

УДК 377.352

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## TRAINING SYSTEM FOR FUTURE SPECIALISTS: QUALITY CONTROL

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## СИСТЕМА ПІДГОТОВКИ МАЙБУТНІХ ФАХІВЦІВ: УПРАВЛІННЯ ЯКІСТЮ

**Purpose.** The development of innovative strategy of engineers and skilled workers training quality control (hereinafter – future specialists) in educational professional organizations on the principles of social partnership.

**Methodology.** Theoretic: theoretic and methodological analysis, polytheoretic synthesis and modeling. Empirical: research and generalization of the system, process- and competence-based approaches application experience, experiment, observation, surveys, expert evaluation, SWOT-analysis as a strategic planning method, which identifies the factors of internal and external (socio-cultural) environment of organizations.

**Findings.** The strategy of the training quality control development process in educational professional organizations has been created based on the analysis and synthesis of the quantitative specification of the quality, experience obtained and success in the future specialists training control in educational professional organizations in recent economic and educational conditions.

**Originality.** We have built the predicative model of future specialists training quality control that meets modern standards and the principles of social partnership. The learning process control algorithm has been developed in accordance with the ISO quality standards in terms of implementation of the process approach in quality control systems (matrix-based responsibility, competence and remit of those responsible for the education process in educational organizations). The problem areas and diagnostic tools for assessment of the future specialists' vocational training quality have been determined). The promising directions of innovation in the future vocational training quality control have been determined. We substantiated the parameters for comprehensive analysis of state of the system that ensures training quality on the basis of procedures for self-examination and questionnaire survey. The system of improvement of the technology ensuring vocational training quality has been developed. The mechanism of the future specialists training quality control system implementation in professional organizations has been specified.

**Practical value.** Application of the results in educational practice may improve the effectiveness of the future specialists training quality control system innovative development in educational organizations.

**Keywords:** *vocational training, quality control, engineering skills, regular labour force*

**Problem statement.** The last decade has shown a steady trend of the economic potential increasing in majority of states due to science and technology, technological innovation. Modern high-tech products show an increase in the role of high-tech industry. Accordingly, their development requires high level of innovation in the national economy, the training of mobile, competent and competitive engineers and skilled workers in today's job market (both domestic and international). Therefore, a special attention should be paid to “the quality of vocational education as the guarantor of sustainable economic development, to ensure it by mobile and competent professionals” [1]. The problem of training in economically developed countries has become a significant part of economic policies. The Russian industry has also entered an innovative phase of the development. The dynamic growth of the economic potential in

the country, innovative technology base and knowledge-intensive industries require an immediate solution to the staffing problem, in a certain way depending on the system of vocational training of workers and engineers, engineering staff, managers of industrial bodies, as well as the process control.

**The research analysis and publications.** The problem study is based on the development of Russian scientists in the field of multi-level vocational training and basic vocational pedagogy (S.Y. Batsyhev, B.S. Gershunsky, A. Novikov, V.A. Romanov, G.M. Romantsev, V.A. Slastenin, V.A. Fedorov, S.N. Chistyakov et al.), on the works, including foreign ones, the organization theory problems, the system, competency and process approaches to the pedagogical phenomena analysis (R. Ackoff, I.V. Blauberg, L.V. Elagina, E.F. Zeer, I.A. Winter, V.A. Kal'nei, F.F. Korolev, N.V. Kuzmina, S.B. Seryakov, A.I. Subetto, E.G. Yudin et al.). The number of studies on the social system management has been carried out in the field of mana-

