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Research Article

Training the Blue-Collar Workers in Industrial Environments: Organizational and Pedagogical Conditions

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ABSTRACT

The urgency of this study is caused by the need of the state, the society's order, the needs of developing industrial enterprises, the requests of the individual for vocational training of blue-collar workers in terms of training centers for industrial enterprises integrated in real production. The arising demand for a competitive worker requires the analysis and improvement of their training in such training centers and calls for the development and investigation of the necessary organizational and pedagogical conditions, which are adequate to changing socio-pedagogical and socio-economic factors.

Purpose of the study is to scientifically substantiate, develop and approbate the organizational and pedagogical conditions that ensure the preparation of competitive workers in the training center of the industrial enterprise.

Leading methods of the study are system analysis, pedagogical forecasting and modeling, which allowed to consider the training of competitive workers as a purposeful and organized process on improving their professional and general cultural competencies necessary for effective solution of production tasks.

Results. The organizational and pedagogical conditions are described, including a structural and functional model that combines the target, methodological, content, organizational and evaluation modules, in which: the requirements for a competitive worker are provided; the methodological bases are given, and the principles of training the competitive workers under industrial conditions are disclosed; the required educational and methodological support for the educational program is described; the requirements for educational environment of the training center, the regulatory and methodological documentation standardizing the content, organization and evaluation of the results of workers training on the basis of the developed corporate occupational standard by profession and modular program developed on the basis of this standard are specified; and the criteria and indicators for assessing the training of a competitive worker in the enterprise's training center are disclosed. The model is complemented by the identified pedagogical conditions for its implementation.

The aspects of this article may be useful in the practice of training centers for industrial enterprises and in educational institutions that provide training for blue-collar workers.

Keywords: workers training, professional competence, professionally important skills, professional culture, competitive worker, professional training teacher.

1. INTRODUCTION

The ongoing socio-economic changes in the industrial sector of the Russian economy are naturally reflected in the organization, content and results of the training of skilled workers and specialists for the enterprises and organizations. The modern labor market places high demands on graduates, who are trained in blue-collar occupations: readiness for continuous self-studying; the possession of business communication skills; critical thinking ability; the ability to rationally organize and manage their own work, and etc. All these qualities characterize the employee's *competitiveness* in the labor market and determine the success of solving problems on ensuring the competitiveness of the country, industry, corporation, and produced products in the world and domestic markets. However, the demand for such workers in Russia is in contradiction with their real availability. Thus, "in the domestic

labor market, the rate of highly skilled workers is less than 5%, while in the developed countries there are 45-70% of them" (Tkachenko E.V., 2014). This contradiction determines the problem of training the competitive workers as an actual social and pedagogical issue.

We know about the studies of various aspects of this issue, which are conducted under the guidance of S.Ya. Batysheva, A.P. Belyaeva, G.I. Ibragimova, G.V. Mukhametzyanova, A.M. Novikova, G.M. Romantseva, E.V. Tkachenko, and others. (Smirnov I.P et al., 2016). The results, ideas, innovations obtained under them form the scientific basis for the staff training development. However, in today's dynamically changing socio-economic and socio-pedagogical conditions, it's necessary to study the new theoretical and methodological aspects of the identified problem, which are caused by such changes, facilitating the choice of priorities for the modernization of vocational education and the mechanisms for their implementation (Belyakov S.A., Klyachko T.L., and Fedotov A.V., 2012, Mikhalev A.A., 2015, Romantsev G.M., Fedorov V.A., and Mokronosov A.G., 2012, Tkachenko E.V., 2014). Herein the results of solving the problem related to such issue, which consists in the development of organizational and pedagogical conditions (structural-functional model and conditions for its implementation) to train the competitive workers for the modern industrial enterprises are described.

2. MATERIALS AND METHODS

During the work, a set of study methods was used: *theoretical*: study and analysis of the scientific and methodological literature on the issue under study, as well as statutes and regulations; system analysis; and pedagogical forecasting and modeling; *empirical*: observation; testing; questionnaire survey; expert evaluation method; and methods of mathematical statistics. Their use has allowed to consider the training of competitive workers for the modern industrial enterprises as a purposeful and organized process to improve their professional and general cultural competencies, which are necessary to effectively solve the production problems.

