

Create Computer Learning Games Taking Into Account the Psychophysiological Characteristics of the User

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Abstract: The functional and psychophysiological capabilities of students must be taken into account in the formation of students' independent learning skills and competencies based on the use of computer learning games. The desire of educators to cover as much information as possible on the basis of computer-based learning games can lead to over-exhaustion of the student.

Keywords: Internet technology, computer games, psychological requirements, motivation, professional development.

The modern educational process provides opportunities for the opening of new areas of education and the creation of a wide range of conditions. The processes carried out through the Internet technology are characterized by their superiority and convenience. In turn, increasing the speed of data transmission has a negative impact on the quality of data acquisition, an increase in the number of errors, the feeling and health of the student.

Research in the field of physiology and hygiene recognizes that when working on a computer, the mental capacity of learners changes inversely proportional to the amount of information assimilated. This is explained by the following reasons:

- Increased load on the visual organs;
- the cessation of the initial enthusiasm for the news;
- accumulation of negative emotions due to possible uncertainties and errors;
- The adoption of a large number of educational resources prevents the active development of further information resources.

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

In addition to taking into account the general requirements for the development and use of computer training games, there are also a number of psychological requirements that affect the success and quality of its creation. The following are the psychological requirements for computer training games:

1. Demonstration of learning material in computer learning games should be consistent not only with the verbal, but also with the sensory and demonstrative states of the cognitive process. Computer learning games should be developed taking into account the characteristics of the psychological processes of reception, attention, thinking, imagination, memory.
2. The educational material in computer training games should be designed taking into account the age and basic knowledge of the learners.
3. Computer learning games should focus on the development of figurative and logical thinking.

The structure and content of computer learning games should be consistent with the curriculum of the subject being studied at the same time as the in-depth study of the learning material. Computer training games created for the education system must also meet the following general requirements:

- ✓ The content and structure of computer educational games must meet the requirements of the educational standard;
- ✓ computer training games should have a system of problem-solving and research tasks of an intellectual nature;
- ✓ automation of such aspects of search, collection, storage, analysis, processing of educational activities of computer educational games; should include automation of calculations, design and construction, processing of experimental results, control tasks, information processing;
- ✓ computer training games should include the imitation of the work of complex objects (machines, equipment, hardware, devices, etc.), the means of demonstrating various processes on a real, accelerated or decelerated time scale;
- ✓ computer training games should prepare the learner in a virtual environment, depending on his future professional activity;
- ✓ All calculations performed in computer training games should have an open system of visualization, demonstrate the relationship of the studied variable objects or processes.

The intellectual level, motivation, functional status and level of activity of students in the appropriate audience should be taken into account in the development of computer educational games.

The concept of motivation means the importance of the activity for the individual, the formation of a stable interest in it, as well as the process of transformation of externally defined goals into internal needs. Hence, motivation can be recognized as an internal driving force that enables an individual to actively engage in the learning process. It should be noted that the motivational qualities of the individual form the basis of cognitive activity, in the process of which the student determines the appropriate educational goals, manages the process and assesses its level of success. At the same time, the need for independent learning leads to the development of different levels of motivation of the student's professional formation.

In the process of professional formation of the student can be distinguished three levels of motivation:

The initial level of motivation is related to the need for professional development and occurs on the basis of external social and personal motivations. The average level of motivation that emerges in the process of acquiring professional knowledge creates the necessary foundations for a professional career. A high level of motivation reflects the student's needs for development and the realization of their creative potential. The development of creative potential leads to the creation of optimal conditions to meet the needs of the student's self-development.

Game technology is also widely used in school classrooms. We can easily see from the results that this is effective. The possibilities for ICT tools are vast and easy to use. Modeling processes that can use solar energy It is necessary to carry out explanatory work on the basis of a new game to solve the energy problem.

The psychophysiological effectiveness of the use of computer learning games is explained by the fact that the use of computer learning games in the organization of independent learning allows

students to significantly search for large amounts of learning materials and master them, develop motivation, increase knowledge.

The psychophysiological effectiveness of computer learning games is determined first of all by the level of students' mastery of learning materials, upbringing and intellectual development, performance, motivational stability. Second, in relation to the teacher's activity, indicators of teaching, indicators of rational use of pedagogical technologies and teaching aids, stable motivation of the teacher to work, ability to work are determined.

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