



## IMPACT OF INNOVATIVE TECHNOLOGIES ON THE QUALITY OF TRAINING IN THE SCIENCE OF VEHICLE DIAGNOSTICS

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**Abstract:** The article will consider such problems as the implementation of innovative technologies in the diagnostic science of vehicles, improving the quality of student assimilation with the help of new technologies.

**Key words.** Innovative technology, student, quality, science, computer, education, training, analysis.

**Annotasiya:** Maqolada avtotransport vositalarining diagnostika fanida innovatsion texnologiyalarni tadbiq etish, yangi texnologiyalar yordamida talabalarni o'zlashtirish sifatini oshirishda kabi muammolar ko'rib chiqiladi.

**Kalit so'zlar:** Innovatsion texnologiya, talaba, sifat, fan, kompyuter, ta'lim, mashg'ulot, tahlil.

**Аннотация:** В статье рассматриваются такие проблемы, как внедрение инновационных технологий в дисциплине диагностика автотранспортных средств, повышение качества освоения студентами новых технологий.

**Ключевые слова:** Инновационные технологии, студент, качество, наука, компьютер, образование, обучение, анализ.

The new stage of educational reform is characterized by the rapid introduction of new information and communication technologies. In the study of vehicle diagnostics, the widespread use of ICT in various areas of education in informatization of Education also plays an important role.

This is explained not only by the traditional importance of diagnostics in the world of technology, which cannot be carried out without the ability to develop, read and analyze graphic information, but is also explained by the new role of vehicle diagnostics as an intermediary in communication between computers and objects.

Nowadays, the application of acts in the teaching of modern diagnostics subjects in Engineers' training OTMs is becoming a modern requirement. Future engineers are trained in new technologies by organizing the subjects of vehicle diagnostics using computer technology. The goal is to be able to use acts, various software tools to perform practical, laboratory exercises and various self-thought-provoking ideas with an independent creative mindset. The subject "diagnostics of vehicles" forms a creative approach to students when performing course and diploma work independently. It should also be noted that the tasks facing the "diagnostics of vehicles" teach general ideas, depending on the conditions of operation of a particular aggregate, details or taking into account various situations. The student studies the science of "vehicle diagnostics" the study of the laws of appropriation of quality indicators of technical devices and systems, diagnostics of their technical condition and, on this basis, methods of increasing their operating periods without distortion with the lowest costs. When carrying out a task, the student faces the challenge of taking a computer into his hands to ensure the reliability and performance of vehicles, assessing their reliability and learning to put into

practice diagnostic methods and means, imagining indicators of reliability in the operation of vehicles and a diagnostic system and much more. To the question of what are the advantages of car diagnostics computer harmonization, we can answer as follows: it encourages the student to independently think creatively; at will, it encourages him to create something new about his field; the course from specialty subjects helps in the design of projects, in the preparation of graduate qualification work.

Technical progress puts before the subject of " vehicle diagnostics " tasks on the design, production and operation of vehicles, ensuring working capacity in the event of severe conditions and an emergency, diagnostics of their technical condition, forecasting (forecasting), as well as finding the most optimal (rational) structural solutions.

The course " diagnostics of vehicles " is carried out on the basis of two basic rules that make up the course using computer technology. The first rule is an excellent study of the basics of diagnostics, on the basis of which the development of methods and criteria for the operation of vehicles and their effective application in practice to convey a large amount of information at the time allotted to the training. The second rule provides for the construction of a spatial geometric model of the specialist, linking the direction of education to the disciplines of specialization. The design, production and operation of new technologies and modern technologies, the teaching of the design of technical facilities is the main link in the preparation of future engineers.

To successfully intensify the educational process, it is necessary to develop and implement scientifically based methods of managing the cognitive process that move the creative potential of the individual. The increase in the speed of education is achieved through didactic tools, improved educational regulatory documents of new content, visual tools, which are integrated into special Information Communication Technologies. [5]

The huge possibilities of Information Technology are of particular interest, allowing to combine the two levels of cognition, emotional and logical, as well as to demonstrate actions in the form of perception, creating great opportunities for Dynamic Modeling of various objects and phenomena. So, the information placed in a certain order on the monitor screen helps to develop theoretical and practical thinking, and also helps to increase the student's interest in work, creativity. All this requires new ways and methods of training students in modern engineering techniques, providing highly competitive engineering personnel with the highest quality of training and computer literacy in market conditions.

