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THE ROLE OF COMPUTER EDUCATIONAL GAMES IN THE INNOVATIVE EDUCATION SYSTEM

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Annotation. This article examines the use of computer games in the educational process, one of the most powerful socio-psychological factors influencing the spirituality of youth. The results of a social survey and experiments are presented. Suggestions are given on important aspects of creating computer educational games.
Key words. Ideology, spirituality, information, computer games, didactics, psychophysiology, methodology, imitation

Today, as a result of political, social, economic and technological changes occurring on a global scale, the importance of information in the life of every society is increasing. It will not be an exaggeration to say that the discovery of the global network and the Internet has turned it into a powerful weapon. As a result of this, the ideological, ideological and information struggle in the international arena is naturally intensifying.

Computer games are one of the tools common on the Internet, mainly aimed at promoting various foreign ideas such as destruction, bloodthirstiness and immorality, and therefore attacking the spirituality of the younger generation. Especially for school-age children, a computer is, first of all, a simple entertainment tool, like a toy. Therefore, their introduction to computers usually occurs through computer games. In fact, computer games are a very powerful socio-psychological factor. Ideologically and graphically well-designed, exciting computer games can influence the mental state of any student. Especially middle and junior schoolchildren sometimes do not get tired of playing computer games for hours, most importantly, because they have not yet formed as independent thinkers, in many cases they perceive the behavior of game characters as living, which creates situations in which they fall under the influence of these games ideas. As a result of regular play that promotes basic ideas such as destruction, bloodlust, tyranny and violence, the path is paved for them to develop a sense of indifference to such concepts. Therefore, one of the most pressing problems today is the development of measures to protect our youth from the influence of any foreign ideological information, including computer games. Of course, it is impossible to completely remove games that are introduced via the Internet and various memory devices. While we cannot rid young people of the negative impact of computer games, I think there is only one way to overcome this effect - instead of useless games offered by companies in foreign countries, educational programs competing with them, and at the same time created in the national spirit, the script of which is used in the system education in Uzbekistan and in the creation of SES-compatible games.

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When using computer educational games, it is necessary to take into account the functional and psychophysiological capabilities of students when developing skills and qualifications for independent learning [1, 22 pp.]. Because the desire to cover more information based on computer educational games, increasing the data transfer speed can negatively affect the learning process.

Physiological and hygienic studies show that the mental abilities of students when working on a computer change in inverse proportion to the amount of information absorbed. This is explained by the following reasons [1, 23-c]:

- increased load on the organs of vision;
- cessation of the initial emotional upsurge that occurs when receiving news;
- accumulation of negative emotions due to possible uncertainty and mistakes;
- the reception of a large number of educational resources prevents the active development of further information resources.

This situation necessitates the development and implementation of computer educational games into the educational process, taking into account the necessary didactic, psychophysiological and methodological requirements.

When developing computer educational games, one should take into account the intellectual level, motivation, functional state and level of ability of students of the relevant audience.

The main advantages of using computer games in education are:

Visualization - using 3D graphics, you can reproduce in detail even the most complex processes invisible to the human eye, for example, the decay of an atomic nucleus or cell division.

Safety - the practical fundamentals of controlling aircraft, high-speed vehicles, can be absolutely safely practiced on a virtual reality device. Exactly the same as conducting firefighting exercises or repairing any complex devices (for example, a nuclear reactor)

Involvement - VR technologies make it possible to simulate any mechanics of actions or behavior of an object, solve complex mathematical problems in the form of a game, etc.

Focusing - the space simulated in virtual reality can be easily viewed in a panoramic range of 360 degrees, without being distracted by external factors [2].

Based on the surveys conducted, several computer educational games were created and used in practice that can satisfy the above requirements. Research and experiments have shown that learning organized with the help of computer games, keeping up with other leading teaching methods, even allows one to achieve relatively high efficiency in some indicators. For example, teaching the multiplication tables to younger schoolchildren using the game “2x2” [3] makes it easier for a science teacher to teach computer science in the 5th grade. Because in the 5th grade, at least 3-4 lessons in computer science lessons are spent on developing students’ skills in handling the mouse, keyboard and computer in general. Students who worked with computers in elementary school practically do not have this problem. This is also evidenced by the experimental results given in [4]. According to him, on day 1, 46% of students did not know how to use a mouse, and by day 6, all of them were able to work not only with a mouse, but also with a computer. At the same time, at the beginning of the experiment, the efficiency of students’ knowledge was 53%, and at the end of the experiment the result was 80%.

Experiments with the game "Map" [5] also ended with similar results. At the beginning of the 2-month trial, 2 students achieved good and satisfactory results due to lack of knowledge, while at the final tests, 2 students showed excellent and 1 good result. This means 100% efficiency.

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It was revealed by research results that only 15% of information received in speech form is remembered by students [6]. Visually perceived information is remembered 20% better than information received through the organ of hearing. But with the simultaneous presentation of auditorily and visually perceived information with the ability to complete the task through personal experience, the student can perceive up to 85% of its content, which justifies the effectiveness of teaching methods using virtual reality. It follows from this that the use of computer games in teaching exceeds the mastery of the material by 40%.

Also, a significant advantage affects economic efficiency, since in virtual reality software is more important, which, created once, can be used for a long time. But with classical training, in order to visually view a particular process, one must purchase real cluster or massively parallel systems, which causes significant financial damage.

As a result, we can say that the use of virtual reality when training IT specialists increases the mastery of the material by 40% and makes it possible to directly examine complex parallel structures and the processes of their implementation directly from their own experience.

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