The experimental and exploratory studies was carried out on the base of the personnel training center of the Joint-Stock Company “Scientific and Production Corporation Uralvagonzavod” (JSC “SPC” Uralvagonzavod”) with the involvement of educational institutions, being its social partners, and the Federal State Budgetary Educational Institution of Higher Education “Russian State Vocational Pedagogical University”.

3. RESULTS

The main task of the vocational education system is to overcome the backlog in the structure, volumes and quality of training of skilled workers and mid-ranking specialists from the modern requirements of employers. The prospective models of modern vocational education that brings it closer to the production needs in the workforce include a corporate one, having several advantages: conformity of the training structure and volume to the employer’s needs; the use of the high-tech equipment in training under industrial conditions; conformity of the education content to the actual level of production and its promising development (proactive training); attraction of the highly qualified specialists of the enterprise, who hold the heights of professional skill to the educational process as teachers; involvement of students in the public and corporate culture of the enterprise, promoting the status and prestige of working professions and reducing the process of adaptation in the workplace; high efficiency of the use of funds committed to the vocational training of workers, by applying the modular academic programs that meet the enterprise’s needs (teach only the necessary things to implement the production program) (Fedorov V.A., Vasilyev S.V., 2014).

To determine the validity of the organizational and pedagogical conditions, providing the effective training of workers under the corporate education, we have analyzed the state of the theory and practice of such training. In practice, the experience of training organization for working professions is considered on the example of activities of the training center of JSC "Scientific and Production Corporation" Uralvagonzavod" (hereinafter – the AO) with

the use of information from thesis works on the experience of other industries in modern Russia: nuclear (Petlin V.I., 2007, Siberian Chemical Combine); iron and steel (Miroshin D.G., 2004, Metallurgical Holding uniting the enterprises of Ekaterinburg and Sverdlovsk region); railway (Silkin R.S., 2007, JSC Russian Railways (RZD)), as well as non-productive sphere: Moscow State Unitary Enterprise "Mosvodokanal" (Bogachyov O.A., 2011); OJSC CenterTelecom and JSC "Aerolight" (BadaevYu.L., 2009), etc.

Analysis of the state of the theory and practice of existing training for working professions in the training centers of industrial enterprises is characterized by a number of features. Thus, the acquisition of training groups is carried out throughout the calendar year without taking into account the age and gender and educational criteria; training process in the groups begins upon the completion of their recruitment; training content is focused on the obsolete types of curricula and programs. At the same time, the training of unemployed citizensprevails. This contingent is characterized by a wide age range (18 to 35 years old) and the level of education (unfinished 9th grade to higher education); negative social experience; low initial level of training and increased motivation to acquire a professional occupation; and focus on prestigious and high-paying jobs. The real level of competitiveness of the individual (determined by the method of V.I. Andreev, 2003), being the graduates of the training center, does not meet the requirements of the heads of structural divisions at the enterprise (the main consumers of services). So, they expect 12.5% of graduates of the training center with the highest level of competitiveness, and the real one is only 6%; with a high – 34 (22); average – 44 (40); below the average – 8 (18); low – 3 (10).

The provided analysis of practical experience and available scientific sources makes it possible to consider that the organizational and pedagogical conditions necessary for preparing the competitive workers in the educational centers of industrial enterprises have not been developed. The information received during the analysis was accepted by us as prerequisites in the development of organizational and pedagogical conditions to prepare the competitive workers in the training center of an industrial enterprise.

To organize the process of training a competitive worker under the industrial enterprise conditions, it is preferable to pre-create a certain image - a model. Reflecting the requirements for professional activities of the worker, it allows you to foresee the goals, select the means, methods of vocational training, establish criteria for assessing the worker's skills necessary to improve his competitiveness. When organizing such training, the priority of requirements of the industrial enterprise (consumer) for its quality is obvious. Therefore, it is important to justify such approaches to modeling the training process that take into account its features. Definition of the content is central to the theoretical and practical training. Given the current trends in the transition to activity-related training, it is advisable to select such a content based on the corporate occupational standard in the working occupation, thereby ensuring the conditions for the formation of demanded professional competencies among trainees. These processes are the determinants of the presentation of professional and educational programs in a competency based form.

