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IMPROVING THE COGNITIVE-COMPETENCE APPROACH TO TEACHING DRAWING AND DESCRIPTIVE GEOMETRY

Mamatov Dilshod
Professor of Bukhara State University

Аннотация:

В статье рассмотрены подходы совершенствования преподавания дисциплины «Основы начертательной геометрии». Данная учебная дисциплина особенно важна при формировании знаний и умений в области геометрии, которые будут использоваться в процессе изучения художественно-графических дисциплин. Одним из важнейших средств обучения графическим дисциплинам, получивших в последнее время общее признание у преподавателей и обучающихся, является рабочая тетрадь. В результате применения специальных тетрадей повышается эффективность самостоятельной работы студентов, как при подготовке к практическим занятиям, так и при подготовке к экзаменам.

Annotation:

The article discusses approaches to improving the teaching of the discipline "Fundamentals of descriptive geometry". This academic discipline is especially important in the formation of knowledge and skills in the field of geometry, which will be used in the process of studying artistic and graphic disciplines. One of the most important means of teaching graphic disciplines, which have recently received general recognition among teachers and students, is a workbook. As a result of the use of special notebooks, the effectiveness of students' independent work increases, both in preparation for practical classes and in preparation for exams.

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This leads to an increase in the academic performance of students as a whole, despite their insufficiently high initial training. The development of modern methodological support, the use of interactive tools in teaching the basics of descriptive geometry makes it possible to introduce active teaching methods in order to develop students' cognitive and creative activities, prepare them for independent professional activity.

Keywords: artistic and graphic disciplines, Fundamentals of descriptive geometry, methodological support, workbook.

The cognitive competence approach is the leading one in the implementation of the new generation of USS and requires a reorientation of the entire educational process. Many researchers of the competence approach in education, as the main condition for the formation of competence in any subject area, call cognitive activity that has a certain orientation and, above all, a professional orientation. Cognitive activity allows you to accumulate information, master the methods of cognition, which is projected into intellectual development and contributes to the acquisition of professional competence. At the same time, the professional competence of a high-class specialist is based on fundamental professional education, emotional and value attitude to any kind of activity, possession of the technology of professional activity in the field of the chosen specialty. As noted by Makhinya L.N., Vrublevskaya S.S., Drey L.S. [1] within the framework of the discipline "Fundamentals of Drawing and Descriptive Geometry", geometric images in orthogonal projections are studied, i.e. the properties of spatial forms are studied directly from the drawing itself.

As a result, students do not have the originals they are studying in front of them, they only have their flat images at their disposal. This is the greatest difficulty of the discipline "Fundamentals of descriptive Geometry", which is the theoretical basis for the subsequent study of the course of drawing and other artistic and graphic disciplines. This course is introduced for engineering students, as well as students of future designers. The academic discipline "Fundamentals of descriptive geometry" is based on knowledge of the basics of elementary geometry – planimetry and stereometry, so much attention should be paid to those definitions and theorems of elementary geometry that are later used in the process of studying artistic and graphic disciplines.

At the same time, it seems especially important to first teach students to solve problems in space, i.e. the ability to model the task by the power of spatial imagination. And only after all the elements of the problem are placed in their places,

it is necessary to proceed to the image of this problem on the plane by methods of descriptive geometry. Special attention is paid to the ability to correctly analyze the initial data of the task, since all subsequent operations follow depending on the correctness of the analysis. Thus, the methodology of teaching disciplines, especially those with increased complexity for students, is of great importance. In modern conditions, the methodical activity of the teacher is aimed at combining into a single complex the content, methods, forms of education, the basis of which is a textbook to improve the effectiveness of teaching students, primarily by increasing the intensity of independent work [2].

"Fundamentals of drawing and descriptive geometry", along with other artistic and graphic disciplines, play an important role in the training of designers and teachers of fine arts, form the competencies necessary for the study of special disciplines at Bukhara State University in the departments of Fine and Applied Arts, methods of teaching artistic and graphic disciplines are constantly being searched for new forms of teaching students. To this end, the experience of other universities is carefully studied in the process of teaching the disciplines "Drawing and design graphics", "Construction drawing", "Fundamentals of drawing and descriptive geometry", in particular, the experience of the university and specifically the department. Based on the studied experience, we can say that one of the most important means of teaching graphic disciplines, which have recently received general recognition among teachers and students, is a workbook. The notebook containing the graphical conditions of the proposed tasks was developed on the basis of a textbook, which explains in detail the method of solving problems with the indication of pages of basic concepts both in the workbook [3] and in the textbook (a course of lectures).