gement education, the management activities optimal models and technologies creation (I.M. Badayan, T.M. Davydenko, V.M. Petrovic, M. Potashnik, T. I. Shamova), the quality management (V.G. Afanasyev, A. Berg, M.D. Gvishiani, C.E. Deming, A.A. Kolesnikov, N.S. Nikitin, A.N. Lobster, D. Francis et al.). The works on the educational systems and the education quality problems are of particular importance for our research (I.I. Burlakov, Y. Vasilyev, V. Zverev, R.J. Kassimov, A.A. Orlov, M. Pitrovski, M.M. Potashnik, S.V. Razumov, A.G. Suslov, P.I. Tretyakov, V.V. Cheskidov etc.). The particular line of research is the achievement of personhood of a future specialist and the training of engineering and labour-craft. Its various aspects are reflected in educational, psychological, sociological, historical and other fields of research (M.V. Andreeva, A.A. Vaysburg, V.N. Kormakova, A.A. Listvin, A.V. Mikhailov, N. G. Severova, I.V. Tulbovich, V. Fokin, O.B. Chitaeva et al.). The polysubject position in management is developed in the works of Y. Vasilyeva, I.V. Vachkova, V.I. Kovalenko, M.M. Kalidium, V.A. Sitarova et al. [2].

In the above mentioned works the quality control system problems, the training quality monitoring, the managers and teaching staff training quality in vocational education are considered. It is noted that the optimal control model development and implementation, which is based on the management technologies integrated use, undoubtedly, improves the future specialists' training quality.

**The shared problem unsolved part selection.** Currently, the high-tech industries development strategy is a priority policy in the sphere of industrial production. That is why it is particularly acute for the practical importance and the lack of staff professionalism in dynamic socio-cultural and economic processes. Therefore, it became necessary to determine the state of long-term prospects for training managers, scientific staff, engineers and technicians, skilled workers for high-tech manufacturing industries as an inefficient personnel management system, and their training quality leads to professional deformation and any production activity dysfunctional consequences.

The domestic industry modernization and the high-tech technologies development require a different understanding in matters of training competitive specialists and workers with the necessary production and personal potential, cultural and professional competence, the ability to apply them: "The successful personal and professional self-determination of a student, individually chosen educational path contribute to the quality of education" [3].

Defining the social policy in Russia, stating the need to train engineers and highly skilled workers, the Russian government has provided some priorities: "The Russian vocational education should be competitive on a global level. It is the engineering staff, Russian universities graduates that will be the basis for the economy modernization. The training of highly skilled workers, engineers for the real economy – is a national necessity, one of the main conditions for a significant increase in productivity, and this is one of the key objectives of the development" [4]. Therefore, not without reason, we can say that "... today's worker is the backbone of the economy, and is in

charge of complex and evolving technical regulations. The qualification of a worker, his professional pride and honor are the decisive factor for competitiveness" [2].

It follows that our state future, its economic and political security depends largely on the engineers and skilled workers training quality for new manufacturing technologies, and the policy of the state in solving this problem. Therefore, in Russia there is a need to develop a national training strategy for high-tech industries, including vocational training and retraining competitive engineers and workers for modernized institutions. These tasks must be carried out primarily by the higher education institutions, additional vocational training, and research RAS institutions, industrial sciences, and industrial structures. They should be decided with both indicators and regulators agreement in the planning system, under which the trust funds should be allocated, as long as the labor market can not adjust independently the staff problem solution in high-tech industries.

At the same time, the analysis shows that the vocational education system is still not able to solve the qualified engineers and skilled workers shortage problem. [5] In the professional educational institutions activities the significant contradiction between the demands of the state, society, employers, and the learners themselves to the quality of education, the training control quality in educational professional institutions and the insufficient system, competency and process approaches development to provide the required quality has been identified. The discrepancy between the education quality and the requested training requirements is expressed in certain inertia of vocational education, complicates the high-tech production dynamic development. Therefore, we can state that the vocational education, specialists and workers training system, its management need to focus on the needs of the domestic labor market, and employers' specific demands, to become a tool for solving economic problems in society and increasing industrial demands for the competence and the specialists training quality.

