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THE SITUATION IN PRACTICE OF IMPROVING THE METHODOLOGICAL PREPARATION OF THE DEVELOPMENT OF NATURAL SCIENCES COMPETENCES IN PRIMARY CLASS STUDENTS

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ABSTRACT

This article provides information on the advantages of using interactive methods, case study method, brainstorming, and small group work methods in the STEAM education system.

Keywords: natural sciences, small group method, Case study method, brainstorming, problem questions.

At this point, a number of scientists of our Republic studied the issues of involving students in practical, that is, educational research activities based on the competence approach in education. Based on the principle of using modern technologies aimed at young people through experiments, it is recognized that it is an effective way to develop research skills in them. Ensuring the effectiveness of education is a comprehensive didactic process. In updating the content of education, introducing and implementing new types of teaching (project work, practical training, study-research, etc.) in general education schools, psychological- Pedagogy is also considered as one of the problems that must be found in a methodological solution of philosophical aspects.

In today's education system, it is important to use methods that form the skills of students to independently search for new knowledge, acquire it, collect necessary information, put forward hypotheses, come to a certain opinion, and draw a final conclusion.

Project work is a set of activities carried out by a team united in a group with a clearly defined start and end time, according to pre-planned goals, using the necessary raw materials. Identifying students who are interested and able to do project work for future STEAM careers, forming these students into project teams around which to ask questions, research, invent and develop products. Activities that require knowledge and skills to enable them to produce real-world solutions can also be considered STEAM projects. In the future, when gathering such young people into one team, it is necessary to pay special attention to the organization of educational projects in the teaching of "Natural Sciences". In today's education system reforms in our society, experts are required not only to have knowledge, but also to have inquisitiveness, inventiveness, and entrepreneurship skills. Therefore, the development of students' (logical, creative, critical) thinking and research abilities by involving them in educational project activities should be considered as one of the urgent pedagogical problems.

The research objective is the result that the researcher needs to achieve at the end of his work. The object of research is an applied phenomenon or process. An object presents a problematic situation and is selected for study. The object of research is reflected in the answer to the question "What is being researched".

The subject of research is a logical statement of the object, which is chosen for study by the researcher. The subject of research reflects what aspect or characteristic of the object of study

you are studying. The subject of research is reflected in the answer to the question "What do I want to learn?"

Goals and tasks are defined based on the object and subject of the research.

The task of research is to determine the ways and methods of achieving the goal, that is, the steps on the way to the goal.

A research hypothesis (hypothesis) is a scientifically based assumption put forward to explain the studied phenomena and processes. A hypothesis is a scientific assumption based on evidence and must be proven by a theory that must be tested by experiment to be a valid scientific theory. in the experience.

In order to develop a hypothesis in the educational process, it is necessary to collect evidence, formulate a hypothesis, test it in practice and confirm it. In this way, a hypothesis becomes a scientific theory. A hypothesis is valid if it does not contradict the laws and logic known to science, and if it can be verified. If a hypothesis is confirmed, it becomes a scientific theory.

Topic 7: Planting and care of plants.

Purpose: to learn what is necessary for the growth and development of plants, to plant and care for plants, to monitor their development. In the teaching of natural sciences, the topic "Planting and caring for plants" is presented in the 1st grade from the educational projects included in the "Natural Sciences" textbooks. Pupils perform the sequence of planting a flower according to the picture given in the textbook. The teacher monitors the students' activities.

A scientific theory is a system of knowledge that explains certain phenomena and substantiates its laws. For example: theory of relativity, cell theory, evolutionary theory.

It is clear to us that any science is based on scientific research methods, which are a set of methods used to create a system of scientific knowledge.

Research methods are methods of conducting research, methods of solving research goals. Observation method, calculation method, measurement and experiment methods belong to the group of empirical research methods. Analysis method, synthesis method, generalization, modeling methods performed by human mental operations belong to the category of theoretical research methods.

A research plan is a program of planned actions that includes all stages of work, setting deadlines for their implementation. The plan is necessary to properly organize the work and give it a more purposeful character. In the process of work, the initial plan can be supplemented and changed.

Observations and experiments are conducted to collect data

Observation is a way of knowing that is carried out by regularly studying a certain object for a purpose.

Students' interest in learning science plays an important role in the effective organization of research activities. The importance of using didactic games in teaching natural sciences is incomparable. The effective use of didactic games during the lesson increases the interest of every student in science, the process of learning new knowledge by playing prevents the student from getting bored during the lesson. When working as a team, the students' communication culture, leadership ability to manage a group, self-management skills, and the ability to prove their own opinion increase in self-confidence.

The use of didactic games includes a live demonstration of the lesson, the teacher's speech technique, and the behavior of children during the game, as a result of which unity is born in perception (sight, hearing, skin sensation signs). . In this case, the teacher strictly follows the rules of the game, which ensures orderliness and respect for the opinions of others. During the game, the teacher becomes a guiding facilitator. The child looks forward to such lessons, they act with interest during such lessons.

Didactic games are organized according to the age of students. During the game, students are organized as a majority or as a team with the participation of the whole class. For example, all children participate in the game "Domino", through this game children's ability to think logically develops, students work on the given examples with interest, which automatically instills interest in science in students. stimulates motivation. In addition, even if not all children participate in the game, they participate in the game with some gestures, which requires an individual approach to the students. Properly organized didactic games lead students to success. One of such didactic games is games that develop research and logical thinking.

May make appropriate changes to the game structure.

The teacher should follow several didactic rules when organizing didactic game lessons in the educational process.

1. Lessons based on game technology must fulfill the educational, educational, developmental goals and tasks specified in the program.
2. It is necessary to set a problem and find a solution to this problem by the students during the game.
3. Being able to comply with the principles of educating a mature personality and the norms of Uzbek manners.
4. Continuation of the structure of the game on the basis of integrity.

It is possible to achieve high results from didactic games organized in accordance with the above-mentioned principles.

The game form of education has recently become widespread in the world pedagogy. In pedagogical literature, the use of games is often called "active learning" because it activates the learning process. The need to use them in primary school is obvious, because children's education begins at the age of six.

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