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PHILOSOPHICAL AND PEDAGOGICAL VIEWS OF WESTERN THINKERS ON THE PROBLEM OF DEVELOPING PROFESSIONAL COMMUNICATIVE COMPETENCE IN TECHNICAL ENGINEERS

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Abstract. This article presents theoretical information from Western thinkers on the study of professional and communicative competencies of engineers studying in technical fields. It also references a number of decrees and resolutions of the President of the Republic of Uzbekistan aimed at identifying priority directions for the systematic reform of higher education in the country, elevating the process of training highly qualified personnel with modern knowledge, high spiritual and moral qualities, and independent thinking to a qualitatively new level, modernizing higher education, and developing social and economic sectors on the basis of advanced educational technologies.

Keywords: competence, communicativeness, professional and business approach, systematic approach, contextual approach, competency-based approach, general scientific level, general philosophical level.

Introduction

In today's era of globalization, the development of the technical sector is inextricably linked with digital transformation processes. This development is characterized not only by the progressive complexification of technology and machinery, but also by the transition of professional and social cooperation among sector participants to a new level. In particular, the intensification of international integration processes demands that technical specialists possess the competence to engage in effective professional communication.

The professional activity of technical engineers is complex, multi-component, and innovative in character, requiring the integrative application of competencies at various levels — universal, general professional, and specialized professional. Within this system of competencies, professional-communicative competence occupies a special place. This competence enables specialists to make effective use of global information resources, actively participate in international projects, establish and develop professional relationships with foreign partners, and exchange experience in both real and virtual environments.

Today, digitalization occupies a leading position in the global field of education. In this regard, the Republic of Uzbekistan has also taken significant steps. The Decree of the President of the Republic of Uzbekistan No. PF-5847 of October 19, 2019, "On Approval of the Concept for the Development of the Higher Education System of the Republic of Uzbekistan until 2030", was adopted with the aim of defining priority directions for the systematic reform of higher education, raising the training of highly qualified personnel with modern knowledge and high spiritual-moral qualities to a qualitatively new level, modernizing higher education, and developing the social sphere and economic sectors on the basis of advanced educational technologies.

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In order to ensure the consistent implementation of the tasks set out in the Concept for the Development of the Higher Education System of the Republic of Uzbekistan until 2030, and to expand the autonomy of higher educational institutions, to sharply reduce state administrative oversight of their activities, and thereby to form universities capable of training highly qualified specialists responsive to the demands of a changing labor market, the Resolutions of the President of the Republic of Uzbekistan dated December 24, 2021, "On Additional Measures to Ensure the Academic and Organizational-Managerial Independence of State Higher Educational Institutions" and "On Measures to Grant Financial Independence to State Higher Educational Institutions," were implemented in 35 higher education institutions starting from January 2022.

The fundamental precondition for this development is the modernization of the national education system, aimed at preparing graduates capable of living and conducting their professional activities in a digital environment, taking into account the evolving requirements of professions and shifting value orientations. Solving this problem entails raising the demands placed on the qualifications of faculty members and enhancing their competence in using digital technologies to design and implement the educational process. It also creates an urgent need, at a time of high demand for distance learning, to improve the professional competence of future engineers within the digital educational environment of technical higher education institutions.

Literature Review

An analysis of scientific research in the field of engineering education demonstrates that, under contemporary conditions, the issue of preparing students for complex and innovative engineering activity — particularly in technical fields — remains at the center of attention for pedagogical scholars (A.I. Borovkov, N.V. Gafurova, Yu.P. Pokholkov, V.M. Prikhodko, O.N. Rakhimova, E.N. Silina, A.I. Chuchalin, and others). Various models for the formation of professional-communicative competence have been developed in scientific research, grounded in contextual, integrative-developmental, and interactive approaches, and envisioning the use of information and communication technologies, open electronic learning resources, and modular teaching technologies (A.O. Bagateeva, E.P. Zvyagintseva, E.B. Mikhailova, A.V. Obskov, N.V. Patyaeva, A.S. Prygova, and others).

