

Ways of Development of Cognitive and Graphic Activity of Students

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Abstract - In this article the ways of development of cognitive and graphic activity of students by solving metric problems are considered.

Keyword - Cognitive Activity, Graphic Activity, Point, Straight Line, Plane, Descriptive Geometry, Projection, Perpendicular, Parallel, Horizontal Plane.

The earliest sources of student learning and its nature go back to ancient times. It has been known since ancient times that students can deepen their cognitive activity into the essence of things, processes, and events. Medieval thinkers, who lived and worked in the Middle East, paid great attention to the types, principles, structure, criteria for scientific knowledge and the development of human intelligence.

One of the most important pedagogical principles of Ibn Sina is that it affects the life and destiny of the human mind and differs from the animal's ability to understand what it is doing. Today, the development of cognitive activity is one of the pedagogical challenges, and the optimal solution is to increase the effectiveness of teaching and learning. The analysis of the current situation shows that students do not pay enough attention to this important activity in the practice of drawing.

While education has been a priority for students recently, education has now become a top priority in the National Cadet Program.

In order to make the learning process more productive and effective, students need to have a good cognitive activity. Education should have both a purpose and a means

for developing students' cognitive activity. Consequently, the school is tasked with fostering an active, creative person.

Therefore, the development of cognitive activity is not only successful in the performance of learning tasks, but also for the purpose of educational tasks, which should foster students' mental abilities, respect for work, and their enthusiasm.

The problem of cognitive development is related to the development and application of specific methods and techniques.

According to PD Zubenko, who observed the students' special experiments, the development of students' mental activity depends on many learning tools. However, the organization of cognitive activity alone does not provide a solution to the problem. In recent years, it has been proved wrong to divide teaching into active and passive methods.

In traditional education, the teacher explains the learning material, puts the problem in place, finds a solution, and the pupil repeats the actions of the teacher. In such teaching methods, the teacher is active, and the students are limited to performing poorly performing. A number of studies have been done to improve traditional approaches. A.J.Attokurova, S.Y. Kutlimuradova, MIEnkeyev,

S.Kariyev agreed in their research that students' cognitive activity can be enhanced by independent work.

The practice of drawing is considered in the form of independent work of students, and the opportunities for the formation and development of independent work are not taken into account. In pedagogical practice, independent work of students is not adapted to didactic tasks at different stages of the lesson, but focuses on reproductive movements — drawing, geometric design, rather than developing students' thinking activities.

The relevance of the problem of developing students' cognitive activity is that, firstly, there is no consensus among teachers about this topic, and secondly, the ways in which development is interpreted in scientific and methodological literature.

The urgency of the problem is exacerbated by the fact that for many years, didactic and textbooks published in drawing geometry and drawing do not pay sufficient attention to the methods and methods that enhance students' cognitive activity and develop their thinking. .

This puts high demands on the formation of student cognitive activity. Scientists such as AD Botvinnikov, VP Bespalko, BD Farberman, and IJ Lerner have done research in this area.

The analysis of the above research shows that there are three main areas of concern:

The first focus is on more students' knowledge and exercises, and with a greater emphasis on learning.

The second dimension in students' understanding of cognitive development is related to the formation and development of cognitive activity, which focuses on such qualities as activity, independence, initiative, creative activity, and independent learning.

The third direction is to provide the necessary conditions for the development of cognitive activity.

In our view, one of these dimensions in the notion of cognitive development is inseparable from the other, but is inextricably linked. However, all three dimensions should be the primary objective of identifying and exploring the mainstreaming of students' learning activities because of the breadth and breadth of the problem.

In order to solve problems in drawing geometry, first of all it is necessary. Secondly, it is necessary to implement this idea into geometric designs. If the problem is solved in

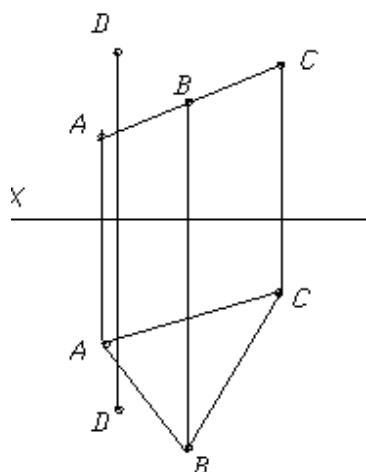
a plane, the idea of its solution will not cause any problems. However, in geometry there is a certain complexity associated with the geometric properties of projection. When any issue is put in place, a plan is first of all to be addressed. For example, if a straight line and a straight line are given and asked to determine the distance between them, it is enough to draw a line perpendicular to the line, but what if the straight line and the point are in space? It takes a few efforts to find the shortest distance between them. The projection properties here require additional work. In order to find the shortest distance, the first line is drawn perpendicular to the line. But perpendiculars cannot be lowered directly in these projections. To do this, we need to know the terms of perpendicularity and follow the terms of perpendicularity. To do this, first, move the point perpendicular to the line. We represent this plane through its horizontal and frontal sides. We fulfill the condition of perpendicularity. The horizontal projection of the next plane is perpendicular to the horizontal projection and the frontal projection is perpendicular to the frontal projection of the straight line, and then we find the intersection point of the perpendicular. The distance between this point and the given point is the distance sought.

The status and form parameters of the issues played a major role in activating students' cognitive activity. For example, it is enough to lower the point perpendicular to the projecting plane, and to lower the perpendicular from one projection to the linear projection of that plane. Similar issues correspond to the first level of cognitive activity Figure 1.

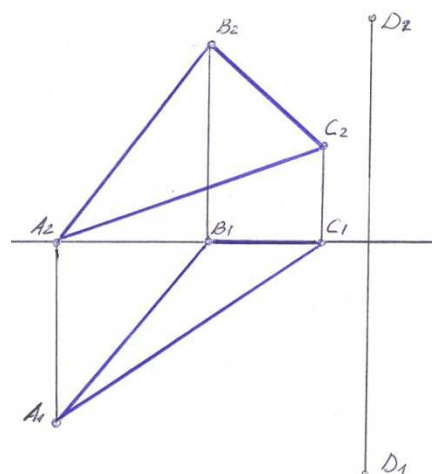
However, when the plane is given in general, the perpendicular displacement is based on the projection of the right angle. For example, if one side of a right angle is parallel to the plane and the other side is not perpendicular to that plane. The right angle projection is also the right angle.

Due to these features of right angular projections, from horizontal projection to horizontal projection, from horizontal projection to horizontal projection, from frontal projection to frontal projection. These issues correspond to the second level of cognitive activity.

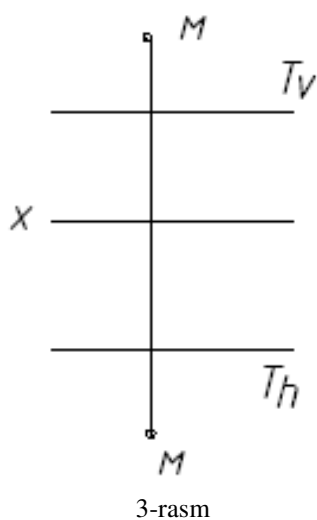
In order to move the tertiary level to the third level of activity, we select the issues that need to be complementary to the conditions of perpendicularity. For example, let's refer the student from the point of view perpendicular to the projection plane without the help of the profile projection.



1-rasm



2-rasm



3-rasm

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