The competency based form involves the design of training content, which is based on the creation of modular models of competence, consisting of labor functions. Herewith, we take into account not only the professional, but also the social and personal aspects of the workers' activities. Taking into account this fact, as well as the results of the analysis of theoretical studies and the practice of training workers under the industrial enterprises conditions, it is advisable to develop a structural and functional model for the preparation of competitive workers in the training center of an industrial enterprise (hereinafter, the model), the *competency-based approach* is applied.

The training process of educational structures at the enterprise is not limited only to the formation of professionality in trainees, but also aimed at the formation of socially significant qualities of the individual, their preparation for active participation in public and cultural life. It

is important to form a professional work culture as a personal quality of the future worker, who should be cultural and polite in business communication with colleagues, management, engineering and technical personnel, vocational education teachers. In this process, the significant factor is the corporate culture of the industrial enterprise. Its formation, together with a favorable image of the enterprise and the development of unified corporate goals, being an important component of the vocational training of workers, determines the feasibility of applying the *social and cultural approach*.

The prospect of corporate education is determined by its possibilities for the transition from mass training to individualization, to new forms and methods of educational process. For each trainee, an individual trajectory is created, taking into account the initial and final levels of his preparedness. The main sections of the educational material are formalized in the form of complete didactical units, and the content of training is structured into autonomous units that determine the modular nature of professional and educational programs. In this case, the content design is carried out in the form of modules, selectable and developed on the basis of analysis of the professional activities of the worker in accordance with the corporate vocational standards for occupations. Therefore, it should be expected that the application of *modular approach* will increase the efficiency of vocational training of workers in the educational centers of industrial enterprises.

In our proposed model (see the figure), all the advantages of the close interrelation of competency, social and cultural and modular approaches are incorporated.

Given the importance and the specific role of each of the modules of this model (target, methodological, organizational, content and competitiveness assessment modules), let’s give them a brief description.

The objectives presented in the model of training workers by their occupation (**target module)** establish the requirements for the formation of the worker's competitiveness as a holistic process. They are formulated as follows (V.A. Skakun, 2007):

- social demand of the labor market for a certain social ideal of the person's identity as a citizen and a skilled specialist;
- objectives of each educational program; and
- pedagogical goals, which are implemented on a daily basis, at each training session.

