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ТРЕБОВАНИЯ К ОРГАНИЗАЦИИ ВНЕУРОЧНОЙ ДЕЯТЕЛЬНОСТИ ПО МАТЕМАТИКЕ, НАПРАВЛЕННЫЕ НА ФОРМИРОВАНИЕ ПОЗНАВАТЕЛЬНЫХ УУД В СТАРШИХ КЛАССАХ

Аннотация: *В статье рассматривается проблема формирования познавательных универсальных учебных действий на внеурочной деятельности по математике в старших классах. В статье также затрагивается тема формирования критического мышления и его взаимосвязь с познавательными универсальными учебными действиями в старшей школе.*

Ключевые слова: *внеурочная деятельность, математика, урок, критическое мышление, универсальные учебные действия.*

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REQUIREMENTS FOR THE ORGANIZATION OF EXTRACURRICULAR ACTIVITIES IN MATHEMATICS AIMED AT THE FORMATION OF COGNITIVE SKILLS IN HIGH SCHOOL

Annotation: *The article deals with the problem of the formation of cognitive universal educational actions in extracurricular activities in mathematics in high school. The article also touches on the topic of the formation of critical thinking and its relationship with cognitive universal learning activities in high school.*

***Key words*:** extracurricular activities, mathematics, lesson, critical thinking, universal learning activities.

To achieve results in modern education, many teachers underestimate the full potential of extracurricular activities. In combination with the obligatory part-time process, extracurricular activities allow you to expand and get a more complete mathematical education. Thanks to these two processes, it is possible to achieve the set practical, educational, educational and developmental goals together.

According to the federal state educational standard, which imposes new requirements on the results of mastering the educational program every year, extracurricular activities are an integral part of the educational process. It not only deepens students' knowledge in any subject area, but also forms the necessary knowledge, skills and abilities, socio-social values necessary for the formation of a student's personality.

When organizing extracurricular activities, the teacher needs to observe and explore the interests of students, take into account their age and psychological characteristics. When choosing topics for extracurricular activities, the teacher needs to be based on, on the one hand, the volume of mathematical material, and on the other – on the general level of training of students.

Based on the requirements of the Federal State Educational Standard, extracurricular activities should:

- be aimed at meeting the individual needs of schoolchildren;

- to promote the education of teenagers;

- to develop the following areas of personal development in students: sports and recreation, cultural and moral, social, general cultural and general intellectual;

- such forms of work as excursions, round tables, conferences, school scientific societies, competitions, sections, etc. are assumed.

A special role in the organization of the extracurricular process in mathematics should be given to design and research activities. The purpose of the projects is to develop the personality and create the foundations of the creative potential of students.

The process of extracurricular activities should be carried out according to a pre-prepared plan. The extracurricular activity plan should be a set of separate educational programs aimed at taking into account and implementing the individual characteristics and needs of high school students.

It should be noted that during the organization of the extracurricular process, it is necessary to take into account the vastness and variety of forms of work in extracurricular activities. Teenagers, during their growing up, develop different abilities. In order to determine which abilities have already been formed and to form others, it is necessary to involve students in various forms of work. This will help to better shape a wider range of skills and abilities.

The work of a teacher is also very important in the organization of the extracurricular process. It is the teacher who is the "foundation" for the formation of

interest among schoolchildren. Starting from the 5th grade, when students are just getting acquainted with the system of basic general education, the teacher must motivate, support and help students. Sometimes, to raise the motivation of the student, it is enough just to praise him, to rejoice at his result. The teacher's support, his sincere joy for the student's success, raise motivation and interest in studying mathematics.

During the transition to high school, the teacher also continues to play an important role in motivating the teenager. At this age, teenagers become more critical of themselves and the classmates around them. The peculiarity of this age is also the loss of the authority of the "elder". They become more independent, more daring. Therefore, it is important for a teacher not to lose his authority and become more of a mentor than a teacher for older students. Students should be given the opportunity to speak out, listen and hear their point of view, listen to their opinion.

For a more effective organization of the extracurricular process, it is recommended to adhere to the following conditions:

1. A well-thought-out lesson logic. This will help to avoid unnecessary questions, incidents and force majeure situations, as well as help in observing the "timing" of classes.

2. The succession of stages.

3. The active position of the child. Each student should take part in the extracurricular process and have their own role.

4. Maximum change of the educational environment. The student needs to see and feel the difference between the scheduled and extracurricular process.

5. The presence of a favorable psychological atmosphere.

6. Creative variety of activities.

7. The transition from monologue to dialogue, conversation, discussion. Teenagers in grades 10-11 need to participate in discussions.

8. The ability to set goals and draw conclusions.

The development of critical thinking plays a significant role in the development of cognitive universal learning activities. Critical thinking is an important part of effective mathematics education, allowing students not only to solve problems, but also to understand the underlying concepts and principles. This understanding allows them to apply their knowledge in various areas of life and become independent. The development of critical thinking in mathematics is the subject of extensive research by both Russian and foreign scientists. This provides a great theoretical basis for pedagogical practice.

Critical thinking in mathematics includes several key elements:

− Analysis. The study of information, the identification of patterns and the establishment of links between concepts.

− Assessment. Assessment of the validity of arguments, decisions and statements.

− A conclusion. Draw conclusions and establish logical connections based on evidence.

− Problem solving. Using different strategies to solve problems and substantiating the chosen approach.

− Metacognition. Reflect on your own thought processes and identify areas for improvement.

These elements are interconnected and work together, contributing to a deeper understanding of mathematics.

For the formation and development of critical thinking skills, teachers are recommended to use certain pedagogical strategies.

Active participation in the extracurricular process is the constant improvement of one's personality, thinking, consciousness and intelligence. The constant desire to create something new, to do more and better than before. A teacher should also play a significant role in this. Working with children, the teacher must reveal their natural potential, talents, find an individual approach to each student and become a "senior companion" for him, whom the teenager will look up to.

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