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Game Technology for Science Lessons

Key words: game, lesson, teacher, method, knowledge, activity.

Annotation: The possibility and the need for didactic games in teaching students computer science identified pedagogical conditions of didactic games on science lessons to develop the cognitive activity of students, developed the technique of using didactic games for teaching science in professional colleges.

The game - a huge bright window through which the spiritual world of the child joins the flow of life-giving ideas, concepts about the world. Game - it is a spark ignited the flame of curiosity and inquisitiveness.

How to improve the effectiveness of the lesson? What are the ways to arouse interest in children? To help the teacher comes a wonderful tool - a game. It is obvious that learning any subject at school should be organized so that the students were interested in the lessons that they have sought to acquire new knowledge, and the teacher would not have to force them to assimilate the course material. The subject of "Informatics" On the one hand, is in a better position than other subjects, as the use of a computer in the classroom is in itself attractive to children. But, on the other hand, many students associate exclusively with computer games, and children need to learn to use the computer not only for gaming purposes, but also for workers. Furthermore, even in the classroom of computer science students have to take a "dry" unnecessary, in their view, a theory. The solution of these problems associated with developing character techniques. To the students actively and productively working on the lessons you want to use active learning methods. Such methods are characterized by high involvement of students in the learning process, encourage students to be active. In class, using these methods, students make their own decisions. These methods provide a learning activity directed mental processes of learners: Stimulate thinking by using problem situations, provide storage of the main lessons to excite interest in the subject under study and generate a need for independent knowledge acquisition. Game and game situations have great potential for the overall development and education of the student, helping to solve a variety of pedagogical problems. In the game there is the assimilation of the child the individual knowledge, skills, personal qualities are produced (1). Analysis of the inclusion of games and gaming moments in the learning process identified a number of pedagogical advantages of this technique over traditional forms of presentation:

- increased mental activity;
- depth memorization of the material;
- training organization;
- formation of communicative qualities.

Games make students think logically, develop speech, imagination, creativity, visual attention, the ability to think outside the box, enhance memory. Unconventional lesson - a lesson that is characterized by non-standard approach

- the selection of the content of educational material;
- a combination of teaching methods;
- to the external design (2).

One form of such lessons is the game. Lesson game - a teaching method aimed at simulation of reality to make decisions in a simulated situation. The main goal of the game - to raise students' interest in learning, and thus improve the efficiency of learning. Lesson game can be seen as a form of active learning such lessons involve creative approach on the part of teachers and students, the development of skills of students in the process of active cognitive activity. For the teacher a lesson-game, on the one hand - to get to know and understand the students assess their individual features, to solve the internal problems (eg, communication), on the other hand, it is an opportunity for self-realization, creative approach to work, the implementation of their own ideas. The game - an activity which is the motive in itself. That is such an activity that is carried out not for the result, but for the sake of the process itself. Of course, the game should not be an end in itself, should not be done just for the entertainment of children. The slavespecific teaching and educational tasks, which are solved in the classroom, in which it is included structure. Because of this, the game plan in advance, think through it in the lesson structure, determine the form of its holding, prepare the material necessary for the game. Didactic game as a learning technology has long interested scholars and practitioners. As educational technology game is interesting because it creates an emotional lift, and motives gaming activities are focused on the process of understanding the meaning of this activity (3).

Currently, the following components are allocated in game technology:

- motivation;
- orientation-target;
- content-operation;
- value-willed;
- evaluation.

The motivational component is linked to student ratio for content and process activities, including its motivations, interests and needs to match. Motivation, which provides active in the game, and the connection with other activities, put into the gameplay. Orientation-target component is connected with the fact that the student perceives the purpose of teaching and learning activities, moral principles and values, which are regulators of play behavior of pupils. Content-operational component suggests that students own teaching material and the ability to build on existing knowledge and ways of working. When performing any mental activity a person relies on certain system of reference points can be given in the form of an algorithm, a heuristic scheme, which, as the teachers' experience, easily digested and used in the work. Value-volitional component provides a high degree of focus of cognitive activity, including attention, emotional experience. Estimated game component provides a comparison of the results of gaming activities to games, as well as the process of self-reflection and self-game activities. All of the components of the game determine the technological structure of the game. Dedicated gaming technology components include a number of structural elements (4) Typically, in simple games (crosswords, bingo) all the structural elements of the game are very

closely linked, and they are difficult to separate from each other. Start any game - it is primarily the emotional setting of the game, on the perception of the game problems, when activated by mental activity and the imagination of the student. Setting the game is usually created in a fascinating way, sometimes with the use of slides, drawings, kinofragmentov. Installation element of the game allows children to enter the game situation. Often the teacher should say, "Imagine that ..." as they begin to enter the game. Game situation can play out in a fictional space delineated geographical map, historical time, posed a problem. The game situation involved a certain number of students (group, class) that perform certain actions. The next structural element of the game is the game tasks that are connected with the educational goals of acting in a disguised, implicitly. Thanks to the training tasks carried out unintentionally student learning. Game Problem interest the students (Solve crossword, find the error ...), but if the problem is not the game, the game turns into a routine assignment or exercise. To connect the didactic (educational) and gaming tasks necessary rules of the game. They organize the behavior of the players, the players provide a level playing field, perform control game action. What are the rules of the game should be developed in preparation for the game? The first rule of action in an imaginary situation: you - "programmer", you - "sistematehnik" You - "user". The rules must comply with "professional activity" party games and be focused on the implementation of actions in a specific sequence. Actions "specialist" must become more complicated as the study of topics and sections of a course. Along with the existing rules in an imaginary situation, it is necessary to develop rules of interpersonal relations. Without the introduction of these rules of the game will be uncontrollable, and learning objectives can not be implemented. Terms relationships playing with each other perform an educational role, direct the game on a given channel. Examples of rules: finished his work - help someone; be friendly; Listen carefully to the view friend, etc. As for the regulation of the behavior of games, competitions are often introduced penalties. Game rules are implemented in game actions. Psychologists distinguish external actions (to listen, draw scheme to solve the problem) and mental (to compare, analyze, classify, generalize). The more varied activities, the more interesting game. But, if not formed certain skills, it is better not to carry out the game. Game action must be motivated, have gradually become more complex and correspond to the number of pupils. During the game, the student is subject to certain game state - an important element of the game. Game state, including the presence of experience, intensifying the imagination of participants, emotional attitude toward reality, is supported by the problem situation, competition and entertaining elements, used accessories, the presence of humor and elements of discussion, free creative atmosphere, the situation of choice. The common structural element of the game is its result. The result can be a clear (won guessed, fulfilled); less noticeable (enjoyed, became interested in the question) and delayed (created his own version of the game after some time). There are results for the teacher (the game demonstrated the skill level of assimilation of knowledge and behavior) and the result for the pupils (the game has awakened interest in the problem, brought moral satisfaction). Important collective score of the game, which stimulates students. It is possible to make adjustments to the game, noting the positive aspects, emphasize successes weak students finish the game on an emotional lift. The nature of the game and game situations are determined by the theme, the age characteristics of the participants and their interests. Students in grades 5-7 are addicted games in which you need to solve the mystery or make a discovery, so in game situations should lay the romance elements of the joint research, joint creative work.

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