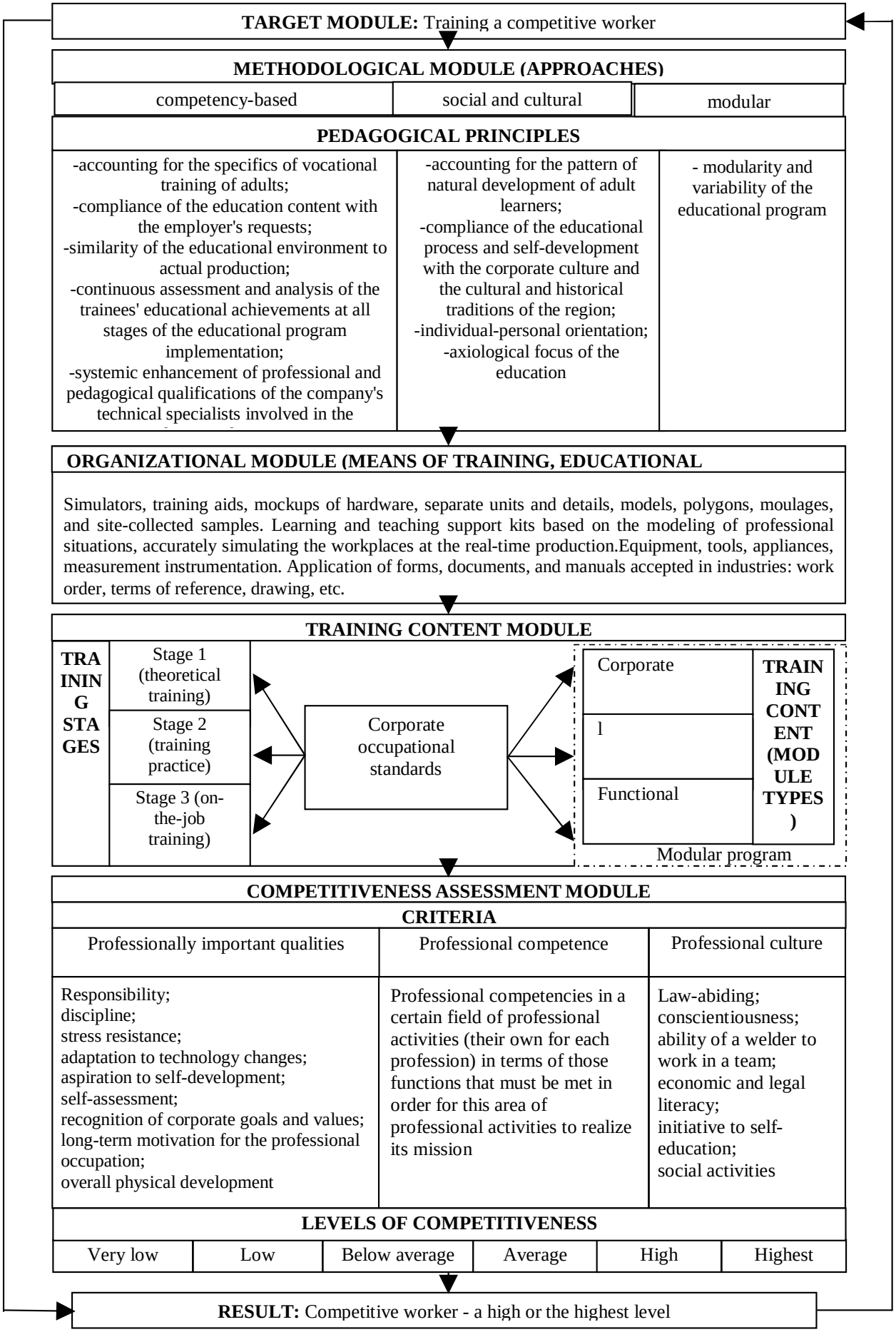

Figure – Model for training the competitive workers

In accordance with this, we initially identified the signs of a competitive worker, which are expressed in his advantageous differences from other workers of this specialty in terms of the degree of conformity to the demand of the labor market, self-reliance, ability to self-improvement, and, in addition to professional competences, the possession of a professional culture, the skills of successfully presenting yourself as a skilled specialist and your field of professional activities. At the same time, the requirements for organizational and pedagogical conditions of the corporate education being developed include the following postulate: in accordance with the changes associated with the development of the state based on the establishment of humanistic society with a market economy, the vocational training of competitive workers under the production conditions must develop and be adequate to socio-economic and socio-pedagogical changes, ensure the economy development, as well as new demands of the individual and society.

In the **methodological module** of themodel, the main approaches to the development of workers training under the production conditions are disclosed and specified in the relevant principles and conditions of their implementation. Thus, the *competency-based approach* develops the accounting principles for the specifics of vocational training of adults; compliance of the education content with the employer's requests; similarity of the educational environment to actual production; continuous assessment and analysis of the trainees' educational achievements at all stages of the educational program implementation; and systemic enhancement of professional and pedagogical qualifications of the company's technical specialists involved in the educational process. The *social and cultural approach* is concretized in the accounting principles for the pattern of natural development of adult learners; compliance of the educational process and self-development with the corporate culture and the cultural and historical traditions of the region; individual-personal orientation and axiological focus of the education. The *modular approach* is revealed using the principle of modularity and variability of the educational program. The discussed approaches and principles for the preparation of competitive workers in the training centers of industrial enterprises and the conditions for their implementation are the starting points to describe the main aspects of such training in various blue-collar workers. (Fedorov V.A., Vasilyev S.V., 2014)

Organizational module of themodel includes a set of learning and teaching support kits, based on the modeling of professional situations, accurately simulating the workplaces at the real-time production: simulators, training aids, mockups of hardware, separate units and details, models, polygons, moulages, and site-collected samples, the forms of documents and manualsaccepted in industries. In addition, it is important to organize the provision of the training process with material and technical training aids represented by tools, appliances, devices, raw materials, and supplies, as well to organize the work of production workshops and classrooms, offices, including the laboratory and production equipment.

Content module is a set of normative and methodological documentation regulating the content, organization and evaluation of the training results, and including the corporate vocational standards for occupations and the modular program developed under such standards.Vocational training is implemented in three stages: *theoretical training* - the training issue is being solved under the conditions of the modernized training and production package of the training center; *training practice* - he trainees master the appropriate competencies in the modernized training workshop, and then improve their occupational experience during the marketable products manufacturing; *on-the-job training* - training takes place in real-time production mode.

