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The Problems Of Formation Of Students Creative Abilities Through Design Projects

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ABSTRACT

This article discusses the problems of formation of creative abilities of students through design projects in the process of technology science in general secondary schools, philosophical, psychological, pedagogical and technical-technological aspects of the problem of formation of creative abilities of students.

KEYWORDS

Design, project, creativity, creative thinking, ability, cognitive, heuristic, creative skills.

INTRODUCTION

The high pace of development of science and technology, along with the theoretical and practical enrichment of the process of material production, has provided a new content of social relations. The expansion of the service sector has paved the way for a new way of life, new ideas, different ideas, and an increase in the material and spiritual needs of the people. The renewal and growth of social needs, in turn, required them to produce quality products in the short term and to meet their high aesthetic and design requirements.

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The field of technology, which is a product of social necessity, and its improvement, allows to produce many quality products in a short period of time, with little physical effort. In the field of material production, processing of raw materials (national economy, industry, national crafts, consumer services, etc.) there is an opportunity for a technological approach to the organization of the production process.

While the activities aimed at educating the younger generation in the lower stages of human civilization were organized on the basis of simple, simple requirements, today there are very strict and complex requirements for the organization of the educational process. The technology taught in general secondary schools plays an important role in educating the younger generation at the level of these requirements, preparing them for public life and profession. Therefore, technology classes are organized on the basis of extensive use of methods that develop students' independent thinking and working skills.

MATERIALS AND METHODS

The need to study these issues from a scientific and pedagogical point of view, to take into account the needs of students in the process of technology in general secondary schools and to create adequate conditions, in addition to meeting the aesthetic, aesthetic and design requirements. focus on the development of technologies for the formation of creative abilities, its implementation, control is not at the required level, lack of teaching materials, literature, recommendations, developments, guidelines, guidelines, the need to form aesthetic tastes, including creative abilities, through the design projects of students in technology classes in general secondary schools.

Taking into account the above-mentioned scientific and pedagogical problems, in order to solve it, in our research we were able to develop some of the methods of heuristic education that can be applied to schoolchildren of all ages.

For example: Creative methods. These methods are among the teaching methods aimed at creating a personal learning product by the students. The main result of these methods is to obtain a new product.

The method of invention. It is the creation of a product of the results of mental action previously unknown to students. This method is carried out using the following methods:

1. Replacing one quality of an object with another in order to create a new object;
2. Search for the properties of the object in another environment;
3. Modify the elements of the object under study;

“If ....” method. Students are invited to describe what would happen if something changed in the world. For example: if words or their suffixes disappear, or if all-dimensional geometric figures become flat figures, if all people move to the moon .... and so on. Performing such tasks not only helps them to better understand their imagination skills, but also the structure of real reality.

Figurative image method. This method creates a situation in the reader in which the understanding and feeling of the object being studied seem to merge. As a result, the reader will see figurative images of flowers, trees,

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clouds, and so on. During such activities, each student not only thinks differently, but also compares their knowledge in different fields of science, collects them and feels the essence of the reality they are describing.

Hyperbolization method. In this method, the object of knowledge is enlarged or reduced. Its parts or qualities; the longest word is invented, the smallest number is made by thinking. The Guinness Book of Records can also be used to begin such imagery.

Agglutination method. At the same time, students are invited to combine some things that cannot be combined in real life, based on quality, features, parts. Examples include hot snow, deep peaks, a running tree, sweet salt, black light, a flying bear, and more.

In the process of applying these methods in technology lessons in general secondary schools, it is intended to enrich the spatial imagination of students, expand their worldview, the formation of aesthetic tastes, including creative abilities.

RESULTS AND DISCUSSIONS

Based on the analysis, we found it necessary to pay attention to the development of solutions to the following tasks in the formation of students' creative abilities through design projects in technology classes:

- Substantiation of the problems of formation of creative abilities of students through design projects in the process of technology science in general secondary schools on the basis of the study of the theoretical and practical state of the problem;
- Development of philosophical, psychological, pedagogical and technical-technological aspects of the problem of formation of creative abilities of students through design projects and determination of directions for its solution;
- Development of organizational and pedagogical system of formation of creative abilities of students through design projects and determination of its effectiveness;
- Development and scientific substantiation of criteria for determining the level of formation of students' creative abilities through design projects.

The solution of the set tasks requires, first of all, the study of basic concepts such as “design” and “creativity” and the definition of their interpretation.

When the term “design” is translated from English (English design - project, drawing, painting) - it means drawing. However, this concept is defined differently in different literatures.

Design theory, which in some sources is called “Technical Aesthetics”, covers a wide range of issues related to social, economic, ergonomics issues of industrial and consumer development. Includes the laws of formation of industrial products, the principles and methods of creative work of the artistic designer.

