

Increasing the Effectiveness of Students 'Independent Work in Developing the Subject "Drawing Geometry"

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Abstract: The article describes effective ways to work independently to increase the level of knowledge of students in the higher education system. It also describes the types of independent education of written, graphic, practical nature.

Keywords: qualified, continuous, new pedagogical technology, graphics, knowledge, independent study, project.

Continuous improvement of the process of training highly qualified specialists is one of the main problems of our time. Improving the quality of staff through the introduction of new pedagogical technologies in the educational process is the main direction of solving these problems [1].

In the following years, the fact that each student had lecture notes from academic subjects provided them with more opportunities to gain in-depth knowledge. At the same time, in order to effectively use these lectures and other handouts, it is advisable to inform students in advance about the amount of knowledge to be studied in the form of questions, tests and other forms [2,3].

Independent work is a part of the knowledge, skills and competencies defined in the curriculum of a particular subject and to be mastered by the student, and is carried out in the classroom or outside the classroom on the basis of teacher's advice and recommendations. In this section, students are given questions and assignments by the relevant departments on the implementation of independent work, as well as methodological recommendations for their implementation. Depending on the nature of the science, assignments are developed for the types of independent work listed in the following diagram.

Questions are developed by the student that require independent writing (in the form of an abstract or report). Assignments are developed to develop the student's creative abilities.

Written independent assignments:

- perform tasks for calculation, filling in summary and iterative tables, development of technological maps, preparation of reports on laboratory, practical work and similar tasks.

Graphic independent assignments:

- preparation of various projects for them includes sketching of drawings, description of cuts and intersections (drawing some details and nodes, etc.), drawing diagrams, graphs, diagrams, description of the results of observations and similar tasks.

Independent assignments of a practical nature:

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- In the process of independent work on the basis of the teacher's assignments, students carry out such activities as preparation of products and products, repair of equipment and tools, product processing, calculation, design of new devices, preparation of models and models.

As a didactic principle of visual education, a known teaching method finds its implementation. In the teaching of mechanical engineering, exhibition methods are carried out by demonstrating real technical objects and technological processes, as well as their models and posters, posters, tablets, films and slides, experiments, demonstration experiments, student observations. The exhibition method can also be shown on television. With its help, objects, equipment and technological processes are directly demonstrated from the workshops and laboratories of industrial enterprises.

Demonstrative method provides clarity and reliability of the most conscious formation of knowledge. In the study of technical and technological subjects, it is very important to consider verbal explanation by various means. However, it should be noted that in some methods the visual methods and tools are not sufficiently developed, with the exception of the general technical subject "Technical Mechanics".

There are several reasons why the demonstration method is not sufficiently evaluated. Objects, events, processes studied in general education, natural and scientific sciences (for example, in physics - mass, forces, movements; in chemistry - the interaction of substances, etc.) are relatively easily remembered in the classroom and laboratory. In many cases, students will have personal life experiences. Mechanical engineering disciplines deal with technical and technological processes and objects operating in production conditions (e.g. metal cutting machines, steel melting furnaces, etc.) as opposed to general education, natural and scientific sciences. The life experiences of swimmers in the school, especially in small courses, may be limited or non-existent in terms of these objects and processes, making them difficult or practically impossible to remember in the school environment.

In technical and technological education, many real objects cannot be replaced by anything at all, because the learning process not only forms notions and perceptions about them, but, as a result, focuses on shaping the skills and abilities of swimmers to work with them in their professional activities. This is not to conclude that the mechanical sciences are only studying real, technical objects (machines, machines, mechanisms) and technological processes. The formation of skills and abilities to work with machines or service the technological process, reveals the previous stage of the structure and principled operation of these facilities. At this stage, the lesson allows the use of models, layouts, electronic diagrams, dynamic posters and other visual aids in solving didactic problems. These visual aids help teachers and learners to form an initial overview of a technical object or technological process. Has an arsenal of special methods and tools for teaching methods and purposes of technical or technological education.

Although there is talk of the availability and diversity of visual aids, it should be noted that they do not provide effective teaching. The teacher must have a number of professional methodological skills and skills in their use in the educational process. Without denying the uniqueness of the methods, techniques and means of presentation in each of the mechanical sciences, the general requirements for training demonstrations may be as follows.

1. A requirement for arranging for swimmers to understand the essence of an object or process is the visibility and impact of the show. This requirement is implemented with careful placement of objects, their adequate lighting, choice of design, choice of color, and so on. Adherence to this requirement is necessary to ensure that all swimmers have sufficient visibility of the objects on display from their workplaces. When choosing models and models, it is necessary to make a didactic analysis, in which the swimmers are shown the structure and principle of operation of the same object (insignificant details, etc. - to be done). In other words, the display device is required to be simple, with the main nodes, parts, and some details highlighted in light color.

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2. The reliability of the demonstration is achieved by eliminating the additional events that adversely affect the outcome by conducting retrospective and additional demonstrations to separate the main process or vocabulary.
3. The reliability of a demonstration depends on the meticulousness of its preparation.
4. The creation of problematic situations (voluntary and involuntary) to increase the attention of swimmers, the intensity of the experience is achieved by the harmony of the words spoken by the teacher's actions.
5. The short duration of the show is necessary to maintain a high level of activity, interest, attention. This is achieved by selecting the speed and separating the individual stages of the show.
6. The technical aesthetics of the show enhances the impression of the experience, allowing them to be remembered well. It is provided with the correct choice of the device, the shape and color of the instruments, the detailed preparation of the details of the technical object.
7. The safety of technical aesthetics in the exhibition is ensured by the risk of explosion, combustion, removal of toxic substances (ultraviolet), ultraviolet, X-ray, radioactive radiation, the use of barriers and safe methods of work, as well as the issuance of the necessary instructions to swimmers.

Some methods use the concepts of "experimental methodology" and "experimental technique". They are interconnected, but also have an independent significance. For example, in preparation for a lesson on the topic of "crystals", the teacher decides to show a film "crystals", a model of a spatial lattice, a collection of samples of sodium chloride or alloys and other substances with a crystalline composition. Demonstrations can have different options. If there is enough time, it is advisable to hold all the shows in a row, if there is not enough time, it is necessary to hold some of them.

If the teacher places the spatial grid on a table in order to make it look good, improves the lighting, or moves it along the row, then the teacher's activity belongs to the "experimental technique."

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