**The work objectives formation.** Hypothetically, a scientific basis in the existing conflicts resolution is in the assumption that the dynamics of changes in economy, in other areas of social life will determine and make changes in the content of quality control, including the training in itself. In the logic of the designated hypothesis the idea that a person appears as an important structural component of the interaction between the education system and the economic, industrial and socio-cultural spheres, not only the labor and product quality but also the quality of life, the level of society development and the state in general largely depends on the future experts important professional and personal training qualities. It has been empirically supported that the training high quality is an essential factor in the social protection of any specialist in the future.

Currently, a specialist is the main strategic resource, the property of the enterprise in the competition. We believe that this is due to the ability to be creative, which is an important factor in the success in their professional activities. The useful effect from the investments in high-quality vocational education can bring direct or indirect, both material

and ethic benefits. In earlier works, it has been presented the need to find ways to increase efficiency in the context of future specialists training quality control, where the immediate task is to develop the future engineers and workers ability to adapt to changes in the current economic and socio-cultural environment, engineering, technology, job management [6].

**The basic material study presentation.** Modern scientists, educators, and researchers believe, not without reason, that one of the promising areas of vocational training quality control process in secondary vocational and higher education could become the development of engineers and skilled workers training quality control innovative strategies in the educational professional institutions on the basis of social partnership and in accordance with the competency and process approaches. Thus, in one of the works I.I. Burlakova notes that the modern theory of quality control is based on the case that the quality control activities can not be effective after the products are manufactured, and this activity should be carried out during the manufacturing process. The quality assurance activity, which precedes the production process, becomes more important, because the quality in itself is determined by the local and subjective factors. To account these factors influence on the quality level an appropriate quality control system is required. Each country has its own quality control concept, which reflects the different methods essence used in the methodology of TQM (Total Quality Management) to address the quality improvement. The process-system approach is put as a basis of these models, and all the elements have a large overlap degree, complement each other and differ mainly in the institution all working processes perspective fullness and depth [7]. The study and analysis of quality control system implementation problem in educational institutions show that their introduction is more acceptable in today's environment (taking into account adaptation to the vocational training peculiarities) in a compliance with the ISO 9001: 2000 standards requirements.

In this case, it is advisable to examine in more detail (according to I.I. Burlakova) the tasks blocks which contribute to the effective control systems implementation. The first task blocks are aimed at the knowledge of the specialists (engineers, workers) professional training quality as an object of management, structure needs (public and private) that are met through educational activities. The next block is aimed at the establishment, justification and target selection in the quality control system for future specialists training followed by their exemplary manner. The third block of tasks is related to the selection of methods and technologies which impact the engineer and worker vocational training quality for the greater achievement of quality control targets with the subsequent its mechanism development. The fourth block is associated with the future specialist training quality control system introduction, maintaining its satisfactory performance. In our opinion, it is particularly important that the quality control training actions have the process, and therefore stage character.

At the first stage, according to the management functions logic implementation, the activities goals choice and the basic educational program formation (PLO), its content,

planning educational activities for the future specialists training is realized. At the second stage the PLO content technologies are developed. At the third one the training quality control procedures are carried out. The fourth stage is devoted to the correcting actions selection to improve the vocational training quality. In accordance to ISO 9001: 2000 requirements the methodology of C.E. Deming PDCA can be applied to all the processes. It is as a set of principles and management practices on the basis of quality in order to achieve products and services competitive level in the global market, that makes it possible to say about the advisability of ISO 9001: 2000 International Standard methodology usage in a future specialists training quality control.

We agree with I.I. Burlakova who characterizes the future specialists training quality control system as a set of tools and methods for organizing management and control subsystems activities, which provides a task-oriented change of the educational process with the purpose of imparting properties that guarantee the satisfaction of social and personal needs, the state future specialists training requirements with the specified quality levels [7]. This definition of the concept essence allows us to summarize a list of conditions which are necessary for the implementation of the future specialists training quality control process: scientific and methodological support of the process; the upgrading of the educational institution educative and developmental functions in the vocational training context; the development of the institution innovative educational activities to provide high-quality update; the teachers involvement in innovative activities and their desire to improve professional and pedagogical culture, increasing the teachers' responsibility for the training results quality; the certification criteria and indicators development and improvement of teaching staff and educational institutions as a whole.

