



DIDACTIC PROBLEMS OF TEACHING DRAWING (for secondary schools)

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ABSTRACT

In general secondary education, issues requiring creative research in drawing can greatly help students think freely, express their opinions, justify them, and develop a culture of thinking with the majority.

KEYWORDS: Drawing, ability, imagination, spatial visualization, perception, modeling, activity.

INTRODUCTION

It is known that scientific and technical development is largely based on technical design. The development of technology cannot take place without drawings. For this, it is necessary to instill in the minds of students the elements of a creative approach in the process of teaching drawing. For example, when drawing the appearance of a detail, it is necessary to ask students questions such as why the elements in it are needed, can it be done differently, is there a more convenient option, and to discuss issues with them, such as finding answers in cooperation with them, and achieving the appearance of the product in accordance with the design requirements. This will form and develop in students such qualities as independent thinking, the ability to convey their ideas to others, and a culture of interaction.

In general education schools, various graphic exercises are mainly used to develop students' spatial imagination. For example, drawing sketches and drawings based on the original or clear image of details, making a third projection from two projections, performing sections and cuts, making a clear image from a drawing, etc. Psychological studies devoted to the problems of developing students' spatial imagination also provide for the implementation of such exercises. E.N. Kabanova-Meller showed the three main stages of the formation of spatial reasoning methods in the drawing course.

When making projections: Identify the shape of the object and its elements; Visualize the projection of a given object; Visualize the projection of a given object. When reading drawings:

1. Viewing the drawing.
2. Creating an image of the object based on the projection.
3. Creating a clear image of the imagined detail in axonometric projection. Thus, the final stage of the exercises in creating and reading the projection ends with the students' graphic work. However, in some cases, students' work in the field of imagining the image of an object and its projections can be completed in the second stage by creating certain images mentally. The task of the third stage is to provide the teacher with information about the student's mental work. Thus, at this stage, graphic work serves as a means of information passing from the

student to the teacher through the feedback channel. If we consider the minutes spent on the operations that students spend on creating certain images in projections and performing the graphic part of the problem, it is possible to determine that hours are spent on performing graphic work. Intellectual operations are performed at high speed, while graphic work is performed slowly due to its laboriousness. Therefore, special importance is given to other methods that are effective in teaching drawing reading, modeling and drawing analysis. The advantage of this method is that, first of all, it allows you to save time spent on performing graphic work by increasing the speed of the feedback channel. However, these methods are used only when reading a drawing. The connection of drawing with life requires the ability to read a finished drawing more than to perform a drawing. Because the ability to read a drawing is necessary for everyone from a modern worker to a designer. Neither project work nor the acquisition and mastering of new techniques can be done without drawings.

The main task of a drawing student is to develop students' spatial imagination, form new types of imagination, and improve their graphic skills. It is clear from this that making and reading a drawing is a complex process. Therefore, this process requires a long period of training.

While the student's spatial imagination, on the one hand, plays a decisive role in reading a drawing, reading a drawing also plays a significant role in the development of spatial imagination. Therefore, during the period of reading a drawing, the main attention should be paid to activating the student's thinking activity, to be able to see the drawing logically, to develop the ability to think analytically and synthetically, and to be able to use technical terms correctly. However, students face some difficulties in implementing these tasks.

These include:

- Insufficient development of spatial imagination in students.
- The student's inability to complete more exercises in a short time. To overcome these difficulties, it is necessary to conduct exercises that expand students' understanding of geometric shapes that develop spatial imagination; increase student activity by giving individual tasks.

It is no secret that in drawing lessons, many students have difficulty selecting and completing details, as a result of which students are forced to work based on their clear images. Conducted didactic studies confirm that projecting objects in the early stages of the subject does not lead to the expected positive results when students draw based on their clear images. Therefore, it is necessary to consider the completion of details and their models for practical and graphic exercises on the subject of projection methods.

Because the successful mastery of this topic ensures the successful mastery of the subject itself. Drawing is associated with the concept of projection. Students should understand the essence of the projection process not by looking at clear images, but by drawing the details themselves. Therefore, during the passage of this topic, it is necessary to work on developing students' spatial imagination.

One of the effective forms of classroom work in developing spatial imagination of students is modeling. The didactic advantage of these exercises is that they not only facilitate the formation of an idea of the spatial properties and relationships of the depicted object, but also help to better perceive all the information based on the drawing. The essence of this method is that it forms the mental activity inherent in the process of imagination. The practical change of appearance during the creation of the model forms the basis for the formation of mental

activity. In the process of creating a model, the student perceives the appearance of the object not only by seeing it, but also by directly feeling it, and consists of activities such as creating constructions, logical analysis, and finding the composition of the object. In their work experience, aspiring teachers widely use various methods of modeling. The characteristic feature and originality of the didactic complex is that it is possible to create models of more than a thousand real details, parts, and other objects from its parts based on didactic requirements and organize drawing and drawing exercises based on them.

CONCLUSION

In conclusion, if we organize graphic problems that require creative research into lessons or circles based on the above sequence and recommendations, our students' spatial imagination and thinking will be further developed, and our youth will become designers and inventors who can make a significant contribution to the development of technology.

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