

### A NEW LEVEL OF TEACHING ENGINEERING COMPUTER GRAPHICS IN HIGHER EDUCATION

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**Abstract:** In this article there is teaching of engineering computer graphics in higher education problems have been widely studied and solutions have been presented. Besides today's young people's interest in learning, current problems in education were studied and the results of statistical research were presented.

**Key words:** New Uzbekistan, youth, national model, higher education, material technical base, technology, gadget, digital technologies, engineering computer graphics, AutoCad, 3DMAX, Revit, Lumion, graphics software.

It is known that large-scale democratic changes are taking place in our country over the next five years. The concept of "New Uzbekistan" is becoming a reality. Currently, another important process of renaissance is taking place in our country. That is why the words "New Uzbekistan" and "Third Renaissance" sound harmoniously and harmoniously in our lives, inspiring our people towards great goals. It is not an exaggeration to say that this opens the door to great opportunities for us.

Today, the development of the "national model" system, which meets the requirements of the time, to further improve the quality of education in the country, remains an urgent problem. Because new things are being developed every day, and the needs are changing accordingly. At the same time, the need for education is increasing, and it is required to raise education to young people to a new level. If we analyze the system of higher education, we can see that the teaching of information technology is at a low level at the same time when a lot of attention is paid to the development of information technologies. The main reason for this is the backwardness of the material and technical base and the irresponsibility of personnel for their work. A science teacher who does not take his work seriously and does not approach it with responsibility is sure to turn off the interest of a student who is thirsty for knowledge. This is the biggest problem in today's education system. Taking into account the fact that today's youth are very interested in technology and gadgets, it should become the highest task of the pedagogue to be able to direct their interest.

Statistical studies show that the majority of young people positively evaluated the existing infrastructure (educational environment, material and technical support, textbooks, etc.). 94.7 percent of them believe that the work of pedagogues and 91.1 percent of educational institutions are satisfactory. But the situation is not so good when it comes to the use of digital technologies. In particular, 30.4% of rural youth said that there is no internet in their school. In the city, this indicator is around 22 percent.

Despite the fact that the respondents are generally satisfied with education, they believe that the quality of education should be improved. Pupils and students want to learn more foreign languages, acquire soft skills such as business acumen, leadership, initiative, creative approach to work, stress tolerance, and the ability to manage time properly. Young people, on the one hand, positively evaluate the

educational infrastructure, on the other hand, they seriously object to the quality of education. Another problem related to young people is related to the productivity of education. In other words, financial weakness puts young people in a state of stress and helplessness, preventing them from getting education. 86.9 percent of the respondents expressed interest in deeper mastering of information technologies. 37.8 percent of them, including women living in rural areas, say that they cannot use a computer at all. The share of young people who do not know how to use the Internet is 53.9 percent. Some young people perceive the Internet as a useful information resource, a convenient tool for study and work, while others perceive it as a "time thief" and a place of foreign ideas. This situation shows that digital inequality is strong in society.

Therefore, it is necessary to explain how useful and important field information technology is for today's youth. Foundation of Information Technology Given that Engineering is a computer graphics discipline, this discipline opens the door to a wide range of opportunities. The science of engineering computer graphics is included in the list of general education and general professional educational subjects in the State educational standard, which determines the level of higher professional knowledge.

Raising the teaching of engineering computer graphics to a new level provides the following:

- to further increase the interest of young people in education;
- focus on useful programs (AutoCad, 3DMAX, Revit, Lumion and graphic programs) of the learner who spends most of his time on gadgets;
- elimination of material problems among students by studying the above programs and using them in practice;
- allocation of additional time for independent education of students;
- modern professions that are of great interest among young people today, in particular, conducting free activities in SMM, etc.;

If we look at the foreign experience in this regard, in a number of developed countries, methods that form the basis of great experience in the use of modern pedagogical technologies guaranteeing the effectiveness of the educational process are being used under the name of interactive methods. Interactive educational methods are currently the most common and widely used methods in all types of educational institutions. So, how correct is the use of interactive methods? First of all, if we take into account the national mentality, education, material and technical base and several other aspects between foreign students and our students, the difference between them is very big.

How ready are our students to use interactive methods and digital technologies?

- currently, all higher education institutions have been transferred to the electronic journal system. However, taking into account that Uzbekistan has not yet achieved complete independence in terms of the Internet, there are serious problems related to the speed of Internet purchase and operation among young people.
- Taking into account the material and technical base of higher education institutions, we can see that they are quite backward compared to foreign ones. After that, the student who is interested in this subject and sees himself in this field in the future sees the side of buying the necessary resource and is interested in the price. According to expert Rauf Salokhojaye, if we see that currently Uzbekistan remains a country that supplies labor force based on physical labor, this side of the coin is not a solution, but a problem for the student.
- Another difference between students is related to mentality. According to the results of statistical research, 63.4% of respondents believe that work should be interesting, first of all. By interesting,

they meant the work they found. Unfortunately, 17.8 percent of young people give up their dream of higher education because of their parents' opposition. 20.8 percent of them are girls. Also, according to estimates, a specialist with a higher education in Uzbekistan earns an average of 55% higher salary than a school or college graduate (Ajwadetal., 2014). For 19.8 percent of respondents (26.3% - men, 17.3% - women), salary plays a decisive role in choosing a profession. Women in the village agree to be satisfied with a monthly salary of 1 million soums (about 100 dollars). 3-5 million soums is a good salary for young people. This is a sad situation.

As a result of the statistical research and analysis studied above, we can see how urgent it is to raise the teaching of engineering computer graphics to a new level. This task requires:

- every pedagogue should have psychological knowledge and treat each student taking into account the background;
- giving motivational lectures during the educational process, introducing the biographies of people who have achieved great results in this field;
- In the process of learning this subject, the ability to imagine is important and it is different for everyone. In the process of explaining the objects, the basis of reality gives a more effective result;
- should show opportunities for students to get independent education outside of class;
- Literature should be widely used during the course of the lesson. This forms the ability of students to read books.

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