The complex of these reasons is defining for the quality control system implementation in the educational professional institution. The main objective of quality control system formation should be the continuous improvement of highly qualified vocational training. They should be able not only to work on a national level (federal, regional) and international standards, but also be ready to effective professional self-development in high-tech economy. In this case, the control ensures the future specialists training quality through the quality pedagogical tools integration: job training programs (RUP), teaching materials disciplines (UMKD) and educational technologies; the teachers' work quality and students independent learning activities; the trainees mastering competence quality in the disciplines of GEF VPO various units; the educational professional institutions innovative actions quality, material and technical, information and individual personal resources; the training satisfaction and its results.

The future specialists training quality and educational institution professional performance are mediated by the given purpose achievement. This is an important factor for modern educational professional institution as the number of students on a contractual basis is, as a rule, more than half of their total number. We are convinced that the PLO

implementation, satisfying and meeting the counterparts' needs, always leads to the economic and social impact.

We think that the quality control system of the educational professional institution is based on the belief that it (the system) must be open and evolving, capable of quickly adapting and the institution's activities restructure in the innovative socio-cultural environment, and pedagogically interpret at the same time the consumer demand in educational services. It is important to note that the system should provide new capabilities to the problem solution in the social and cultural environment. Such an understanding of the training quality control is reflected in the Belgorod State University educational policy priorities, which is a national research university, and in Tula L.N. Tolstoy State Pedagogical University.

Own experience in higher education shows that the peculiarities of the educational and professional institutions should be reflected in all stages of planning and design in their quality control processes, determining the components composition, and the nature of their relationship. Therefore, the problem of the international quality standard ISO 9001: 2000 concept implementing for the educational professional institutions on the basis of the specific educational professional field consideration is primarily conceptual.

We carried out a theoretical analysis of scientific papers on the quality control issue in the field of basic and vocational education (P.F. Anisimov, B.S. Ivanov, G.M. Roman-tcev, S.A. Stepanov, A.I. Subetto, S.Y. Trapitsyn, V.A. Fedorov et al.), as well as the scientific community analysis of the Australian universities give an opportunity to select conceptually different approaches as the training quality control model selection in the educational professional institution. The first approach is focused on the use of technologies, tools and forms which traditionally take place in the system of vocational education and are positively proved in practice to ensure the future specialists training quality. The second approach is more technocratic (an absolute theory of manufacturing products and services quality management); the third is a midline option that integrates the foundations of psychology, vocational pedagogy, control theory and the quality control theory. We believe it to be the most promising in solving the quality control model choosing problem in educational professional institutions.

We have defined the basis development main directions for using modern quality control systems. They are: the quality control system conceptual basis development in the educational professional institution and technological adaptation methods to the arrangements and special aspects of the educational institution. An important direction of this activity is to promote the quality control principles to the main management processes, which compulsory are based on the social partnership principles: 1) the parties' interest in the partnership; 2) cooperation in the labor relations sphere; 3) equal rights and equal responsibilities for the social partnership subjects; 4) voluntary participation in the partnership; 5) legal coverage for social partnership; 6) reality and mandatory by partners to implement the adopted treaties and agreements. The mentioned set of principles is aimed at having an impact on the engineering and skilled workers (educational, methodical and scientific activities,

personnel management, infrastructure management, etc.) quality; to ensure continuity in the organization and carrying out the innovative activities with existing mechanisms to ensure the education quality.

The basic principles of the educational professional institution quality control system development coincide with the basic principles of quality control which are defined in international standards and are basic to the theory and practice of future specialists training quality control. The described principles are also of practical importance: catalyze, promote and determine the work of the teachers' team in the right direction

According to the ISO 9001: 2000 International Standard the quality system can be characterized as a coordinated activity for directing and controlling an educational professional institution with regard to the quality. The quality control system, according to some teachers, can consist of several subsystems: the education quality control system to ensure the quality of training, the quality assurance system [8]; the targets quality systems of the educational process members, the system of quality of the content of training, the educational technology quality system and the output quality of future specialists training [9].

