Global Conference on Multidisciplinary Research and Innovation
Hosted Online from Berlin, Germany
Date: 2nd January, 2026
Website: https://econferencia.com

FUTURE ENGINEERS IN A DIGITAL EDUCATIONAL ENVIRONMENT PROFESSIONAL IMPROVING COMPETENCES

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Annotation:
This article identifies the tasks of increasing the professional competencies of future engineers in the digital educational environment of Uzbekistan oath increasing the professional competencies of engineers in the digital educational environment in technical universities.

Keywords: digital education, professional competence, competence, modular training.

Annotatsiya:
Mazkur maqolada O‘zbekistonda raqamli ta’lim muhitida bo‘lajak muhandislarning kasbiy kompetensiyalarini takomillashtirishni shakllantirish va texnika oliy ta’lim muassasalarida raqamli ta’lim muhitida muhandislarning kasbiy kompetensiyalarini tako- millashtirishning vazifalari belgilab berilgan.

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Kalit so‘zlar: raqamli ta’lim, kasbiy kompetensiya, kompetentlik, modulli o‘qitish.

Currently, digitalization has taken a leading position in the world in the field of education. In this regard, it is necessary to determine the priority areas of systematic reform of higher education in our republic, to focus on modern knowledge and high spiritual and moral qualities. has, independent thinking high qualified personnel preparation process to a qualitatively new level upgrading, modernizing higher education, advanced education technologies based without social industry and economy In order to develop the higher education sector, the Decree of the President of the Republic of Uzbekistan No. PF-5847 “On approval of the Concept for the Development of the Higher Education System of the Republic of Uzbekistan until 2030” was adopted [1]. The Concept for the Development of the Higher Education System of the Republic of Uzbekistan until 2030 aims to consistently ensure the implementation of the tasks set forth in the Concept for the Development of the Higher Education System of the Republic of Uzbekistan until 2030, as well as to expand the independence of higher education institutions, sharply reduce state administrative control in their activities, and thereby achieve a dynamic
labor market requirements answer give can high qualified personnel In order to form training universities, this system was introduced in 35 higher education institutions starting from January 2022, based on the Resolutions of the President of our Republic dated December 24, 2021 “On additional measures to ensure the academic and organizational and managerial independence of state higher education institutions” [2] and “On measures to provide financial independence to state higher education institutions” [3].

The main condition for such development is the requirements and changes in professions. dust value directions into account received without digital in the environment The goal of the national education system is to modernize the national education system, aimed at preparing graduates who are capable of living and carrying out their professional activities. Solving this problem involves increasing the requirements for the qualifications of professors and teachers and their competence in using digital technologies to design and implement the educational process, and at the same time, at a time when there is a high need for distance education, the technical direction of higher education education in institutions digital education in the environment future engineers creates the need to improve professional competence. The socio-economic development of modern Uzbekistan sets new requirements for the training of specialists in various professions, which requires the higher education system to develop standards in line with world standards based on optimizing methods and means to achieve the set goals in training qualified personnel.

The development of the technical innovation market requires engineers to be able to effectively carry out their professional activities in a dynamic and high-tech professional environment, which makes the task of modernizing the professional engineering education system at a new stage urgent.

Research has shown that in modern conditions, the process of training technical specialists at the institute is organized taking into account the constantly changing tasks of engineering activities and the conditions for its implementation. to be necessary. This changes, also, in our republic The rapid development of the innovation system has affected the professional potential of modern engineering activities and requires the higher education system to train specialists with innovative, creative thinking skills, a high level of technical and sufficient

fundamental knowledge in the process of modern scientific and technological progress, who can independently solve research problems and quickly master new technologies for solving professional problems .

the current demand in the labor market , certain It is not enough to be a graduate with professional knowledge, skills, and qualifications.

Recently, the issue of the interrelationship between the concepts of competence and competence has been widely discussed in pedagogical science.

