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**MODEL, EFFECTIVE AND CREATIVE METHODS OF ORGANIZING CIRCLE  
TRAINING BASED ON THE ERGONOMIC APPROACH.****Nargiza Kirgizova Khudayberdiyevna,***The center of pedagogical skill of Namangan region**Head of “Education Quality Control Department”*

**Abstract.** *The article provides practical recommendations on the organization of group training based on an ergonomic approach, the methods used in training, the methods used, and the use of design and modeling methods in creativity training in technology science circles.*

**Key words and concepts:** *circle training, organization model, methods.*

With the appearance of the first technical devices and simple mechanisms, humanity tries to solve technical tasks of various difficulty and importance. Humanity tries to create new equipment and machines, increase its productivity and increase the useful work coefficient in order to satisfy its growing needs and ease its labor. Many times it was understood that only talented people are engaged in creativity.

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In the 40s of our century, the need for active methods of researching technical solutions will increase. The lack of methods in this regard had a negative impact on the development of nuclear energy, rocket engineering, and improvement of electronic computing machines. During this period, as a result of conducting research in various directions, the following cases were identified:

-firstly, the fact that even geniuses cannot solve complex problems by themselves, the need for a collective method of creation was based on this;

- secondly, taking into account the shortness of the time allocated to the development of technical solutions, scientific research should be carried out continuously together with the development of new ideas;

- thirdly, it is reasonable and effective among many existing ideas determining the ways of extracting those that are.

To learn to create, you need to know its methods. In earlier times, that is, during the period of armaments, only one method of "Act and error" was used for inventiveness. They make a lot of mistakes in their work processes when solving technical problems and try to minimize these mistakes.

When solving various technical problems, inventors use "trial and error" methods. Its essence lies in the fact that when solving technical problems, the inventor uses all possible options and chooses one that meets the requirements. Observability, intuition, intellect of the inventor are more important in solving technical problems.

The disadvantage of the "trial and error" method is that it is very difficult to create a method of using it. When solving each new technical problem, the inventor has to start the work anew. The "trial and error" method requires a lot of hard work, and its use cannot guarantee the successful solution of problems. In the conditions of scientific and technical development, the rapid development of technology requires the use of great ideas and effective methods. But experience shows that in all methods used to solve technical problems, elements of the "Try and error" method are used to a certain extent.

According to scientists, creative activity is based on specific laws and creates the basis for finding adequate methods of solving creative problems.

These methods are divided into 2 groups. The first group includes brainstorming, synectics, morphological analysis methods, which are based on the mechanisms of associative thoughts and the nature of unexpected solutions. These methods are very easy to use, but are not tied to the nature of the object being used. The second group includes algorithms for solving inventive problems, functional cost analysis methods, and others. The use of these methods is very complicated, but aimed at revealing the essence of the object. As the need arises in the scientific foundations of production enterprises, it causes the development of science in the form of many scientific research institutes.

To date, many scientific and practical studies have been conducted on the development of students' creative abilities, and various forms, tools and methods of organizing students' creative activities have been shown in them. In almost all studies, it was noted that there are great opportunities in the education of a person through creative activity. In the world, education is recognized as the main factor that ensures sustainable development, and the concept of international education defined by international organizations and most countries of the world until 2030 includes "having a solid foundation of knowledge, developing creative and critical thinking, formation of students' cooperation skills and interest in learning" was noted as an urgent task.

Formation of creativity in students requires the creation of a new culture of thinking that allows for the development of intelligence through interactive technologies of education from the primary grade.

There are several classifications of teaching methods with different bases. They are mainly classified according to the source of educational information and the method of interaction between the teacher and the learner. Classification of methods is divided into two groups:

1. Methods aimed at initial assimilation of knowledge (new educational material);
2. Methods that allow to strengthen and improve acquired knowledge, to acquire training and skills.

There are many methods and methods in the educational process of technology classes, and in order to achieve the goal set in the educational process, the teacher should use them effectively and creatively.

Currently, the following teaching methods are widely used to improve students' creativity:

Non-imitation methods: problem lecture, heuristic discussion, educational discussion, research laboratory work, research method, independent work based on the educational program (programmed teaching), independent work with a book.

