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A CREATIVE APPROACH TO TEACHING STUDENTS TO SOLVE ARITHMETIC PROBLEMS

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Abstract:

This article discusses the process of training of teachers in secondary schools aimed at teaching the basics of science in non-traditional forms, including to achieve the design of the educational process based on the perfect model of creativity, be able to use these projects focused on mastering of theoretical knowledge, skills, abilities and solving arithmetical problems in creative ways.

Keywords: Technology, creativity, innovation, modern approach, competence, knowledge, skill, qualification.

INTRODUCTION

One of the main current tasks is to provide more advanced education to the mature generation of Uzbekistan and to form their creative abilities in the process of education. Cognitive activity is a multifaceted, complex process, and its effectiveness in the implementation of education depends on the educator's ability, inquisitiveness, thinking, observation and creative approach. Hence, creativity plays an important place in the process of knowledge.

MATERIALS AND METHODS

Creativity is a complex psychological process associated with a person's creation of socially significant innovations in science, technology, production, culture and other fields. Human thinking, memory, imagination, attention, and will take an active part in it, and knowledge, experience, and talent are combined in creativity.

According to the definition of Abu Nasr Farabi, "creativity is such a great quality of a person who must use all his/her other skills to acquire it." In the process of creation, a person searches, observes, conducts research, analyzes the results and draws logical conclusions.

Creativity represents the implementation of research tasks, such as the analysis of new ideas unknown in science and practice, the study, development, testing and comparison of various new technical and creative solutions. This process is important because it increases and strengthens the level of knowledge of the educator, and serves to significantly increase the qualities of active and independent thinking, spiritual and educational level, and to become a real creative person in the future.

Creativity is important as it serves to ensure the strength and perfection of the knowledge acquired by educators, to form active and independent thinking personality traits in them, and to develop their mental abilities. This situation is of great importance in mastering the fundamentals of science of future specialists, in the implementation of direct leadership of this process, in the introduction of approaches based on professional creativity.

Creativity is considered the most basic and active form of manifestation of independent thinking qualities in a person, and it can be classified according to the following signs:

-type of creativity (technical, technological, organizational, economic, social, spiritual, pedagogical, didactic, professional, mixed);

-creativity level (mono creativity, multi creativity, mega creativity);

- scope of work (specialization, specialty, field of knowledge, inter-branch, national, regional, inter-regional, international);

-duration of creation (short-term, medium-term, long-term); form of creativity (innovative, research, educational, investment, mixed);

-according to its general aspects (implementation of new ideas; promotion of fundamentally new solutions; practical application of innovation);

-according to the meaning and complexity of a creative product (rationalization proposal; invention; discovery).

In evaluating the effectiveness of the pedagogical system of ensuring the continuity of professional creativity of teachers, it was based on the three-component model of cognitive processes that embodies learning, intelligence and creativity. According to this, any cognitive process should embody the acquisition, application and modification of cognitive experience. That is, it is possible to interpret the ability to absorb experience with learning ability, the

efficiency of practical application of experience with general intelligence, and creativity to change it. When making a creative decision regarding the solution of problematic educational tasks, the processes related to understanding its essence, creating projects that serve as a solution, and choosing the most optimal of them are in a mutually demanding sequence of cognitive, divergent and convergent thinking.

The taxonomy of the cognitive process is the clarity of the cognitive task set before the student and the fact that it is expressed in certain categories.

- Giving clear instructions to students on what to pay attention to when remembering or recalling, what facts to use;
- Separating and clarifying the educational goal, organizing it, defining the main task to be solved first, and organizing the goals to be solved in the prospective future;
- It requires the development of standards necessary to check the size and quantity of students' acquired skills and experiences.

RESULTS AND DISCUSSIONS

Mathematics is an interesting subject. It is necessary to explain to the child through the interesting aspects of this science. The main goal of teaching mathematics in primary grades is to create the necessary skills in students, to develop creative abilities and to pass mathematics at a higher level and to create certain conditions to study the subject well. It is important to adapt the issue to the level of knowledge, skills and qualifications of students. While checking independent work, the teacher not only assesses, but also takes into account what they have mastered in this case, and what they should master in the near future. Textual arithmetic problems, equations, and memorization for performing four operations are common in school practice. Here is an example of memories for solving complex arithmetic problems.

-Read the problem and repeat what it says.

-Define what is known and what is unknown in the problem. If the text is difficult to understand, write it briefly.

-Explain in a short note what each number represents and answer the problem question.

-Is it possible to answer the problem question immediately? If not, why? What can be known first and then what? Make a plan to solve it.

-Solve the problem and write the answer.

Such memories help students to solve problems independently. However, if they have learned to perform each operation shown in it, it is only useful if it is carried out in a class, as a team. Therefore, in the process of solving problems with the help of memory, each problem is read aloud by one of the students during approximately 6-9 lessons, and the discussion is conducted openly. Then they should learn to use the problem system independently. For this purpose, in the next 10-15 lessons, when solving the problem, they will continue to use memory, but they will read the problem internally, and the discussion will be read aloud. In this way, they will fully grasp the entire system of the issue and quickly draw a conclusion on their own, and there will be no need for reminders and instructions. This shows that they have formed a general method of approach to solving a content problem.

Independent works are completed individually or in groups in class. Class work - in which all students do the same independent work. Individual independent work means that each participant works independently to solve a common problem. In-group work, a group consisting of several students (two or more) is formed and performs the agreed activity in interaction.

For example, 4th grade students solve this problem:

"There are 6 identical rooms on the first floor of the dormitory, and 4 such rooms on the second floor. 60 people live in these rooms. How many people live on each floor? ” Solve the problem based on actions.

In fact, children enjoy learning about their surroundings. Teachers develop their independent thinking skills and to interpret mathematical concepts (numbers, large, small, simple geometric figures). The concept of number is one of the main concepts of the school mathematics course. First, number is necessary to count some objects: 5 apples, 6 notebooks, etc. It is desirable to develop students' mathematical knowledge and creative skills using life problems.

CONCLUSION

To conclude, we can say that one of the main tasks of teaching mathematics in elementary grades is to create a clear system of calculation, measurement and graphic skills in students, in other words, this system consists of performing the simplest operations, many times delivered to repeat. Underestimation of this task actually leads to a decrease in children's knowledge. Teachers can use various tasks related to solving arithmetical examples, which require to think creatively in various practical situations.

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