A distinctive feature of the introduction of computer technology into higher education is that the teaching methodology lags behind the level of technical solutions and the requirements of the educational process. In the study of vehicle diagnostics, many students have difficulty analyzing vehicle aggregates, and it is advisable to use the capabilities of computer technologies such as visualization to work with large amounts of data and data here. [1]

Also, in order to achieve a result in the educational process, the educational materials prepared when applying the Act must cover the subject and correspond to the concept of time. Computer technology-based teaching technologies define the following:

rational selection of educational material with a clear definition of basic and additional, primary and secondary information; redistribution of educational material by time with a predominance of new educational material at the beginning of the lesson when perception is more active; rational cleaning of educational material; ensuring the logical continuity of new and previously mastered information, active use of new material for. [2]

Psychologists say that it is necessary to read in order to learn to act, and not to give a sense of knowledge. Action is not considered anything other than the practical application of knowledge. [3]

Undergraduate educational areas for mastering the subject are in the block of Natural-Scientific and humanitarian Sciences in the educational plans ("higher mathematics", "information technology in technical systems", "Physics", "Chemistry", in the block of universal Sciences ("Engineering graphics and computer design", "material science", "theoretical mechanics". "Material resistance", "machine and mechanism theory machine details", "Electrical Engineering and electronics", etc.K) subjects require adequate knowledge and skills. [4]

In place of the conclusion, the following can be said:

1. The results of the study provide the basis for the revision of the model program of the course "vehicle diagnostics".
2. More attention should be paid to the study of the following issues.
  - improve the skills of students who perform work on the following topics: types, departments, elements of detail processing and specialization and aggregates;
3. Selection in the curriculum depends on the hour of subjects, for students of the specialty 5310600 – "vehicle engineering", and for students of the specialties 5340600-"ground transport systems", it is necessary to additionally organize transport engineering lesson hours at intervals of 10-15 hours.
4. Formation and more active use of didactic lesson materials by focusing on the specialty.
5. When organizing the educational process, it is necessary to plan activities that increase the connection of vehicles with the subjects, which include the diagnosis, the vehicle part.

### Literatures:

1. Григоревкая Л.П. Формирование профессиональных качеств специалиста при изучении инженерной графики: диссертация доктора педагогических наук: 13.00.08 Братск 2007.
2. <https://dlib.rsl.ru>
3. Абдуқодиров А.А., Астанова Ф.А., Абдуқодирова Ф.А. "Case-study" услуби: назария, амалиёт ва тажриба.-Т.: "Тафаккур қаноти", 2012. - 134 б.
4. А.А.Тојибоев, Т. Қодирслиоев, К.Л. Иброхимов "Avtotransport vositalarining diagnostikasi" Toshkent - "NIF MSH" – 2020. – 4 б.
5. Авазов Ж.Д. Бўлажак муҳандисларнинг касбий компетентлигини такомиллаштириш 13.00.02 Термез 2022.
6. Shomirzaev M. X. Innovative pedagogical technologies in teaching technology. Textbook //Т: Tafakkur. – 2021.
7. Шомирзаев М. Х. ТЕХНОЛОГИЯ ФАНИНИ ЎҚИТИШДА ИННОВАЦИОН ПЕДАГОГИК ТЕХНОЛОГИЯЛАРИДАН ФОЙДАЛАНИШ МЕТОДИКАСИ: DOI: <https://doi.org/10.53885/edinres.2021.44.86.020> Шомирзаев Махматмурод Хурамович Термиз давлат университети технологик таълим кафедраси доценти, педагогика фанлари доктори (DSc) //Образование и инновационные исследования международный научно-методический журнал. – 2021. – №. 1-Махсус сон. – С. 321-330.