Simulation methods (training without games): analysis of specific production situations, solving problems related to production situations, exercise - activities according to instructions (laboratory and practical work according to instructions), performing individual tasks during production practice.

Game methods: activity based on imitation, role-playing (elements of work games), work game. Active methods of teaching increase interest in knowledge, teach thinking, independent learning. But they take a lot of time. Therefore, they cannot be fully used in the entire educational process. It is advisable to use traditional methods, i.e. lectures, explanations, stories, etc., along with the use of some of their convenient aspects.

Informational and developmental methods of teaching.

With the help of informational and developmental methods of teaching, students learn ready-made educational materials. They listen to the statement of the teacher (lecture, story, explanation, conversation) or announcer (educational film, electronic multimedia materials, electronic training manuals) or get independent knowledge based on the educational program, study they study the educational materials in the textbooks.

Problematic - research methods of teaching.

The peculiarity of these methods is that a problem (problem) is put before the learners. They solve these issues independently.

For this, they search for new knowledge, make discoveries, form theoretical conclusions. For example, in the "Why" method, it is possible to plan the study of the

types of egos from the jewelry club on the topic of "Working tools used in jewelry" as follows and organize an activity based on slides.

Improvement of students' creativity based on an ergonomic approach is carried out in the process of technology science club training - it is a complex and long-term process. It includes the stages of engineering predictions, design, preparation and production mastery.

These stages - the improvement of students' creativity are carried out in two directions: from the existing base object to the prediction of the future, and from the goal to be achieved in the future to the current state of the problem. Based on the ergonomic approach, it is planned to develop the general structure of the training for the design of the model of the organization of circle training.

At the initial stage, the goal to be achieved, or the goal to be satisfied, was determined. Then specific tasks were formulated to achieve the goal. It was based on the available opportunities and circumstances in setting the tasks. The next stage was the formation of the idea, which formed the basis of the design. In most cases, the direction of applying existing methods in new conditions is used for its implementation. At the next stage, the analysis of efficiency is carried out. In this, the parameters of the model are determined, and on the basis of this, technology science circle trainings are carried out.

Necessary materials for creative work in circle classes, workplace, means the part of the workshop area where the necessary equipment (workbench, lathe), tools and devices are placed in the most suitable way for educational production and construction-technological work. . If the student's body is in the most comfortable position during work and does not move excessively, such a workplace is considered to be rationally organized. In class exercises, appropriate materials for construction and modeling are selected, taking into account the nature of the details and the forces acting on the assembly units. It is necessary to take into account the properties of the materials that can be found in the relevant dictionaries. Non-metallic materials are used in designing and modeling in circle trainings.

Didactics and principles for students to correctly perceive, understand, remember and creatively apply knowledge, acquire the necessary skills and competencies from the methods of design and modeling in creative classes in technology circles. should be used in accordance with the nature of the studied material.

It is known that there are different classifications of educational methods. The two most favorable interrelated processes for the practice of productive work and students' creativity - the leadership activity of the pedagogue and the independent creative activity of students - the methods provided by the methods of the pedagogue's and students' work classification. This classification plays a key role in the preparation and productive work of students.

The following can be considered as such a classification of creative methods of creative activity:

1. Problem-based learning methods - problem-based presentation of educational material research, research interviews, research method;
2. Verbal methods - creative conversation;
3. Instructional methods - observation of rationalization activities, demonstration of various creative works;
4. Practical work methods - students' independent creative work, work with necessary literature and dictionaries;
5. Control methods - checking creative assignments, solving and controlling technical issues.

In this case, the task of the pedagogue is to combine various methods of creative creativity in each practical session and ensure that the members of the circle master the learning material in depth.

Different methods of creative creativity and didactic methods are combined and used in different ways depending on the content of the educational material and the didactic and educational tasks to be solved in the training.

In addition to meeting the basic psychological pedagogical requirements for engaging students in creative activities, it is also important to choose methods in accordance with the purpose of the content of such activities and the age of students.

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