The quality control training of future specialist, according to V.V. Cheskidov, can be regarded as a process and as a result, provided that the quality control education is based on the documents that describe all the members' actions of the process in order to achieve the process quality required level. The quality control system can be represented in documents by the quality policy, regulatory, and paperwork of the educational organization activities, the organization standards.

The future specialist training quality assurance system includes basic aspects of the educational institution among which may be the indicators of the greatest influence on the training quality. The first group will involve the indicators that characterize the structure of the future specialists' vocational training: students training implemented areas in the institution, the PLO, disciplines curricula (RUP), UMKD, the number of students that participate in the research project (NIRS), the students' progress indicators. The next group will characterize the activity of an educational institution in relation to the graduates' quality with specially designed diagnostic tools, data on the students' socio-cultural activities. The third group of indicators will give the quality assurance system characteristic. This system includes the following components: qualification as a qualitative characteristic of the teaching staff (PPP) and its vocational activities quality (degrees and/or titles, governmental and departmental awards, as well as the indicators that characterize the qualifications and vocational skills); RUP content disciplines and UMKD on vocational training specialties and areas; the used educational technology, including modern information and communication technologies, the training and methodological support state in the field of study; the amount of re-search work per teaching staff, coupled with NIRS training; tools and methods of NIRS; the amount of basic and applied research and the nature of their impact on the quality of training, resource providing, etc.

The system of quality assurance should include: annual (including semi-annual) self-esteem reports on the educational institution activities; teachers and students, especially graduates diagnosis; graduates quality control; personal (physical, value-motivational, spiritual, moral and intellectual) diagnosis, professionalism level development; corrective actions, and others. Summarizing the above mentioned, we can say that science-based future specialist training quality control will be more strategic and effective if carried out with regard to the ISO 9001: 2000 requirements.

In order to achieve the desired effect in the introduction of quality control systems in professional institutions it is a necessary for them to be accompanied by traditions and established mechanisms analysis to ensure the educational process quality, especially future specialists training management (patterns of interaction and decision-making, the degree of formalization of basic administrative functions, the intensity forecast, organization, control and corrective activities, etc.); the educational institution organizational structure (or the autonomous separate divisions presence, the level of interest and participation, such as public authorities in the management, etc.).

The analysis of the existing in some Russian educational professional institutions the quality control systems suggests the presence of the following classifications: a) in terms of control mechanism stiffness, the control and self-government ratio (strict, soft); b) in terms of quality control system comprehensiveness (system, module, local); c) in the resource intensity and involved resources composition (material oriented and/or financial resources to the personal resources); g) for the usage purposes (with a focus on performance and/or the development of the training system, the economic and/or social impact, staff, student body and/or external customers/socio-cultural environment).

Based on the methodology of quality control in social systems and the international quality standards, the quality control system model in educational professional institution can be represented as the following main units: prognostic, exploratory, analytical, project, and implemental.

Since the quality control system concept study is based on poly-theoretical synthesis based on the complex of scientific systemological, psychological, pedagogical, evolutionary theories, as well as control theory, etc..., the basis of it is the Russian version of the ISO 9000: 2000 international quality standards, set out in GOST R ISO 9001-2001.

The internal basis for introduction of quality control system is to ensure service quality improvement and educational professional institution competitiveness enhancing; to increase the employers, educational services consumers, other social partners trust; to ensure synergistic effect of educational process subjects activity; in the effective use of all resources; in the creation of organizational and pedagogical conditions for the future specialist personality formation; in a timely prompt response to the needs of employers, labor market, all the educational process members; to attract and engage more social partners to improve the offered services quality.

