



APPLICATION OF DIDACTIC BUSINESS GAMES IN CHEMISTRY LESSONS THEIR

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Annotation

The article deals with the didactic conditions for the use of business games in chemistry lessons, i.e. gradual development of activities in a business game, the need for conflict situations for the game, taking into account the interaction of students during the game. about the need to control the time of the game, the presence of competitive elements in the game, the need to evaluate the results of the game.

Keywords: business, conflict, competition, didactics, innovation, technology, communication, skill.

Today, the development of chemistry in Uzbekistan, 2020 improving the quality of education and scientific efficiency in this area are among the priorities of the State Program "Year of Science, Education and Digital Economy".

After all, in-depth training of our youth in chemistry will stimulate the creation of new production enterprises in the regions, the rapid development of expensive pharmaceutical, oil and gas, chemical, mining, food industries and the well-being of our people provides a solid foundation for improving living conditions and incomes [2].

The use of modern pedagogical technologies in the developing educational process determines the degree of creative approach to the effectiveness of the teacher's results in the classroom. Therefore, we will consider the didactic conditions for using business games in chemistry lessons [1].

Firstly, it is necessary to simulate game conditions that mimic real professional life. The main purpose of business games is to teach to make decisions in the management of complex systems. Making a decision or choice is an action



characteristic of any activity that determines the specific purpose of the activity. The ability to make the right decisions is formed in a person by life experience (trial and error) or special teaching methods, including games.

The conditional production model created in the business game should not be exaggerated by changes, they should be as close to reality as possible and devoid of secondary exceptions, since they cannot significantly affect the gameplay. For example, it is not necessary to create a complete factory floor model. At the beginning of the game, it is enough to describe the creation of the workshop, because it sets a certain psychological goal for young schoolchildren. Then it is necessary to include pre-planned situations in the game and give students game tasks.

Secondly, activity in the business game will develop in stages. The stages of the game are interconnected, so the decisions made by the students in the early stages influence the actions of the next stage. The optimal solution of the task set at this stage stimulates the mental activity of the participants and develops their skills of self-management and error correction.

Third, there must be conflict in a business game. It is specific to a business game and occurs during its development or is created by the leader of the game from which the learning objectives arise.

At the same time, the situation may be complicated or changed, additional tasks may be introduced, as a result of which the participants will be able to make decisions in new conditions. In the course of a business game, conflicts take the form of professional debates and discussions, as a result of which the participants solve various problems and develop the ability to make the necessary decisions if the conditions of the game change. Unforeseen conflicts may arise with the leader of the game, which may be due to the various solutions that the opposing team gives when completing the task.

In this case, the task of the teacher is to control the correctness of decision-making by students and an objective analysis of the work done. If necessary, an optimal variant of a new solution will be found.

Fourth should take into account the interaction of students during the business game. The content of the learning game should provide a high level of communication between its participants, which can be achieved through an



integrated approach to the object of study and the search for the optimal solution to the problem.

Problem situations can develop into conflict situations, and the way out can be found through teamwork, in which the options offered by other participants can be defended or criticized in the interests of the group. In this sense, the business game resembles the TV show "WHAT? WHERE? WHEN?".

In it, the search for an answer to a random question is based on the interest of all participants in the correct answer. There is less time left for this, and a particular participant must prove his answer to the team.

The didactic business game also becomes a strong teaching method, the learner's learning activity acquires social significance for him. During such a game, barriers between strong and weak students are removed, and the teacher shared the roles determined by the course of the game. This can be inferred from student behavior, but in the future it will do so by approaching student opinion because the game may show unexpected human behavior [4].

Regardless of the number and definition of roles in a business game, it should reflect the interaction of the team, imitating real relationships between people involved in a particular professional activity.

Fifth, it is necessary to control the time of the game. Time control over the performance of game tasks is a prerequisite for a business game that regulates student youth and encourages them to complete tasks of a professional nature in a short time.

At sixth, there will be elements of competition in the business game. Competition is an important element of the business game, ensuring the smooth operation of the game. The ability to win, to express oneself well, to mobilize the will and knowledge, enhances the attention of students, promotes the exchange of information and unites team players.

Seventh, you need to evaluate the results of the business game. In the context of science teaching, an important step is to evaluate, reward and punish students in the learning process during the lesson. The teacher is responsible for evaluating the work of the participants in the game. However, for this it is desirable to form an expert group of the students of the group.



The team and the jury get acquainted with the rules before the game and observe them during the game.

But let's talk about the organization of some role-playing games.