The corporate vocational standards state the employer's requirements, which makes it possible to take it as a basis when designing the contents of a modular program for training a competitive worker. Such standards contain a functional map and describe the requirements for performing the labor functions, which are its units. Each unit of the vocational standards,

describing the name of the labor function, the actions that ensure the fulfillment of such a function, characteristics of the qualification level, and required knowledge and skills, is projected into the training program module. The very same training program involves the study of corporate, technical and functional training modules.

Assessment module, which allow todetermine thecompetitiveness of workers (assessment-criteria based module), contains criteria and indicators to measure its components and methods for their diagnosis. For example, the professionally important qualities, professional competence and professional culture of the worker, which are the criteria for his competitiveness, are determined with the involvement of external and internal experts.In this case, it is assumed that *professionally important qualities* are a person's qualities affecting the efficiency of his work. The presence or absence of these qualities, according to E.F. Zeer, is not yet an evidence that the employee will perform his professional activities better or worse, with more or less efficiency. The presence of professionally important quality only creates a prerequisite for improving activities (Zeer E.F., 2002).While training the competitive workers, it is necessary to form the following professionally important qualities: long-term motivation for the professional occupation; recognition of corporate goals and values; responsibility; discipline; stress resistance; adaptation to technology changes; aspiration to self-development; self-assessment; overall physical development: power, speed, endurance (Company standards, 2014). The cumulative expert decision about the level of professionally important qualities of the worker is provided 1) on the results of a written survey of an expert group, consisting of teachers and masters of industrial training, highly skilled workers, managers of production sites, and the training center management; 2) on the basis of observations and analysis of the trainees' achievements in the process of their training, during the qualification exam; 3) on the basis of medical examination in determining the physical condition of trainees.

Considering the worker's *professional competence* as an integral characteristic, determining its ability to solve problems and challenges, which arise in real situations of any professional activities, using knowledge and life experience, values and temperament, we can distinguish two of its main components: professional knowledge acquired in the process of training, continuing education and experience accumulation; labor skills acquired and developed in the course of practical activities. At the same time, the professional competence is assessed on the current progress in training and according to the results of the final assessment in the performance of a theoretical and practical task, which includes 6 levels of complexity (levels of competitiveness).The formation of the worker's *professional culture* as a social and professional quality is influenced not only by the characteristics of the profession itself. The worker's professional culture is considered by us as a high level of professionality achieved through a philosophical understanding of the profession, a way of creative self-fulfillment in a variety of activities and communication aimed at the development and transfer of professional values and new technologies.Considering the point of view of V.V. Kuznetsov (2012), opinion of the production experts, and relying on the pedagogical experience of teachers in vocational training at the AO training center, we have identified the following components of the professional culture of competitive workers for evaluation: economic and legal literacy; law-abiding; ability to work in a team; conscientiousness; initiative to self-education; and social activities. The achieved level of professional (corporate) culture takes into account the results of the program's corporate module, participation in public events (professional skill competitions, sports and cultural eventsspreading among the masses) and is determined by a survey of experts (teachers of theoretical training, master of production training, managers of industrial sites, highly skilled workers, head of the training center, chairman of the trade union committee, leader of the youth organization).Assessing the values of

competitiveness criteria presumes the accounting of assessments of their components (indicators), respectively, and provides for the subsequent determination of their generalized meaning. For such an assessment, it is possible to use a six-level competitiveness scale: very low; low; below average; average; high; and the highest levels. The achieved level of professionally important qualities, professional competence and professional (corporate) culture is reflected in the documents of the final assessment.The presented model allows to develop an educational program, organize its implementation, identify the components for diagnosis and subsequent analysis of information on the effectiveness of educational process in the training center, and also to ensure timely correction of the discrepancies identified in the course of diagnosis, while preparing a competitive worker. The peculiarity of the developed model is its practice-oriented nature and versatility in terms of applicability to teaching practically for any occupation. It is not speculative, which is confirmed by the results of its implementation in the training center of an industrial enterprise (the AO) while preparing the competitive workers in the "Welder" profession.

To determine the training content for the "Welder" profession, the corresponding corporate vocational standards are developed. They contain a functional map for the professional field of "Welding production" and describes the long-term requirements for the performance of labor functions (Company standards “Vocational standards. "Welder" profession.Job specifications”.Industry standard 075189441-789-2014.JSC «SPC» Uralvagonzavod».NizhniTagil, 2014. 161 p., 2014).

