



## METHODOLOGY OF TEACHING MECHANICAL ENGINEERING AND ASSEMBLY DRAWING IN TEACHING STUDENTS

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### Abstract

This article provides methodological recommendations on the effectiveness of the use of more visual aids in teaching mechanical engineering and assembly drawings in the teaching of drawing to students.

**Keywords:** drawing, machine building, assembly, model, design, selection of theoretical and practical exhibitions, product, methodology.

### Introduction

In Uzbekistan today, linking education remains an integral part of education. The student will continue his / her education in vocational colleges and then in higher education institutions. First, they consolidate their theoretical knowledge, partly in practice, in practical colleges and universities.

Science teachers point out that drawing in the field of mechanical engineering and assembly is difficult for students to master. This includes information from the machine and assembly drawings, drawings, drawing procedures, sizing, and cutting. Effective use of visual aids can help you overcome these challenges. Along with assembly drawings and posters, it is a good idea to display the assembly itself or a model. This is because the practical knowledge in this field strengthens the theoretical knowledge of the students who have learned to see or hold the object (detail) in relation to the image. As a result, students will be able to apply the necessary new knowledge in mechanical engineering and assembly drawing, overcome shortcomings in the field, make changes to some parts of the details, and think about increasing the convenience and usefulness of the product.

It is a good idea to encourage students to do independent research so that they can explore the nuances of the household items or furniture they use in their daily lives and how to overcome them.





Today, with the development of computer technology, it is possible for people to perform tasks manually perfectly. Including convenience in the field of mechanical engineering and assembly drawing.

The complexity and accuracy of the drawing requires that the student's previous skills and knowledge be thorough and solid. Therefore, it is necessary to create conditions for them to perform the tasks and exercises in drawing at school on the computer during the lesson. This helped the students develop a clear idea of the details.

Mechanical engineering and assembly drawing have a special place in modern manufacturing. From small-scale manufacturing to manufacturing, engineering, shipbuilding, aircraft, construction and architecture, and so on, it is impossible to imagine without drawing.

All students can be taught to draw with their own hands with quality and without mistakes, which develops their self-confidence and satisfaction with their work. When students have the opportunity in drawing classes, they should be introduced to interesting information about the formation and development of drawing departments during various study trips in practical classes. The life of architects, designers, painters and designers working in this field, interesting events related to the design of various structures will help the student to organize the lesson in a way that will be interesting and will remain in the memory of students for a long time.

Students' mastery of the field of drawing helps to prepare them for active development and creative activity. This complicates the task of drawing teachers. That is, teachers are required to have knowledge of almost all subjects.

It is not possible to ask a drawing teacher to be an expert in all subjects and to have an in-depth knowledge of all areas of production. But a sufficiently broad polytechnic worldview of a drawing teacher helps him to understand the essence of the processes that take place in many areas of production.

Based on the content of the science of mechanical engineering and assembly drawing, the following conditions should be observed in the lessons:

- Theory is connected with practice. It mainly solves practical problems that require the application of the acquired knowledge after the acquired theoretical knowledge
- Understand the method of projections, which is the theoretical basis for drawing. This will make it easier for people to learn a number of subjects (cartography, geometry, optics, etc.).
- Selection of exhibitions on the topics of the educational program. The most common typical details of mechanical engineering are used in drawing and exercising from nature



- To connect the conclusions of students' life experiences from observations of technical, life and natural phenomena with the knowledge of the course of drawing (for example, the combination of geometric shapes in a particular object, the characteristics of the shadow shape of the object, etc.)
- Continuously develop students' useful skills and competencies, such as cleanliness, flexibility, ability to plan work in advance and find and apply the most economical methods in the process of its implementation.

Graphic objects can be a variety of works created by man and nature.

One of the most important stages in the design of products in aircraft (aircraft, machine tools, automobiles), in architecture and construction, housing, industrial and public buildings, bridges, roads, interiors, etc., in the electronics and radio engineering (schemes, graphics) industry is the execution of the drawing.

Graphics (including computer graphics) you can imagine the activities of a design engineer in mechanical engineering, assembly drawing and any field of construction (aircraft, cars, bridges, roads, residential and industrial buildings) it's not.

To date, most practical drawing teachers have been tasked with developing students' creative abilities, mainly by changing the shape of the detail and making simple additions to it.

There are many examples of mechanical engineering and assembly drawing being widely used in all walks of life. This means that everyone, regardless of their profession, must have learned certain graphic knowledge and have the skills to apply it in practice.

## Conclusion

At present, a lot of reforms are being carried out in the field of education in our country. Particular attention is paid to the continuity and continuity of education, the humanization and democratization of education. Today, as in all areas of the modern information and communication system, its application to the educational process is vital. A number of decisions of the President on "Measures for further development of computerization and introduction of information and communication technologies" are important.

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