Competence (English: “ competence ”) means the effective use of theoretical knowledge in activities, the ability to demonstrate a high level of professional competence, skills, and abilities [4].

The concept of competence has entered the field of education as a result of psychological scientific research. From a psychological point of view, competence means “how a specialist behaves in unconventional and unexpected situations, enters into dialogue, takes a new approach in interactions with opponents, performs ambiguous tasks, uses conflicting information, and has a plan of action in continuously developing and complex processes .

Professional competence – the performance of professional activities by a specialist for necessary was knowledge, skill and of qualifications possession and their practical application is considered to be at a high level.

in each independent area . Competence also requires the constant enrichment of specialist knowledge, the study of new information, the ability to understand important social requirements, the ability to search for new information, process it and apply it in one's activities [5].

Competence is a set of knowledge, skills , and personal qualities necessary for successful activity in a certain field.

Professional to competence has expert own knowledge consistent enriched goes,

absorbs new information, deeply understands the requirements of the era, searches for new knowledge, processes it and effectively uses it in their practical activities. The structural and information analysis of the professional tasks of engineering specialists allows us to identify an invariable component of their professional activities related to the organization of scientific and experimental work, analytical and synthetic processing of professionally important information, the ability to solve practical engineering problems based on the ability to solve practical engineering problems based on generalized algorithms of activity in fundamental knowledge and compulsory subject areas. Thus, within the framework of professional training for the study of compulsory subjects , the task of forming and developing basic professional competencies, including the implementation of practical and theoretical tasks based on the mastery of knowledge, skills in behavioral standards, values and areas of compulsory education by students, and the acquisition of professionally significant experience, is renewed. Therefore, the organization of training of a modern engineer should be aimed at the formation of basic professional competencies of a future specialist who is in professional development and continuous improvement. necessary. However education in the process From ICT use issues additional work on the problem of forming the basic professional competencies of a future engineer in distance learning conditions with sufficient theoretical and methodological development research is needed [6]. Distance learning of a future engineer in the conditions main professional competencies formation problem In the context of the transition to a two-stage system, additional research is required in higher education institutions for the training of engineering personnel from the point of view of substantiating the organizational and methodological foundations of implementing this process.

and testing experience in the technical higher education system has made it possible to formulate a number of contradictions between:

– the need to develop the competencies of future engineers, including basic professional competencies that serve as the basis for improving the skills of a specialist and the insufficient development of theoretical and methodological solutions in the existing system of professional training of engineers in the process of higher education;

– various fields and the lack of theoretical and methodological development of a mechanism for introducing a competency-based approach to training engineers through distance learning .

and methodological approach is needed to form the professional competencies of engineers in a digital educational environment in technical higher education institutions .

Technique supreme education in institutions digital education in the environment The process of forming professional competencies of engineers will be more effective in the following cases :

– the conditions and means for implementing a competency-based approach are established;

– the educational process is carried out according to the model of organizing the professional training of an engineer, taking into account the specific characteristics of the student's educational and cognitive activity and mastery when studying compulsory subjects in distance learning conditions [7];

– The organizational and methodological foundations for its implementation in distance education conditions are determined, ensuring an integrated approach and coordination of the activities of all subjects of the educational process.

The tasks of improving the professional competencies of engineers in a digital

educational environment in higher education institutions are:

1. multi -level education in Uzbekistan and analyze the specific features of implementing a competency-based approach to training modern engineers.
2. modern teaching aids and methods, including distance learning education under the circumstances personnel preparation according to there is local and analysis of foreign experience, substantiation of the possibilities of forming the basic professional competencies of an engineer in the process of studying mandatory knowledge [8].
3. To develop a model for the formation of basic professional competencies of a technical specialist and design a system for organizing, technological and information-methodological support of professional training in distance learning conditions at the institute .
4. Institute information and education environment integrator component To justify approaches to selecting the content of an electronic educational and methodological complex for a compulsory subject and to develop a methodology for its use in distance learning.
5. Offer being done approach efficiency experimental testing .

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