

ABOUT THE FEATURES OF TEACHING MATHEMATICS COURSE

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The problem of development of informative activity and independence of students nowadays is one of the most relevant to scientists-psychologists, methodologists, and teachers.

By studying the modern system of education and upbringing, it's not difficult to notice students' prevalence of reproductive thinking processes, lack of desire for independent and creative activity which, no doubt, negatively affects the learning outcome. Analysis of psychological-pedagogical and methodical literature and pedagogical experience of the teachers of mathematics showed that one of the best approaches to learning is individual-centered one, in which the main task of the teacher becomes the all-round development of the individual student using the problem method of teaching, independent and creative work of the student. Thus, the need of the current day is the transition from the prepared assimilation of knowledge in the classroom to independent cognitive activities of a student.

Let's consider two main ways of formation and development of cognitive independence during learning mathematics: a) The combination of reproductive and productive cognitive activity of students, which positively affects the health and emotional state of students; creates favorable conditions for the assimilation of knowledge and methods of activity, their use in different situations, i.e., formation of cognitive independence; b) The use of problem-based learning.

The formation of cognitive independence requires skills of transferring previously learned knowledge and skills in new situation, ability to combine previously known solutions with new ones. Thus, the use of the problem-based method of learning is the most natural to achieve this goal.

One of the conditions of formation of independence is a cognitive activity of students, including: the motives and goals of activity, interest in the subject, attention to the object under study, strong-willed efforts, positive emotions, creative self-sufficiency, mastery of the essential methods and techniques of cognitive activity, an optimal rhythm and mode of operation providing a full mastery of the necessary knowledge, skills and abilities. In mathematics lessons the reproductive way of learning provides the information-receptive (explanatory and illustrated), algorithmization and programmed instruction, whereas the productive way provides problem-based learning, heuristic and research methods. The most effective in teaching is the interaction of methods in both directions.

We must not forget about the emotional attitude of the student, which is one of the factors of autonomy and of student activity. Its creation helps to stimulate students to appreciation for the oral account, completed test, homework, reviewing answers and work, creative work, essays and reports at conferences.

The effectiveness of learning mathematics in our time is determined by many factors, but the main role belongs to the teacher. Its main task is to actively nurture a thinking personality. The skill of the teacher depends largely on whether the student is able to have a creative approach to the studied material.

In this article, based on the analysis of pedagogical literature and generalizing math teachers' experience, one needs to allocate some of the techniques contributing to the development of cognitive independence and activeness of students, such as: a) The use of more complex individual tasks for those students who quickly cope with usual tasks. It is convenient in this case to offer the job of increased complexity from the textbook and additional sources. b) The appeal to the life experiences of students – practical work, tasks with a practical content. c) The solution to oral tasks helps to make the lesson more vivid, interesting, to identify the inclination and form an interest to the subject [1].

The effectiveness of learning mathematics in our time is determined by many factors, but the main role belongs to the teacher. Its main task is to actively nurture a thinking personality. The skill of the teacher depends largely on whether the student is able to have a creative approach to the studied material. I will focus on some methods and techniques which promote successful learning, development of cognitive activity of students.

References

1. *Lerner I.Y.* "The main function of problem-based learning" // "Bulletin of higher school" 1976, #7. – P. 16–21