CURRENT RESEARCH JOURNAL OF PEDAGOGICS
(ISSN –2767-3278)
VOLUME 05 ISSUE 06 Pages: 37-43
OCLC – 1242041055
Crossref doi Google Scholar WorldCat MENDELEY
Publisher: Master Journals

Journal Website: https://masterjournals.com/index.php/crjp

Research Article

ENSURING SIMILARITY OF DESCRIPTION AND IMAGE IN GRAPHIC EDUCATION

Submission Date: June 14, 2024, **Accepted Date:** June 19, 2024,
Published Date: June 24, 2024
Crossref doi: https://doi.org/10.37547/pedagogics-crjp-05-06-07

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ABSTRACT

In this article, the basic sources and concepts of the execution of graphic images by means of speech, their scientific basis, structure and place are determined.

KEYWORDS

Graphic education, speech culture, speech communication, graphic solution, graphic task, graphic work, spatial perception, written description, oral description.

INTRODUCTION

The acquisition of oral and written descriptive competences in the graphic activity of children's art and drawing teachers is of particular importance. Therefore, it should be formed and developed during the educational process. In this regard, in the field of fine art and engineering graphics, it is necessary to study the specific features of ensuring the monadity of images and descriptions, to determine the didactic foundations and factors of ensuring monadity, and to develop the methodology as a pedagogical problem.

This issue is addressed in the scientific and methodical literature, especially in the textbooks of S.I. Dembinsky and V.I. Kuzmenko on the methodology of teaching drawing, and in the large fundamental work "Fundamentals of Drawing Education" edited by A.D. Botvinnikov, efforts are made to provide comprehensive recommendations for students' graphic preparation. has been done, the ways of forming polytechnic knowledge and skills in drawing education have been revealed to a certain extent.

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From the observations, it became clear that the form of expression, definition and explanations of geometric figures, their mutual relations, constructive structure and compositional solutions found in the teacher's speech in the teaching of visual arts and engineering graphics are based on a scientific basis. There are flaws, defects and different approaches in the means of speech communication that we have. In the process of education, its positive tone, correct interpretation, and scientificity serve to improve the quality of education.

It can be concluded that oral and written description is a means of speech communication. It is known that in the educational process, the means of speech communication is considered as a necessary and most effective form of expression of information transfer and reception, acquisition of knowledge.

Rather than creating images based on description, the process of describing based on an image and ensuring its similarity has a certain degree of difficulty. These difficulties are related to the strict adherence to the norms of the vocabulary and terminological system of graphic sciences, which express scientific concepts as a means of speech communication. At this point, issues such as term selection, semantic interrelationship of words, monosemy, polysemy, synonymy, freedom of word meanings, as well as the lexicon, lexicography of the language of these fields, it is necessary to pay attention to issues such as phraseology, semantics, etymology, stylistics.

Drawing a detail according to the description in the science of drawing allows students to develop their logical and spatial thinking, to develop the skills and abilities of analyzing the shape of objects according to the description, and to form their creative qualities. L. Yu. Beryozova evaluates students' logical and imaginative thinking, spatial imagination as the main factor in the development of their creativity [1].

According to the image, giving or creating a description of it is carried out by means of speech communication. According to the description, the execution of graphic images is of great importance for the formation of the graphic culture of students and the development of their practical and creative skills in the execution of graphic works.

It is known that visual arts, drawing geometry and drawing have a certain advantage over other subjects in the development of spatial imagination and thinking of pupils and students. In these disciplines, the representation of geometric shapes in three-dimensional space on a two-dimensional plane or surface is performed. Also, in the sciences of schematic geometry and drawing, their spatial position is restored through images and drawings of geometric shapes on a plane. This means the transition from space to plane, and vice versa from plane to space. This means relying on spatial imagination and advanced thinking. Imagination and thoughts are a cognitive process in psychology.

Imagination is derived from the Arabic word, which means to think, imagine, bring to mind, imagine, as a term related to philosophy and psychology, something perceived, felt or the phenomenon is reflected and embodied in a person's mind [2].

Imagination is the main building block of imagination. In essence, imagination is a free thought that consists of the transformation of imagination, divided into parts, combined, transformed, and directed towards a goal.

It is important to develop students' spatial imagination in order to ensure consistency of graphic image and description in the presentation of educational materials in fine arts and engineering graphics. It is

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impossible to create a clear image in the minds of students without clear geometric objects or their models, pictures and clear images.

