THE ROLE AND SIGNIFICANCE OF THE SCIENCE OF VEHICLE DIAGNOSTICS IN THE FORMATION AND DEVELOPMENT OF PROFESSIONAL COMPETENCE OF FUTURE ENGINEERS IN HIGHER EDUCATION

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Abstract: The article discusses the development of professional competence of future engineers in higher education in the science of vehicle diagnostics, the concept of a vehicle concept, the strengthening of knowledge related to the field
Key words: Technology, student, quality, science, computer, education, training, analysis, diagnostics, malfunctions.
Annotasiya: Maqolada avtotransport vositalarining diagnostikasi fanida oliy ta’limda bo‘lajak muhandislarnig kasbiy kompetentligini rivojlantirish, avtotransport vositasi tushunchasini anglatish sohaga tegishli bilimlarni mustahkamlash to‘g‘risida to‘xtalib o‘tilgan
Kalit so‘zlar: Texnologiya, talaba, sifat, fan, kompyuter, ta’lim, mashg‘ulot, tahlil, diagnostika, nosozliklar.
Аннотация: В статье рассматривается вопрос о развитии профессиональной компетентности будущих инженеров в области высшего образования в области диагностики транспортных средств, закреплении соответствующих отраслевых знаний о значении понятия транспортного средства
Ключевые слова: Технология, студент, качество, наука, компьютер, образование, обучение, анализ, диагностика, отказы.

In the development of professional competence of future engineers, vehicle diagnostics is a fundamental science, on the basis of knowledge and skills acquired in this science, such qualities as the imagination, technical thinking and creative abilities of the engineer develop. The educational discipline "vehicle diagnostics" is considered the basis of the formation of skills and abilities in students, paving the way for the manifestation of their creative abilities. In the process of operation, great attention is paid to the classification of violations occurring in terms of vehicles, changes in the technical condition parameter and its impact on prevention, reliability feature indicators and methods of identifying them by research, as well as applying these indicators in practice.

The composition of the vehicle diagnostic system, object models, diagnostic external signs (symptoms), parameters and norms, general diagnostic processes, technical diagnostic tools and methods, conditions for diagnosis, the effectiveness and development prospects of technical diagnostics are covered.

The knowledge received by students in science is widely used in the collection of data on the reliability of vehicles at Motor Transport and motor transport enterprises, their processing, analysis and development of the necessary recommendations, and the organization of vehicle diagnostics [1].

The content, forms and methods of teaching in higher education confirmed that as a system that prepares students for active professional activities, they should be directed to modern

professional tasks in this field of science. Therefore, in higher educational institutions, the composition, structure of any subject should be considered from the point of view of the formation of knowledge, skills necessary for solving professional problems [2].

This approach to the structure of Science, in our opinion, allows:

- vehicle diagnostics to ensure interaction with intermediate and graduate executive departments;
- knowledge, skill contribute to the assimilation of special subjects that are carried out in Higher courses with the structure of skills;
- can be transferred by the listeners themselves to another academic discipline;
-actively influence the activities of the future engineer in solving practical problems, arouse interest in the profession [3].

The orientation to the field of Science, which allows the student to be at the level of professional tasks of modern practice, can be carried out by systematically organizing special disciplines in higher educational institutions that train engineers. But special subjects are studied only in graduate departments in 5-8 semesters, and the need to involve students in their future profession is emerging in the first semester, because, as previous researchers say, the process of developing professional interest should be continuous at the stages of "school-professional Education - Higher Educational Institution".

A.B. Kaganov notes that the results of the initial professional formation of students are largely determined in the higher educational institution by the achievements directed towards their psychological adaptation to new conditions [4].

Diagnosis - to draw conclusions about the technical condition of the mechanism-is to know its suitability for operation at the right time and in the period up to the next maintenance.

The effect of drawing up the ideas of Engineering in an invisible, difficult, raw fantasy is sometimes more effective, the more the author acquires the concept of tassavur on the plane, the stronger the connection with technical sciences during studies in higher educational institutions preparing engineers, the more active the interest in the profession.