The concept of engineers and workers training quality control system designed in educational professional institution is based on the following principles: focus on educational services consumers and educational products, the system and process approaches, the managing consistency, focus at the future specialists and workers training improving, social partnerships as well as economic solutions to control the quality programs improving (certain principles are defined in the ISO 9000: 2000 international quality standards); and the public and state character principles of quality control in education, quality management system dynamics (system development), multi-variant organizational and technological solutions within the framework of a quality control system.

The concept of the designed engineers and skilled workers training quality control system is based on the following ideas: standardization as a means of regulatory requirements to the quality implementation, matrices when creating the control quality organizational structures, processes technologisation, formalization as a quality assessment condition, the resource capabilities and personal potential use for the training quality improving.

The concept of engineers and workers training quality control system designed in educational professional institution is based on regulations about the quality criteria description on a training system set level, about the quality control system components uneven development because of different initial conditions.

The quality control system model in educational professional institutions can be represented in the following major components: 1 – organizational and control structures (presence and responsibility); 2 – managerial functions (performance); 3 – control actions (organization of activities); 4 – resource provision. Functionally, it can be presented as a summary of document-oriented management actions which are fulfilled consistently in the institution lifecycle logic, and that provide requirements to the future specialists training quality at every stage and maintain a quality control system in an efficient condition. The combination of these procedures can be represented by the demand to the graduates, the future specialist training process design, the future specialists training process control, the performance monitoring management, the inadequacies and improvements management, the graduates educational and vocational activities study, the leadership quality control system analysis of educational professional institution, the internal audit.

In the pilot study a complex analysis and assessment of the future specialists training quality assurance existing in the educational professional institution were carried out in order to identify strategies for further improvement in accordance with the concept and model, the ISO 9000: 2000 international quality standards requirements and have shown that in general it is formed disorderly. However, many of its components do not meet the quality control requirements as an integrated system. Scientific literature analysis has allowed us to establish the system development degree, to outline some areas for further improvement of the educational process quality assurance system main components in the professional institution (target-oriented,

regulatory, activity, motivating and stimulating, informative, informational, criterion-evaluation and organizational).

The further improvement priorities of the quality assurance system are indicated: the educational policy development in the context of quality control with the relevant goal setting, obligations to employers and the members of the educational process, methods to ensure the educational services required quality; the RUP and the PLO modernization, their design and assessment; mastering of quality control functions that were missed in educational professional institution (e.g., the educational services needs and labor market forecasting, the quality control, the poly-subjective management coordination, including the information management); the quality control reflexive methods mastering (assessment and self-assessment procedures for internal quality audit, self-training quality); the creation of new units in the organizational structure of future specialists training quality control; the regulatory framework clarifying of future specialists training quality control, the poly-subjects activity algorithms determination in the processes control in order to improve the specialists training quality in the educational professional institution; the development of criterion-evaluation systems, the introduction quality assessment technologies of future specialists training.

This study has allowed to establish the existence of subjects' non-uniformity in the mastering of future engineers and workers vocational training quality control, as well as training quality control certain types and technologies. According to expert estimation, and according to some teachers, the following professional training quality control is least developed: program-targeted control – 3.65, soft-ware quality control – 3.7, perspective quality control – 3.66 (if to score on a 5-point scale) [5]. Among the quality control technologies in educational professional institution it can be stated the underdevelopment statistical quality control – the average expert rating is 0.46 (out of 2); technology application monitoring – 0.67; technology pedagogical design – 0.80; methods of documenting – 0.88; reflexive methods – 0.90 [5].