The student sees and perceives a geometric shape in space, and learns to construct its orthogonal projection on a plane. So, the student "passed" the processes of perception and imagination of cognitive activity. Various visual posters and animations are used during the lesson, because geometric shapes such as points, lines, and planes are abstract concepts. As a result, visual perception is created. In life, you can never see a point, a line or a plane with your eyes and touch it with your hands. These are terms accepted in science, and all details, objects and even objects in nature in life and technology are formed by mutual combination of points, lines and planes. They are reflected in the images. With their help, images are made, drawings are drawn, reading and graphic documents are prepared.

Academician Korolyov once said a very correct phrase: "It is impossible to master modern technology without knowing how to read and execute drawings." Indeed, engineering graphics play a leading role in the development of modern technologies. In order to master technology and participate in creative thinking in its development, it is necessary to be able to correctly and clearly express thoughts with the help of a drawing, and to be able to describe a spatial object using its flat drawings, symbols and dimensions.

From a psychological point of view, if the consistency of the graphic image and description used in education is carried out correctly, the students' spatial imagination develops and achieves a positive result.

In order to positively solve the above problems, it is appropriate to practice the composition of written forms of geometric surfaces in different spatial positions and objects in their combination. Analyzers such as the flow of perception, vision, sensation and muscle receptor apparatuses are included in this. So, it helps to grasp the technical details of the products and to perceive the external appearance of the surface, to determine the structure, size and other characteristics of the details.

The level of mastery of all subjects will increase by ensuring that graphic images and descriptions are similar to drawing in drawing classes. It facilitates students' observation and analysis processes.

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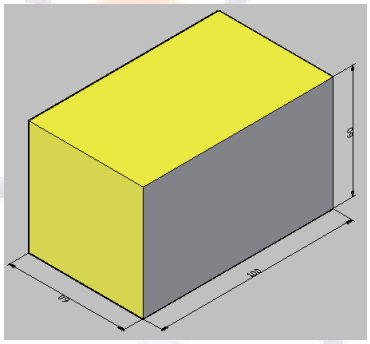
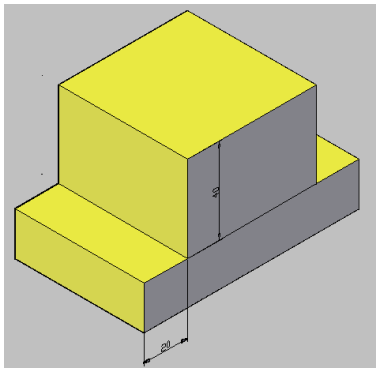


Figure 1



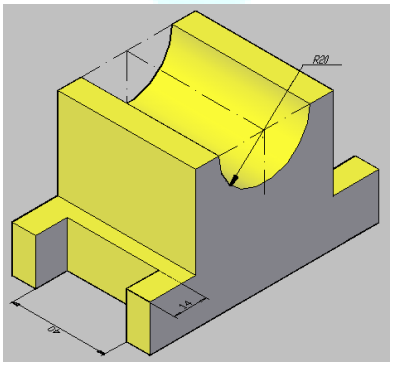


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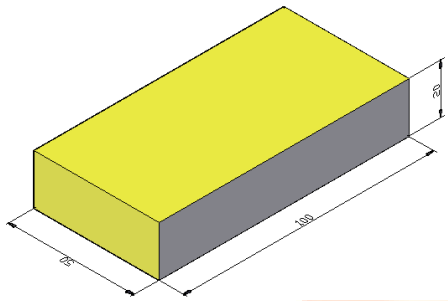
Figure 2

Figure 3

In the center of the prism there is a semi-cylindrical groove with a radius of 20 mm, whose axis is perpendicular to V. A rectangular groove 14 mm wide and 40 mm long is made from the edge of the detail on the two side shelves of the detail (Fig. 3).

Example 2. A prism 100 mm long, 50 mm wide, and 20 mm high is given (Figure 4). A vertical cylinder with a radius of 20 mm is placed on top of it (Fig. 5).