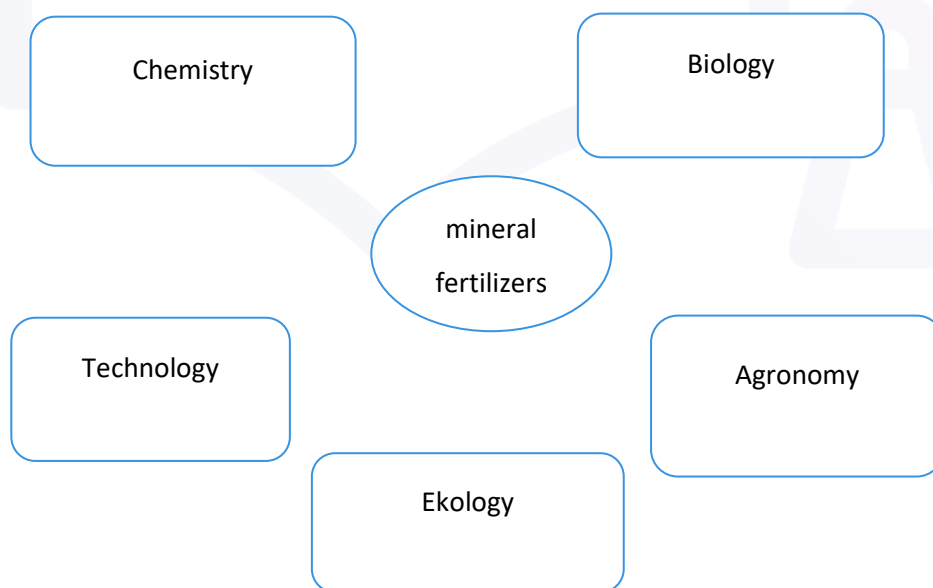
During the preparation of the lesson, that is, the organization of the role-playing game, the teacher first of all gets acquainted with the list of professional duties, skills, sections that describe the work of various specialists and which need to be solved using these tools that determine the scope of the course tasks.

Tasks should be structured in the form of manuals, which should include a list of professional duties, a list of key tasks and skills. In addition, a lot of organizational work is underway. Participants of the game draw posters, graphics.

Work stands are installed in the chemical laboratory, which provide information on the topic of the lesson and tables indicating the main directions of the reconstruction of the enterprise, the specifics of production, employees (addresses of educational institutions, colleges, universities).

The teacher should have a game script and a list of tasks that need to be solved during the game: the teacher, as an active participant in the game, directs the game to create a situation of problematic conflict.

In addition, the teacher should have a pre-prepared list of concepts, laws, theories, formulas that will be introduced during the game. For example, the role of mineral fertilizers. Here are some of them. The lesson is prepared in advance. The class is divided into five groups according to specialties: chemists, biologists, technologists, agronomists, ecologists.





Each group of scientists according to their specialization studies the material on mineral fertilizers and prepares it in the form of a lecture. To do this, selects specific materials and forms questions for students on the topic.

The following lectures will be given in the course: first, a lecture by chemists "Classification of mineral fertilizers" will be given with a demonstration of the collection of mineral fertilizers and the amount of nutrients in mineral fertilizers. The table is displayed.

Group of mineral fertilizer	The role of plant nutrition	The role of plant nutrition
Nitrogen	Stimulate the growth and increase in the green mass of plant (stems, leaves). Important in spring	NH_4NO_3 - urea $(\text{NH}_4)_2\text{SO}_4$ ammonium sulfate NH_2SO - urea
Potashophic	Necessary for the growth of reproductive organs (flowers, fruits). Important during flowering and fruit formation.	$\text{CaHPO}_4 \cdot 2\text{H}_2\text{O}$ - precipitate; $\text{Ca}(\text{H}_2\text{PO}_4)_2$ double superphosphate; $\text{Ca}(\text{H}_2\text{PO}_4)_2 + \text{CaSO}_4$ - simple superphosphate;
Potash	Accelerate the growth of photosynthesis promote the accumulation of carbohydrates, stems of cereal plants	KCl - NaCl - sylvinet K_2SO_4 -potassium sulfate; Ash (K_2CO_3)
Microfertilizer	Promote the synthesis of sugar, proteins, starch, vitamins, nucleic acids and enzymes. Cu- promotes the growth of plants on infertile soils, increases resistance to drought, cold. Fe- participates in the synthesis of chlorophyll	As part of mineral sets.

Secondly, a report of geologists on the raw materials needed for the production of mineral fertilizers will be presented, indicating mineral deposits on the map of Uzbekistan.

The production of mineral fertilizers (technologists' report) is supplemented with information about the equations of chemical reactions and the production of



mineral fertilizers. The Importance of Mineral Fertilizers (Agricultural Report) is shown along with posters showing the role of mineral fertilizers in plant life.

Information on environmental issues related to the production and use of mineral fertilizers (environmental report).

The course includes laboratory work on the detection of mineral fertilizers. Each group of specialists is given three mineral fertilizers. The task is to identify them, tell and show the group how to do it.

To increase the activity of the participants during the lesson, each group of experts asks other groups of pre-prepared questions for discussion. If necessary, the teacher can ask the participants questions with a general description.

In this case, for various didactic purposes, that is, in order to motivate students to read, in addition to the lesson as a task before the lecture, as well as to consolidate the studied material, it is desirable to set chemical puzzles. For example, first of all, vitamins in the fields, in warehouses like mines (saltpeter), bread cannot be covered if not sown (phosphorite flour).

In such a lesson, each participant sees himself in one way or another (a specialist with solid knowledge, a good lecturer, an experimental researcher or an artist). The task of the teacher is to evaluate how much each participant has contributed to the lesson.

Experience has shown that a positive assessment is more effective for students than a negative one.

Based on the above, we can conclude that the game method should be more widely used in the learning process, and systematically, and not from case to case. Only the systematic purposeful use of didactic games in the classroom can give certain results both in changing the basic qualities of the student's personality, and in the effectiveness of educational activities and in learning in general.

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