At the same time, students learn to use educational literature and acquire the skill of the need to use literature as a way to expand the circle of knowledge. Studies have shown that about 85% of those entering universities have not studied drawing at school, do not know geometry well enough, do not have a spatial representation, do not know how to organize independent work [4]. Thus, the use of a workbook in practical classes is quite effective, as it contributes to solving the maximum number of tasks on the blackboard and in the notebook. At the same time, the inaccuracy of the students' reproduction of the source data is eliminated, the student's time is saved when solving problems independently outside the classroom.

The notebook is designed in such a way that along with the "traditional" tasks are proposed that have several solutions. This approach eliminates the possibility of duplication of problem solutions, due to the fact that the same graphical solution for several students becomes almost impossible. Moreover, students are tasked not only to find, but also to choose a more rational way to solve it. This leads to the development of activity in solving, independence and creativity among students. As a result of the use of special notebooks, the effectiveness of students' independent work increases, both in preparation for practical classes and in preparation for exams. This leads to an increase in the academic performance of students as a whole, despite their insufficiently high initial training. As the experience of the leading universities of the country has shown [1-5], the use of a workbook in the learning process contributes to the following: - more productive assimilation of special terms and concepts by students, - acquisition of practical skills by students, - formation of self-control skills by students, - development of spatial thinking, etc.

The development of modern methodological support, the use of interactive tools in teaching the basics of descriptive geometry and other disciplines of the Department of Methods of teaching artistic and graphic disciplines, allows the introduction of active teaching methods in order to increase its effectiveness, the development of cognitive and creative activity of students, preparing them for independent professional activity. All this, taken together, contributes to the development of the competence of the future designer meeting the requirements of an intensively developing economy and society as a whole.

REFERENCES

1. H.W. Janson. History of Art (Hardcover) by H.W. Janson. Princeton University press. -236 P.
2. E.H. Gombrich. The Story of Art. Englewood Cliffs. New York, 2012, P. 346
3. Betty Edwards. The New Drawing on the Right Side of the Brain. Redhouse Publishing house. Auckland, P. 248.
4. Дергач В.В. Начертательная геометрия: рабочая тетрадь. Красноярск, 2009.
5. Austin Kleon. Steal Like an Artist: 10 Things Nobody Told You About Being Creative.
6. Рукавишникова Е.Л. О проблемах преподавания «инженерной графики» студентам, не имеющим базовых знаний по черчению. Педагогика:

традиции и инновации: материалы международной заочной научной конференции. Челябинск, 2011; Т. 2: 86 – 87.

7. Маматов Д.К. Independent work of students and its value in formation of the expert// Психология. Бухоро. 2018 йил. 1 – сон.63-66бет.
8. Маматов Д.К. Геометрик образлар воситасида ўқувчиларнинг фазовий тасаввурини ривожлантириш ва унинг психологик асослари// Халқ таълими. 3-сон 2020. 86-92 бет.
9. Маматов Д.К. Independent Work of Students as Factor of Motivation of Educational Activity// Intellectual Archive. Taronto. January. 2016 year. 130-135 p.
10. Маматов Д., Одилова М. Таълим жараёнида ахборот техҳнологияларни қўллашнинг мазмун-моҳияти// Педагогик махорат. Бухоро. 2019. 3-сон. 61-69 бет.
11. Odilova M.O. "IMPROVING THE PEDAGOGICAL POTENTIAL OF BIOLOGY TEACHERS USING COMPUTER PROGRAMS." International Engineering Journal For Research & Development 5.9 (2020): 4-4.
12. Dilshod Mamatov // Improvement of ability and creativity in pre-school children. International Journal of Recent Technology and Engineering (IJRTE), Volume-8, Issue-3S,October 2019. P.220-222.