the teacher provides multiple-choice questions on the screen, and students use their devices to answer the questions correctly and collect points. The platform is currently used by 3.5 million teachers [10].

An application based on the Python programming language has been developed for teaching programming languages in secondary schools. The app is designed for 9th graders and includes lectures, practicals, labs, video tutorials, tests, presentations, and game assignments on PyGamedata.

Table 1.

The screenshot displays a software interface for teaching programming. The top navigation bar includes: Maruza, Amaliy, Lobaratoriya, Taqdimot, Video, Test, PyGame, Mualliflar. The main content area is divided into three sections:

- Mundarija:** A menu with buttons for Maruza, Amaliy, Lobaratoriya, Taqdimot, Video, Test, PyGame, and Mualliflar.
- Amaliy:** A slide titled "Amaliy" with five buttons labeled "1-amaliy mashg'ulot" through "5-amaliy mashg'ulot". Below the buttons is a table with columns "Berilgan", "Fida", and "Natija".

Berilgan	Fida	Natija
807	8=17 807	24 504
- Taqdimot:** A slide titled "Taqdimot" showing a diagram of programming languages (PHP, Python, Java, C++, etc.) and a laptop.

The presentation aired on the dependence of the Python programming language on other programs and the simplicity of the code.

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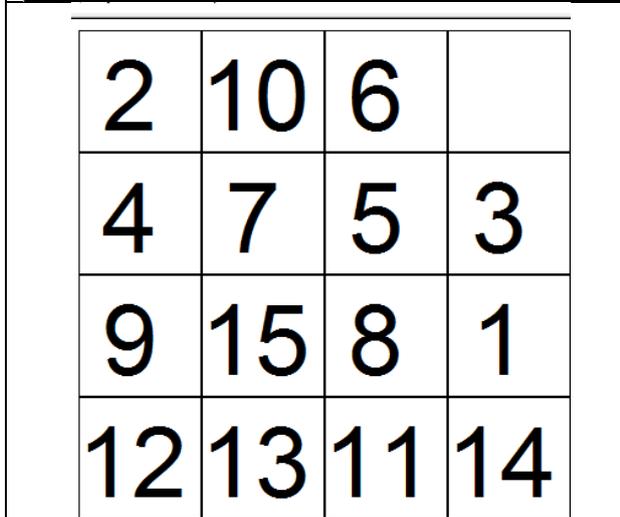
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This game is designed to do math. A student who successfully completes 15 stages will be awarded a certificate of honor, ie before the start of the game the student will enter his name and password into the program, and at the end of the game the student will be awarded.



Logical thinking is important in this game application. Numbers 1 to 15 must be placed correctly in 16 cells, of course, one empty cell is used to push the numbers.

It is no secret that in recent years, the main emphasis in the program on the development of education in our country is in the field of digitalization and IT. Therefore, in the Ministry of Public Education and of the Republic of Uzbekistan there is a growing demand for innovative approaches to education and the introduction of education based on modern technologies. Also, one of the major projects of the ministry aimed at the development of education through gamification is the improvement of the **Edu Market** platform. Edu Market is different from other analogues as an educational platform, because the games on the platform consist mainly of educational materials of the public education system of the Republic of Uzbekistan. When learning play techniques, the student wants to read diligently and is sometimes willing to concentrate for more than an hour, unfortunately we know most children's attitudes toward traditional learning. So why don't we help users balance learning with pleasure by forcing them to learn through play?

Any non-traditional knowledge is important because it focuses on the formation of students' creative thinking in the age of globalization,

understanding the nature of events and critical observation. Indeed, non-traditional approaches to education are a guarantee of a positive change in our social and economic life. The best way to achieve this goal is to develop integrated learning technologies in lesson planning and to look for opportunities to use them effectively at different stages of the lesson. It is advisable to use the following methods of person-centered teaching in the teaching of computer science: game technology; problem-based learning; programmed learning; computerized learning; modular training.

These technologies can be used differently at different stages of the lesson, depending on the purpose of the lesson and the content of the topic. A number of play technologies have been developed that are very effective in teaching science, taking into account the age characteristics of schoolchildren. According to experts, the main types of human activity are formed in three ways: work, play and study. It all happens in an interconnected way. It is argued that the laws governing the formation of children's mental activity based on school learning materials are embedded in play activities. However,

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play education is not the main form of education for working with students. It does not develop students' ability to learn, but it does increase their cognitive activity.

In conclusion, in all games, the player quickly masters the conditions of the game and takes on the task assigned to him. By following the rules of the game, the player will be able to make their own

decisions in solving the problems in the game. Competition in the game, on the other hand, keeps improving one's personal qualities. Only a student who is well versed in modern information technology and able to use it for the right purposes will be able to improve their skills in the future, use them correctly in their professional activities and, of course, become a perfect human being.

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