TYPES OF ORGANIZATION OF INDEPENDENT WORK IN PRACTICAL CLASSES.

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Annotation. *The article describes the development of student's independence and responsiveness during the practical classes. In case of continuous learning and self-development, it is very important to focus on evolving the independence, creativity and self-learning skills of the student. There are four levels of independent-learning judging by the nature of the student learning experience.*

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Independent cognitive activity of students can be both simple reproduction and creative. Sometimes students' activities go beyond the usual academic tasks and are creative in nature, and their result is a product of social value, an original proof of a theorem, and the creation of a new computer program.

The level of independence and creative activity. The task of educating and developing individual independence in education is to manage the process of developing reproductive independence into creative independence.

According to the nature of students' independent learning activities, there are four levels of independence:

- the simplest reproducing independence,
- variable independence,
- partially-search independence,
-creative independence.

This level is especially evident in the student's independent activity when performing exercises, which requires a simple reproduction of existing knowledge, when students, usually having a sample, independently solve problems and exercises for its application.

A student who has reached the first level of independence, but has not yet reached the second level, uses a sample, or a rule, or a method, etc., when solving a problem, but if the problem does not match the sample, then he cannot solve it.

At the same time, he does not even attempt to change the situation in any way, and most often refuses to solve a new task for the reasons that such tasks have not yet been solved.

With the simplest reproduction of independence, it can be traced in the educational and cognitive activities of most students. Then some students quickly move on to the next level, while others stay on it for a certain amount of time. The teacher's task is to ensure that all students move to the next, higher levels of independence.

With variable independence, independence at this level is manifested in the ability to choose one specific rule from several available rules, definitions, patterns of reasoning, etc. and use it in the process of independently solving a new problem.

At this level of independence, the student shows the ability to perform mental operations, such as comparing a task, the student goes through the means at his disposal to solve it, compares them and chooses the more effective one.

With partial search independence, the student's independence is manifested in the ability to form (combine) the rules and regulations available to him for solving problems in a certain section of mathematics :

- generalized methods for solving a wider class of problems, including those from other branches of mathematics;
- the ability to transfer mathematical methods discussed in one section to solving problems from another section or from related academic subjects;
- in search of several ways to solve the problem and in choosing the most rational, elegant; in varying the condition of the problem and comparing the appropriate solutions , etc.

In high school, the independence of some students is creative, which finds expression in their independent formulation of a problem or task, in drawing up a plan for its solution and finding a way to solve it; in setting hypotheses and testing them; in conducting their own research, etc. Therefore, the highest, fourth level of independence stands out – creative independence.

In accordance with the allocated levels, four stages of educational work are carried out. Each stage is connected with the previous and subsequent one and should ensure the student's transition from one level of independence to the next. The first stage aims to bring the student to the first level of independence. At this stage, the teacher introduces students to elementary forms of cognitive activity, providing mathematical information, explaining how it would be possible to obtain them independently. To this end, he uses a lecture form of work or a story, and then organizes independent student activities, consisting of studying the available textbook material and solving problems previously developed by the teacher as examples.

At this stage, the teacher organizes the elementary work of students in mathematical self-study: the independent solution of competitive problems from collections containing detailed solutions or instructions for control.

At the second stage of the educational work, the teacher: involves students in discussing various ways of solving a cognitive task and selecting the most rational of

them; encourages students' independent activity in comparing methods. The teacher introduces students to general and specific instructions that facilitate the independent choice of ways to solve a cognitive problem using already learned techniques, methods and methods for solving similar problems. At this stage, the teacher makes extensive use of the heuristic conversation method, organizes students' independent study of new material in educational ways that reveal the material specifically in inductive ways and contain a large number of examples of various difficulties.

The third stage is the most important, since it is at this stage that all students should reach the basic level of independence. Here, much attention is paid to the organization of students' independent study of additional educational, popular science and scientific mathematical literature, accompanied by the solution of a sufficient number of tasks: preparation of abstracts and reports on mathematics; creative discussion of reports and reports at seminars organized on an optional basis (formulation and discussion of hypotheses, problems, mathematical methods, possible generalizations or applications the studied theory , etc . : participation in a school problem-solving competition, in a school, district or city mathematics Olympiad, in correspondence Olympiads and competitions; self-study of students taking into account individual interests and needs.

At this stage, the teacher organizes generalizing conversations in the classroom on the material independently studied by students; systematizes students' knowledge; teaches methods of generalization and abstraction; analyzes the solutions found by students; shows how to work on the task (are all cases considered, are there any special cases, is it possible to generalize the found method so that it can be applied to a whole class of problems, etc.); to teach to put forward hypotheses, to look for ways to substantiate or refute them in an inductive way, and then to find deductive proofs.; with the help of problematic issues, he creates a discussion environment, guides discussions and summarizes the results. The main focus is on individual work with students; providing unobtrusive assistance to some students; in finding ways to solve problems; in preparing for mathematical Olympiads; in selecting literature for essays and writing them; in organizing and implementing mathematical self-study.

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