In addition, the factors influencing the formation of this competence have been studied separately: the effectiveness of interdisciplinary projects, internet technologies, polymodal presentation of educational materials, organization of blended learning, and the use of blog technologies has been examined (L.G. Averkieva, A.A. Gareev, A.K. Krupchenko, O.A. Larionova, E.A. Lifanova, L.V. Yarotskaya, and others).

The role of business communication in the educational process and the problems of its formation have been addressed by E.N. Boyko, Yu.V. Gutsol, E.V. Lukiyanchina, A.M. Rudenko, I.L. Yarchak, and others.

The pedagogical necessity and expediency of applying digital technologies in the professional training process has been substantiated by A.A. Andreev, V.I. Blinov, E.A. Budenkova, V.I. Grishchenko, E.D. Patarakin, A.V. Solovov, G.A. Kruchinina, M.V. Kruchinin, E.B. Mikhailova, T.N. Noskova, E.S. Polat, I.V. Robert, S.V. Titova, N. Hockly, M. Kerres, and other scholars.

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The problems of training specialists in the context of digital transformation in education have also been studied by M.E. Vaindorf-Sysoeva, Yu.V. Vaynshteyn, and others. Both domestic and foreign studies have addressed the use of digital technologies in forming and assessing the competencies of future engineers (V.V. Vyazankova, A.V. Yuryev, Q.H. Mazumder, S. Bećirović, and others).

Thus, a certain scientific-theoretical basis for the formation of professional-communicative competence in future technical engineers has been established. However, research specifically dedicated to the problem of forming professional-business communicative competence under the conditions of digital transformation in the technical sector remains insufficient. This complicates the process of improving the content and structure of engineering education in accordance with the requirements of higher education standards. Furthermore, although the application of digital technologies has been widely studied, their didactic potential in the specific context of forming professional-business communicative competence has not been sufficiently explored. In this research, the person-centered approach (V.A. Averin, N.I. Alekseev, V.A. Belikov, E.V. Bondarevskaya, V.V. Serikov, G.G. Sukhobelskaya, I.S. Yakimanskaya, and others) is considered as an important methodological foundation, ensuring that the educational process is oriented toward developing the individual characteristics of students and engaging them in cooperative and creative activities.

Research Methodology

The methodological foundations of the research were defined by the following pedagogical approaches:

– **Systematic approach** (A.N. Averyanov, S.I. Arkhangelsky, V.V. Kraevsky, M.S. Pak, A.V. Khutorskoy, G.P. Shchedrovitsky), according to which the process under investigation is considered as a system based on the interconnection and integrity of all its components;

– **Competency-based approach** (V.I. Baydenko, E.V. Bryzgalina, I.V. Grebenev, K.D. Dyatlova, E.F. Zeer, I.A. Zimnyaya, M.V. Lagunova, S.M. Markova, V.A. Slastenin, V.D. Shadrikov, I.M. Shvets, and others), oriented toward the formation of professionally significant competencies in students;

– **Contextual approach** (A.A. Verbitsky, G.A. Kruchinina, O.G. Larionova, A.A. Chervova, T.T. Shchelina, and others), which ensures that students' academic activity is brought closer to professional activity — that is, that competence is formed through quasi-professional and educational-professional situations.

The theoretical foundations of the research were structured at the following levels:

– **General philosophical level:** Based on scholarly views in the philosophy of education, the general laws, principles, and values of education are examined (B.A. Avetisyan, E.V. Bryzgalina, L.A. Mikeshina, A.P. Ogurtsov, V.V. Platonov, and others);

– **General scientific level:** Theoretical foundations of higher education didactics and the preparation of future engineers (A.I. Borovkov, N.Sh. Valeeva, Yu.N. Ziyatdinova, O.O. Gorshkova, V.M. Zhurakovskiy, T.L. Kamoza, A.V. Myshakov, V.M. Prikhodko, Yu.P. Pokholkov, M.V. Prokhorova, A.I. Rudskoy, E.G. Skibitskiy, N.A. Timoshchuk, A.I. Chuchalin, A.V. Yaminskiy, E.F. Crowley, and others); engineering education (A.N. Anisimov, V.N. Bobylev, A.A. Lapshin); theories for the formation of professional competencies (V.I.