Choosing a future specialists training quality control system model in educational professional institution has been relied on the factors that determine its contours: the level of strictness/softness of the vocational training quality control system; its scope control and educational process completeness; the resource-intensive formation and operation of the vocational training quality control system; tasking structure of its application. This study has allowed us to apply the most appropriate, corresponding to the control culture and the professional institution possibilities, quality control system formation: semi-rigid, in terms of their control (external and internal) (favored by 52.4% of respondents), the average expert rating was 1.71 points of 2 possible; system in terms of scope completeness of all the processes (the experts noted the high importance of regulatory quality control system of the educational process, the average level of significance – the educational process, the control of educational institution and personnel control); focused mainly on the personal and social resources (average rank of human resources – 1.70; Resource Partnership

– 3.54); to solve the internal problems of the institution (the internal purposes priority of quality control system application was stated by approximately 68.5% of the respondents in the survey).

The model choice process of future engineers and workers training quality control system implementation in educational professional institution has been carried out in the following versions: frontal introduction of vocational training quality control system elements; consistent implementation; concentric implementation. In this choice process a thorough analysis of the necessity and sufficiency of all types of resources, the management effectiveness of educational institution on the whole and the educational process in particular has been carried out; the tasks implementation value has been determined, their implementation possibility has been predicted, the comprehensive assessment of organizational and pedagogical conditions and socio-cultural factors that promote or hinder the quality control system implementation in educational professional institution has been carried out. The study showed the insufficient decentralization of educational institution management on the whole and the educational process in particular (0.72), as well as the document management efficiency (0.80) and resource management (0.78) (using a 2-point scale).

The SWOT-analysis, surveys, internal and external expertise, including an complexity assessment, resource requirements and tasks fulfillment possibility of the vocational training quality control system implementation in the educational professional institutions tend to the choice of models which provide its implementation consistently and/or concentrically depending on the available resources and the tasks implementation scale, control status in educational institutions, effective conditions (internal and external) and socio-cultural factors.

The introduction of the future engineers and workers training quality control system components on the basis of the developed implementation plan in stages which consists of: the developed policy in quality control; activities for the educational process, staff, resources management; internal vocational training quality, the adjustment based on the social partnership principles and on the organizational structure system principles, and the appropriate future specialists training quality control mechanisms in educational professional institution (the target program structures have been allocated, the authority, functional, officials and departments responsibility are specified; the evaluation criteria complex and methodology for the implementation of future specialists training quality assessment in the stages, including the monitoring of the educational process quality), allowed us to talk about the high performance and availability of training system quality control implementation in an educational professional institution.

The consequence of the above mentioned innovations related to some quality control system components and activities implementation in the first stage of the process is the following: extra budgetary activities and social partnership intensification in order to attract additional financial and material resources (in the increase of the computer equipment purchasing, the significant security training ben-

efits increase); the increased satisfaction with the graduates training quality, respectively, increase in the graduate employment percentage (66% of employers stated good and excellent professional (theoretical and practical) graduates training versus baseline 32.4%), the improved quality of the engineering and teaching staff, educational institution competitiveness in the market educational services (graduates employment in the total sample was 74.8% versus 62.4% of baseline), there was a positive trend to improve the educational activities quality and effectiveness of the institution as a whole.

**Conclusions and prospects for the direction development.** The outputs obtained are the principal (basic) for the technology development of future specialists training quality control in educational vocational system. The training quality control algorithm developed by the authors, the parameters study of system state complex analysis, this quality providing on the basis of procedures for self-examination and questioning, and the implementation mechanism of the future specialists training quality control system in the professional institution give a possibility to use them in the system implementation, the competency and process approaches in vocational training, as well as find out promising trends for future research in vocational education.

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**Мета.** Розробка інноваційної стратегії управління якістю підготовки інженерно-технічних та робітничих кадрів (далі за текстом – майбутніх фахівців) в освітніх професійних організаціях на основі принципів соціального партнерства.

**Методи.** Теоретичні: теоретико-методологічний аналіз, політеоретичний синтез, моделювання. Емпіричні: дослідження та узагальнення досвіду застосування системного, процесного та компетентнісного підходів, експеримент, включене спостереження, анкетування, експертна оцінка, SWOT-аналіз як метод стратегічного планування, що полягає в виявленні факторів внутрішнього і зовнішнього (соціокультурного) середовища організації.