In the National Encyclopedia of Uzbekistan, the concept of design is defined as a term that refers to the types of design activities aimed at the formation of aesthetic and functional qualities of the environment of things. Also, in the definitions of this concept in many other

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sources, design is primarily evaluated as a product of design activity.

The analyzes showed that the definition adopted at the international seminar on design education in Bruges fully revealed the essence of the concept of design. According to him, "Design is a creative activity aimed at developing the formal qualities and appearance of industrial products, focusing on a single solution that is acceptable to both the consumer and the manufacturer in terms of structure and function of the product" [2].

As noted, design is a comprehensive, multifaceted concept, and if the product of labor created by a student in a technology class with free, self-reflection is in line with the present, it will be a teacher's achievement and have a positive impact on the student's subsequent creative activity. Therefore, in order to develop students' thinking and take it to the top, it is necessary to start the foundation from the school education system, especially from technology and fine arts classes. To do this, the reader has to develop in his spatial imagination the shape, color of the created object and convenient, alternative options for its installation.

Activities aimed at discovering ideas and creating innovations are explained in connection with the qualities of creativity. Creativity is an important descriptive trait of an individual that allows for unique and unrepeatable thinking that is unlike any other.

The term "creative" was first coined by American Researcher D. Guilford in the 1950s. He finds in his research on students 'creative abilities that creative abilities are not the same as learning abilities, i.e., creative ability is more broadly related to a person's overall mental potential than learning ability.

It is for this reason that Gilford considers creativity to be a universal ability and calls it creative. Gilford divides the process of human creative thinking into two types:

1. Convergent thinking is the ability to find a single solution through a logical, coherent study of the nature of a problem.
2. Divergent thinking is the ability to find a solution to a problem based on different situations, inner feelings, similar solutions.

According to philosophers, creativity is the original essence that belongs to the subject itself and to the external world at the same time. Creativity does not happen without the participation of creativity, high creativity - subjectivity, and only with the specificity of the creative person. In the field of pedagogy, creativity is understood mainly as ingenuity, originality, imagination, sensitivity, ability to solve problems quickly. It is emphasized that this ability is multifaceted. Creativity is the potential ability of a person to think, feel and act in all directions [3].

In our view, creativity is an integrative ability that combines interconnected abilities and elements. For example, creative abilities include: imagination, fantasy, dreaming, unusual thinking, and the development of unique abilities. Creativity is a basic but not unique ability that provides heuristic cognitive activity. As a result of creative and mediated activity in students, of course, the process of cognition takes place, along with creativity and cognitive activity. In order for creativity and cognitive processes to have a common structural basis and be expressed as a result of

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the general educational process, it is necessary to organize and methodologically carry out activities in accordance with the abilities of students. Organizational skills include the ability to set goals, strive for a goal, plan a task, adhere to established norms, self-awareness, and more. Thus, heuristic learning relies on three integrative abilities in student development. These depend on the types of creativity, cognitive and organizational activities. By heuristic learning, we mean the complex (complex) ability of students to carry out activities and actions aimed at creating products.

Creativity skills vary. According to him, creative or creative abilities lead to different quantities and personal qualities in different students, depending on the content of their research.

It should be noted that the American Researcher D. Gilford, together with his colleagues, since 1954 has identified 16 different intellectual abilities that characterize creativity. These skills include speed of thought (the number of ideas per unit of time), originality (the ability to come up with a new idea that differs from generally accepted ideas), flexibility of thought (the ability to move from one idea to another), diligence (perception of environmental problems). and the pursuit of knowledge), fantasy (responding when there is a logical connection between a stimulus and a reaction, separating it from reality). Gilford calls these qualities the divergence of thinking by common name.

There are several descriptions of creativity in the scientific literature. In our opinion, the description of the American Scientist D. Weckler can be considered the most optimal. According to him, "creativity (Latin creatio - unique thinking)" is a type of thinking that requires a person to come up with several solutions to a problem or issue at once, and, unlike boring thinking, helps to understand the uniqueness of things and events. [4].

It should be noted that the insufficient development of creative abilities of students in the education system, the lack of development and implementation of the necessary methods, techniques and tools, the specificity of the level of mastering creative abilities are among the factors hindering a positive solution.

Especially at the current stage of development, the formation of creative abilities, strengthening knowledge, skills and abilities of students through design projects in educating young people as fully developed, well-rounded individuals is an urgent pedagogical problem, which requires in-depth scientific and methodological research.

There are many solutions to effectively organizing and conducting technology training. However, there are no fully scientifically based conclusions in the field. Therefore, design projects require the selection and systematization of improved forms, methods and tools that make up its content and essence in solving problems related to the formation of creative abilities of students.

CONCLUSION

In conclusion, it should be noted that general secondary schools are aimed at developing methods for developing students 'creative abilities in technology lessons, substantiating the stages of developing students' creative abilities through design projects, determining the requirements for lessons, developing

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effective forms and methods of technology and scientific substantiation, practical and methodological recommendations will be aimed at improving the quality of education.

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