Regardless of its type and the task it performs, modern motor vehicles are considered much more complex and are made up of many elements-details, nodes and aggregates - that are interconnected and in mutual motion. The resources of the elements, as a result of the diversity of their strength, are not equal to each other. The reason for this is the fact that the elements work at different loads and temperatures, are made of different materials that differ in mechanical and physicochemical properties. Therefore, ensuring the established reliability of vehicle elements in operational conditions is one of the pressing problems.

Mastering diagnostics as a means of expressing technical opinion and as a production document should be carried out during the entire study process at a higher educational institution. This process begins with the study of the diagnosis of vehicles, and then develops and strengthens with a number of generalizations and special disciplines. The ability to perform diagnostics and study is one of the main parts of the professional activity of an engineer. The ability to read technical diagnosis allows the student to delve into the professional activity of the engineer, instilling him a sense of satisfaction with this activity and, therefore, contribute to the activation of the professional interests of the individual.

The knowledge and skills acquired in the study of vehicle diagnostics are necessary in the acquisition of universal and special disciplines, as well as in the study of further professional activities.

Analyzing year-by-year approved qualification requirements, curricula, curricula, complete departments were identified that no one would provide to students, there is a serious need to study them. We came to the conclusion that in intensive targeted training of specialists, it is impossible only based on the traditional software documentation that we use.

An important place in the formation of knowledge and skills in training students in the subject of vehicle diagnostics is allocated to demonstrative (visual) practical training and laboratory work. In the lessons of vehicle diagnostics, diagnostic equipment expands the pre-accumulated imagination in students about violations and processes in the vehicle, fills and conveys the views of students. When performing laboratory work independently, students understand the laws of proper use and exploitation when diagnosing Motor Transport, learn to work with methods of their study, that is, to obtain independent knowledge in practice [2].

Therefore, using virtual models using a computer,

diagnostic devices that are not enough to carry out experiments and laboratory work can be replaced, in such a way that students can gain knowledge by performing experiments on virtual models. To carry out Virtual laboratory work, there must be a methodological instruction, which provides complete information on how to start a computer program and when to press which Key, where to enter the results in the tables and how to draw up a graph.

On the screen of modern devices that determine the causes, types and locations of the malfunction, new electronic automated diagnostic systems are constantly being developed, which provide recommendations for making decisions, it is required by the service diagnostic operator to make recommendations or make additional diagnostic measurements. In this regard, the requirements for the qualifications of vehicle diagnostic operators are sharply increasing the technical qualifications of the diagnostic operator and the higher the technical level of diagnostic methods and means used, the more accurately the technical condition of the vehicle at this current time is determined.

Therefore, in order to make an effective diagnosis, the diagnostic person is required to know well the solution of changes in the technical condition of the diagnostic object in the process of operation, the likelihood of violations and malfunctions occurring, as well as violations and malfunctions, the initial and marginal values of their diagnostic parameters, diagnostic algorithms,

to knowledge about the construction of a diagnostic model and prior knowledge of the residual resource

it is necessary to have.

Vehicle diagnostics, among other disciplines of the program, dominates the development of the professional's qualifications.

At the present stage of economic development, the level of technical equipment of production, the introduction of complex technologies has significantly increased the demand for the level of knowledge, qualifications, skills and organization of a young specialist.

Literatures:

1.A.A.Tojiboev, T. Qodirslioev, K.L Ibrohimov “Avtotransport vositalarining diagnostikasi” Toshkent - “NIF MSH” – 2020. – 4 b.

2.Xudaykulov R.Z Axborot texnologiyalari va virtual laboratoriyalarni avtotransport vositalarining diagnostikasi darslarida foydalanish abdulla qodiriy nomidagi jizzax davlat pedagogika universiteti Jizzax – 2022. – 590 b.
3.Григоревкая Л.П. Формирование профессиональных качеств специалиста при изучении инжененой графики: диссертация … доктора педагогических наук: 13.00.08 Братск 2007.
4.Коганов А.Б. Формирование профессиональной направленности студентов на младших курсах вузов / на материале технических вузов/: Автореф. дис...канд. лед. наук-М., 1981.
5.Shomirzaev M. X. Innovative pedagogical technologies in teaching technology. Textbook //T: Tafakkur. – 2021.