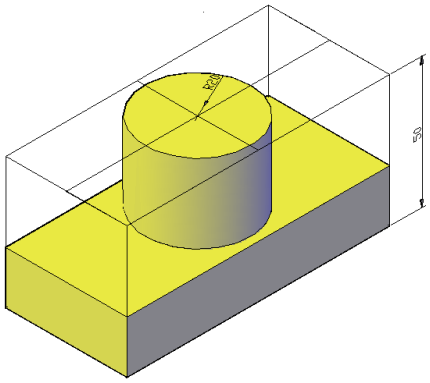


Figure 4.

Figure 5.

A cylinder with a diameter of 30 mm and a depth of 20 mm was carved along its axis from the top (Fig. 6).

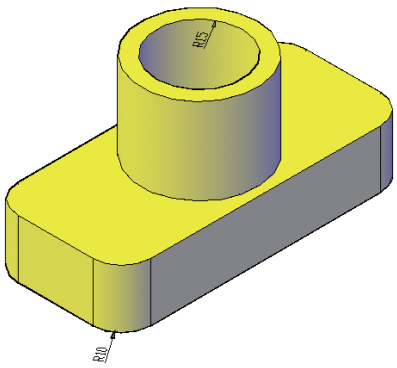


Figure 6

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A rectangular prism is pierced along the length of the cylinder. The four ends of the base are rounded with a cylinder with a radius of 10 mm.

Example 3. Draw a drawing of a support (pillar) type detail and set its dimensions. Our 3rd example is designed to imagine (imagine) a vivid image and draw its orthogonal projection, i.e. drawing.

The support-type detail consists of a right-angled parallelepiped (100x70x20) and a cylinder (diameter 40x70) located in the center of the upper base of the parallelepiped. The support has a 40 mm long M20 threaded hole (slot). On the outside of the cylinder there are 2 cuts 20 mm long at a distance of 32 mm.

In the hole, 40 mm deep from the top of the cylinder, there is a groove with a diameter of 20 mm. The distance between the grooves is located along the length of the support-type detail.

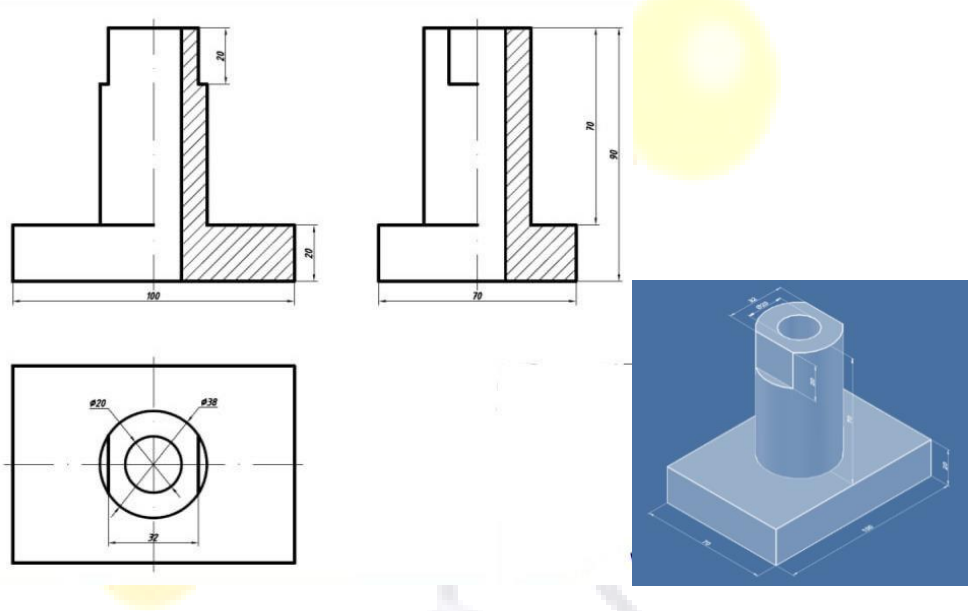

Figure 7

A vivid image imagined in the mind

The problem now is the description of the drawing, that is, we have to take into account the problem of placing the size given in the text in the graphic image. That is, the diameter of the hole given in the clear image or description should be marked with the letter "M" of the metric groove in front of the numerical value, not with the diameter symbol in front of its numerical value, as required by DaSt.

It is also worth noting that the stylistics of the text in the above written form can be in other versions, without being perfected. On the contrary, by creating a description based on a drawing or a vivid image, it also allows to check the compatibility of the given description with each other, i.e., whether it is similar, whether its similarity is ensured by comparative analysis.

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