



Innovative Methods of Using the Effectiveness of Voice Tone of Pedagogics in Teaching Students

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Abstract: The article describes the innovative methods of using voice tone effectiveness in the teaching of electrical engineering using the modern digital innovative interactive "Multisim" program.

Key words: Modern information technologies, pedagogy, innovative technology, multisim, voice, program.

INTRODUCTION

According to the Decree of the President of the Republic of Uzbekistan [1] on the introduction of digital technologies and modern methods into the educational process, the following tasks must be performed: ensuring the solid integration of modern information and communication technologies and educational technologies, digitalization of educational processes individualization on the basis of technologies, wide introduction of distance education technologies into practice; remote based on modern information and communication technologies organization of educational programs;

- based on the uniqueness of educational directions and specialties,

modern software that is widely used in the educational process at the international level develop the use of products. According to this decree, modern information and communication technologies and ensuring strong integration of educational technologies, educational processes individualization based on digital technologies, distance education services development, wide introduction of modern technologies into practice is considered one of the main tasks. A student in front of a modern electrical engineering teacher increasing their interest in electrical engineering and the efficiency of the lesson to achieve, the thinking of students, to understand the abilities of free and independent thinking further development, seeing invisible processes, electrical engineering the goal is to create the possibility of modeling processes.

LITERATURE ANALYSIS AND METHODOLOGY

Application of modern technologies in educational practice, educational system

is a structural element of modernization. Technologyization of educational processes in modern conditions with less effort and time spent allows to achieve the expected result, improve the quality of education, increases efficiency [2]. From information and communication technologies use is also a pedagogical process, in the activity of the student and the teacher change, innovation, full of interactive methods in the educational process includes use [3]. Electrical engineering training in higher education the use of the interactive electronic program "Multisim" in the educational process brings a new level of quality. And this is for the teacher not only for the lesson it facilitates the preparation and conduct of the

lesson, but it is also new also creates opportunities [4-9]. On the use of innovative methods in the field of education, I. G. Tursunov, U. A. Eshniyozov and Sh. A. Durdiyeva's research work "In different environments the scientific-educational significance of demonstration experiments on the subject of "electric current". including the scenarios of identifying and presenting problematic experiences, he to aspiring physics teachers in improving the effectiveness of their activities and effective technologies and methods of teaching physics to university students revealed[10]. To achieve a guaranteed result of teaching electrical engineering technical, electronic software, it is necessary to have a didactic and preparatory environment. In this: Technical environment: computer room, computers connected to Internet networks and the interactive program "Multisim" must be installed [9]. Didactic environment: "Multisim" from programs with the ability to manage educational and methodological manuals for full use, teacher and supervisor there should be electronic educational materials, methodical instructions. Such an environment to create, it is necessary to pay attention to the following.

- technical problems: personal computer, devices for their operation and "Multisim" program;

- Didactic problems: necessary for use in the educational system educational manuals, teaching and monitoring electronic educational materials;

- Preparation problems: the electrical engineering teacher himself is high computer, its additional devices, interactive educational programs and they should know how to fully use the Internet. for this information-communication and modern interactive in the teaching of electrical engineering. The use of "Multisim" programs should be widely introduced [9]. Circuits of inductance consisting of voltage source and coils in the scheme should not be.

1. Current sources should not be connected in series.

2. There should be no short-circuited coils.

3. The voltage source is connected to the transformer and the inductive coil in series must be connected through resistance. A resistor to the capacitor connected to the current source is of course must be connected in parallel. The teacher is one of the information and communication tools during the training electronics science classes using the "Multisim" program when passed, he will have the following opportunities compared to traditional education.

1. Collection of electronics and electrical engineering data, their processing, automatic serves as a universal and necessary tool in the fields of management and energy transformation.

2. "Multisim" program installed together with information and communication technologies with the help of creating chains is done in a few seconds.

3. "Multisim" based on the technology of virtual devices for the purpose of educational production allows to combine the processes of development and testing of electronic devices.

4. The possibility of independent construction of various electrotechnical chains (circuits).

5. Very broad electronic material technical base.

6. Possibility of attractive assembly of electrotechnical schemes.

7. Accuracy of electrotechnical laboratory equipment and shutdown results.

8. It is possible to compare and analyze the received graphs.

9. Acquaintance with designation, properties and brands of electrotechnical elements in the scheme opportunity.

10. Visual observation of electrotechnical laws (processes).

11. Availability of opportunities for students to check their ideas and innovations.

12. When working with the Multisim program, the student feels free from making mistakes is not afraid, because there is an opportunity to quickly and effectively correct errors [5-9]. Electrical engineering training is conducted through the "Multisim" program you can assemble any electrotechnical circuits (circuits) during training. In this, students are alone, divided into large and small groups and in

cooperation they work. Working in the Multisim program gives students aesthetic pleasure, science will further increase their interests. Learning by using game methods students will be able to learn difficult topics easily. It is good if this is also used in lectures in "Multisim" programs it works. Regular use of these programs is the basis for good mastery of science even by students with low mastery. As a result, in all listeners it is possible to create an opportunity to achieve the effectiveness of the lesson in electrical engineering. The fact that some students do not master science well is not because they do not know it well, maybe because they have signs of shyness and fear. "Multisim" program helps students overcome such characteristics. Through this program, students can be asked about past lessons, assembly of electrical circuits, processes in the scheme tracking, getting various search values, can be widely used in drawing graphs and analyzing the obtained results. It is worth noting that in the course of conducting experiments, if there is a lack of equipment in the electrotechnical laboratory and practical training, if the equipment is faulty, it is possible to conduct the experiment through a virtual laboratory. The peculiarity of such methods is that they are only for students and it is carried out through the joint activity of teachers. Such the cooperation process has its own characteristics. That is: the continuity of students' interest in science during the educational process provision;

- the opportunity for students to think independently, create and search during the lesson Create; - students' interest in science to each issue independently to strengthen their aspirations to acquire knowledge with a creative approach.

RESULTS

Training in electrical engineering, based on the "Multisim" program in order to determine the results of mastering the subject, pedagogical experimental work was carried out. Pedagogical experimental work in the 2019-2020 academic year, Tashkent region Faculty of Military Education of Chirchik State Pedagogical Institute technological education was conducted in MET-18/1 and MET-18/2 groups. 20 students from the MET-18/1 group as a control group, and from the MET-18/2 group 18 students were selected as an experimental group. Teaching electrical engineering the following results were obtained when the "Multisim" program was used in the process.

CONCLUSION

Simple or complex analog and digital devices with "Multisim" program can be created, modeled and studied. Creating electrotechnical circuits, the desired results are clear in a short time allows you to get and display graphics attractively. From the science of electronics Students are independent when classes are conducted on the basis of the Multisim program thinking develops. The theoretical knowledge gained during the lecture will be strengthened. Practical analysis of the results obtained through the work done in training will have skills. This is for students' science and research work interests increase. Because the need for distance education is very high nowadays. Multisim program is effective in all classes of electrical engineering can be used. Students are constantly interested in scientific activities develops and teaches efficient use of time. Independent training of future specialists with the "Multisim" program development of activities, ensuring the commonality of educational and scientific work, attracting students to scientific research work, based on which they become a mature specialist it will be possible to improve preparation and quality.

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