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Baydenko, E.F. Zeer, G.A. Kruchinina, M.V. Kruchinin, N.S. Rozov, N.A. Teplaya, A.I. Subetto, V.D. Shadrikov, D. Raven, and others);

– **Specific scientific level:** Views on the essence and structure of the concept of competence (I.A. Zimnyaya, T.E. Isaeva, E.A. Kagakina, A.V. Khutorskoy, R.H. Muen, E.Z. Ezzel, M.K. Wong, and others); theory and practice of applying digital technologies in education (V.V. Grinshkun, N.N. Daryenkova, G.A. Kruchinina, V.V. Kondratyev, E.S. Polat, I.V. Robert, N.B. Strekalova, M. Kerres, T. Anderson, W. Rice, S.S. Nash, and others); linguodidactic approaches (E.A. Aleshugina, I.I. Galimzyanova, S.M. Kashchuk, A.K. Krupchenko, D.A. Loshkareva, E.B. Mikhailova, I.V. Leushina, N.V. Patyaeva, Yu.Yu. Timkina, L.V. Yarotskaya, and others).

Analysis and Results

In order to achieve the research objectives, the following set of methods was employed:

– **Theoretical methods:** analysis of philosophical, psychological-pedagogical, and methodological literature; study of materials from scientific-practical conferences; analysis of internet sources; study of normative-legal and instructional-methodological documents; generalization, systematization, and modeling;

– **Empirical methods:** interviews, testing, psychological-pedagogical diagnostic techniques, and pedagogical experimentation;

– **Statistical methods:** quantitative and qualitative analysis of experimental results, determination of average indicators.

The substantive content of such categories as "competence," "competency," "communication," "business communication," and "professional communicativeness" was revealed, and contemporary approaches to the formation of professional-communicative competence were examined. As a result of the research, the role of communicative competence in the professional activity of technical engineers was substantiated, and the need to select effective pedagogical methods, technologies, and digital tools for its formation was scientifically justified.

Within the structure of this competence, the following functional-activity components were identified:

– **Information component** (searching, selecting, analyzing, synthesizing, evaluating, systematizing, formalizing, and translating professionally oriented materials);

– **Project component** (developing project solutions for professional-business tasks);

– **Communicative component** (effective communication in the technical field);

– **Digital component** (acquiring and applying professional competence on the basis of digital technologies).

Drawing on and adapting scientific sources (G.A. Kruchinina, L.S. Klentak, E.B. Mikhailova, N.V. Patyaeva, M.V. Tsiguleva, and others), the research interprets the structure of this competence as the interrelation of three main components:

– **Motivational-value component:** reflects students' attitudes, motives, and professional values with regard to this competence;

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– **Cognitive-activity component:** reflects the ability to apply knowledge, skills, and abilities in solving professional tasks;

– **Reflective-evaluative component:** encompasses the assessment of one's own activities and the identification of prospects for competence development.

The study involved 120 students in the 3rd and 4th years of undergraduate programs in engineering fields. Of these, 77 students participated in experimental groups and 43 in control groups. The indicators of the level of development of individual components of communicative competence served as the criteria for measuring its development. These indicators were measured in both experimental and control groups before and after the experimental work, which was conducted over the course of one semester.

Conclusion and Recommendations

In conclusion, an analysis of the trends in the modernization of engineering education demonstrates that the primary goal of preparing future technical engineers for professional activity is the formation of their professional competence. This competence is interpreted as an integral and dynamic personal resource that ensures specialists' readiness to participate effectively in engineering processes under conditions of the digital transformation of the technical sector. As a result of the research, the content and structure of this competence were clarified, and its functional-activity clusters (information, project, communicative, and digital), main components (motivational-value, cognitive-activity, and reflective-evaluative), and substantive elements (universal, professional, and subject-specific) were systematized. A system of digital technology tools used in the formation of professional-communicative competence was developed, encompassing information-support, organizational-procedural, communicative-activity, and intellectual components. The didactic potential of these tools was analyzed, and their application in the educational process was scientifically substantiated as serving to achieve a high level of formation of the competence under study.

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