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TO THE QUESTION ABOUT USE INTERACTIVE LEARNING TOOLS IN THE FORMATION OF SPATIAL PERFORMANCE FOR YOUNGER SCHOOL CHILDREN

This article discusses such teaching tools as an interactive whiteboard and the KOMPAS 3D software environment. The author proposes a system of exercises that allow you to form a spatial representation of younger students using multi-media teaching tools.

In given article there are considered such tutorials, as an interactive board and COMPASS 3D program environment which allows the formation of spatial representations at younger schoolchildren. There is offered task system which realizes spatial representation at younger schoolchildren. An important role can be played by interactive devices of education.

Key words: interactive teaching aids, interactive whiteboard, spatial representation, software environment.

Keywords: using of interactive devices, interactive board, space imagination, program environment.

The most important means of developing a system of spatial representations is visual activity, skills. Mastering the techniques of reading and drawing, the child masters proportions, shapes, sizes, perspective projections, learns to arbitrarily build a known coordinate system of the depicted space and place certain images of objects in certain spatial relationships on the conditional sheet space. Learning to draw, the child overcomes the difficulties associated with the development of visual-spatial coordination and acquires the skill of controlling the movement of his hand [3].

Among the various types of representations, a special place is occupied by images of spatial representations associated with the perception of spatial forms of reality. Work on the development of spatial representations of schoolchildren meets the task of harmonious development of the personality, contributes to the preparation of students for creative activity in various fields of science, technology and production.

In addition, the mastery of spatial representations is a necessary condition and support for the assimilation of educational material, the development of students' cognitive abilities and the formation of their worldview.

Spatial representations are formed in the study of various educational subjects, in the process of various activities, however, the leading role in this process belongs to geometry. The volume of geometric material offered for study in grades 1-4 is so insignificant that it cannot have a serious impact on the development of students' spatial representations. Underestimation of the possibilities of its assimilation also determines unjustifiably low requirements for the selection of the content of the material. Only in grade 4 do the students become familiar with the figures of three dimensions. This reduces the level of teaching geometry, since students are deprived of the opportunity to use objects of the real world in which they live, study and create, to form their correct spatial representations.

While developing a methodology for studying geometric material in primary grades, the methodologists-researchers considered the issues of the formation of spatial representations in students [1,2,3.4]. The main attention in these studies was paid to the formation of two-dimensional spatial representations based on the analysis of the spatial distribution of objects, the assimilation of certain relations and orienting actions in the real environment. When forming spatial representations in younger schoolchildren, we used a special technique. In doing so, we proceeded from the modern provisions of psychological and physiological views on the mechanism of perception of space, the development of spatial representations. To ensure the completeness of diagnostics of the level of development of spatial representations, we proposed several series of tasks, including tasks that require the implementation of various mental spatial transformations: movement in space, overlap,

alignment, turns, etc. At the same time, the manipulation of form and size appeared not as the goal itself, but as a condition for solving the problem.

Particular attention was paid to identifying students' capabilities in creating dynamic spatial images. Modern means of information and communication technologies, in particular, interactive teaching aids, can play an important role in solving such problems.

Many methodological innovations are associated today with the use of interactive forms and teaching methods. Therefore, the introduction of interactive forms of education is one of the most important areas for improving training in a modern school. Interactive learning is interactive learning, during which the teacher and student interact, a special form of organizing cognitive activity [4].

Any teacher is periodically faced with the need to demonstrate visual materials. However, the projector and screen traditionally used for this purpose do not always allow achieving the desired result. Modern interactive technologies will help the teacher to cope with the problem of demonstrating visual materials, which make it possible to create and apply their own innovative developments in the classroom, without disrupting the usual mode of work. The interactive whiteboard [2] will be of great help in this. the teacher has the opportunity to work in the classroom with numerous computer programs, independently create and move objects, use animation, etc. Equally important, the working materials of the lesson can be saved on the computer for further editing and use. Moreover, in conjunction with a computer and a multimedia projector, the interactive whiteboard allows the teacher to write notes in the same way as he does on a regular blackboard, and, if necessary, return to any part of the lesson. The above tasks were solved by us using interactive teaching tools: the KOMPAS - 3D LT system and an interactive whiteboard.

The description of the features of work in this system is maximally simplified, since step-by-step, detailed presentation of the material makes it clear. Rich illustrative material helps to understand the studied material [1]. Using the system, we created dynamic spatial images. Accompanying traditional lessons with presentations complements the teacher's explanation, and the interactive whiteboard allows you to combine these advantages, diversify the frontal form of work and combine it with the individual one within the traditional classroom-lesson system (for example, to assemble a whole figure from different parts of the figure, etc.).

The formation of an interactive learning environment involves the creation of a lesson model, the development of teaching materials, scenarios for their use, the choice of forms and interactive methods, the analysis of the results, which leads to the formation of more accurate spatial representations in younger students.

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