**Результати.** На основі аналізу та узагальнення тенденцій кількісної оцінки якості, накопичених досвіду та успіхів управління якістю підготовки майбутніх фахівців в освітніх професійних організаціях у сучасних економічних та педагогічних умовах розроблена стратегія

розвитку процесу управління якістю підготовки в освітніх професійних організаціях.

**Наукова новизна.** Збудовані прогностична модель управління якістю професійної підготовки майбутніх фахівців з урахуванням сучасних вимог і принципів соціального партнерства; алгоритм управління навчальним процесом, розроблений відповідно до вимог стандартів якості ISO у плані реалізації в системах управління якістю процесного підходу (матрична основа відповідальності, компетенцій і посадових повноважень осіб, що відповідають за здійснення навчально-виховного процесу. Знайдені „проблемні“ точки та діагностичний інструментарій оцінки якості професійної підготовки майбутніх фахівців). Визначені перспективні напрями інноваційних перетворень у системі управління якістю підготовки майбутніх фахівців. Обґрунтовані параметри комплексного аналізу стану системи забезпечення якості професійної підготовки на основі процедур проведення самообстеження та анкетування. Розроблена технологія вдосконалення системи, що забезпечує якість професійної підготовки, визначений механізм впровадження у професійній організації системи управління якістю підготовки майбутніх фахівців.

**Практична значимість.** Використання отриманих результатів в освітній практиці дозволяє підвищити результативність інноваційного розвитку системи управління якістю професійної підготовки майбутніх фахівців в освітніх організаціях.

**Ключові слова:** професійна підготовка, управління якістю, інженерні й робочі кадри

**Цель.** Разработка инновационной стратегии управления качеством подготовки инженерно-технических и рабочих кадров (далее по тексту – будущих специалистов) в образовательных профессиональных организациях на основе принципов социального партнерства.

**Методы.** Теоретические: теоретико-методологический анализ, политеоретический синтез, моделирование. Эмпирические: исследование и обобщение опыта применения системного, процессного и компетентностного подходов, эксперимент, включенное наблюдение, анкетирование, экспертная оценка, SWOT-анализ как метод стратегического планирования, заключающийся в выявлении факторов внутренней и внешней (социокультурной) среды организации.

**Результаты.** На основе анализа и обобщения тенденций количественной оценки качества, накопленного опыта и успехов управления качеством подготовки будущих специалистов в образовательных профессиональных организациях в современных экономических и педагогических условиях разработана стратегия развития процесса управления качеством подготовки в образовательных профессиональных организациях.

**Научная новизна.** Построены прогностическая модель управления качеством профессиональной подготовки будущих специалистов с учетом современных требований и принципов социального партнерства; алгоритм управления учебным процессом, разработанный в соответствии с требованиями стандартов качества ISO в плане реализации в системах управления качеством процессного подхода (матричная основа ответственности, компетенций и должностных полномочий лиц, отвечающих за осуществление учебно-воспитательного процесса. Найденны „проблемные“ точки и диагностический инструментарий оценки качества профессиональной подготовки будущих специалистов). Определены перспективные направления инновационных преобразований в системе управления качеством подготовки будущих специалистов. Обоснованы параметры комплексного анализа состояния системы обеспечения качества профессиональной подготовки на основе процедур проведения самообследования и анкетирования. Разработана технология совершенствования системы, обеспечивающей качество профессиональной подготовки, определен механизм внедрения в профессиональной организации системы управления качеством подготовки будущих специалистов.

**Практическая значимость.** Использование полученных результатов в образовательной практике позволяет повысить результативность инновационного развития системы управления качеством профессиональной подготовки будущих специалистов в образовательных организациях.

**Ключевые слова:** профессиональная подготовка, управление качеством, инженерные и рабочие кадры

*Рекомендовано до публікації докт. пед. наук М.І. Ситниковою. Дата надходження рукопису 12.04.14.*