To determine the degree of mastering the training content, the introductory, reproductive and productive levels are provided. In this case, the following testing methods are used: current; review work on training and on-the-job practice; graded examination on a professional module.A significant factor affecting the quality of vocational training of workers is the professional and pedagogical qualifications of vocational training teachers (Verbitskaya N.O., Romantsev G.M., and Fedorov V.A., 2008, Fedorov V.A., 1999, Fedorov V.A., Tretyakova N.V., 2016, Fedorov V.A., and Tretyakova N.V., 2017). With this in mind, a program has been developed and implemented to improve the professional and pedagogical skills of technical specialists – teachers of the training center, which takes into account the initial level of their education and experience, the specifics of the enterprise and industry. The efficiency of its capture is confirmed by the following results: 54% of teachers of the training center got "Excellent" grades on the results of thesis defense, 40 % – "Good"; 60% of them successfully apply the gained knowledge in practice and in preparing for sessions they use the recommended literature; 46% made closer and more productive contact with trainees; all of them are sure that the qualification upgrading courses have changed their approaches to teaching and conducting sessions (development of the training and education activities); all of them are also convinced that it is advisable to conduct such courses once in 2 years.In the experimental groups (EGs), the organization of training for the profession "Welder" was carried out in accordance with the presented model and the pedagogical conditions for its implementation, in the control group (CG) – in accordance with traditional (typical) curricula and programs for the training and professional development of workers in the workplace. In addition to the competitiveness of the individual (Andreev V.I., 2003), the above criteria for the competitiveness of welders were also assessed: professionally important qualities; professional competence; and professional culture. To determine the reliability of differences between EG and CG groups, the Pearson criterion χ^2 was used.In the EGs compared to the CG, the proportion of trainees with the "highest" level of *competitiveness of the individual* has increased by 8.4%, with a "high" level - by 13.8%, and the proportion with the level "below average" has decreased by 6.1%; the proportion of trainees with the "highest" level of *professionally important qualities* has increased by 5.5%, with a "high" level – by 19.5%, and the proportion

with the level "below average" has decreased by 9.4%; the proportion of trainees with the "highest" level of *professional competence* has increased by 19.7%, with a "high" level – by 5.2%, and the proportion with the level "below average" has decreased by 6.4%; the proportion of trainees with the "highest" level of *professional culture* has increased by 8.6%, with a "high" level – by 5.4%, and the proportion with the level "below average" has decreased by 15.3%.

The obtained results confirm the effectiveness of the developed organizational and pedagogical conditions. This is evidenced by: 1) positive dynamics of changes in the components of worker's competitiveness: competitiveness of a person, professionally important qualities, professional competences, and professional culture; 2)in the EGs compared to the CG, increasing number of workers who have reached the "highest" and "high" levels, as well as a decrease in "below average" and "low" levels of the person's competitiveness to indicators that meet the requirements of the workshop supervisors (employers).

The effectiveness of the verified organizational and pedagogical conditions is also confirmed by indirect indicators: the proportion of graduates with a higher education qualification grade (3 or 4) in the EGs is higher than in the CG by 13.6%; the proportion of graduates employed in the mechanical assembly production (prestigious and high-paying jobs) from the EGs is higher by 19.7% compared to the CG.

4. DISCUSSIONS

Vocational training of the blue-collar workers in the training centers of industrial enterprises, usually, has a number of features and difficulties associated with the specifics of the trainees' range (their wide age range, low level of training, negative social experience), as well as with the organization and effectiveness of the educational process (obsolete model curricula and programs), the revealed discrepancies between the real level of the personality competitiveness of graduates from the training center and the requirements of the heads of structural divisions (main employers), which makes it necessary to scientifically substantiate the appropriate organizational and pedagogical conditions for the vocational training of competitive workers, taking into account the specifics of adult education, the peculiarities of the industry belonging and the territorial location of such enterprises.

The results of the previously conducted studies and the well-known practical experience of corporate education in the field of workforce training (BadaevYu.L., 2009; Bogachev O.A., 2011; Miroshin D.G., 2004; Petlin V.I., 2007; Silkin R.S., 2007; MikhalevA.A., 2015; Kopnov V.A., Sokolova A.V., 2015; Bragina Y.V., 2016, and others) suggests that despite the importance of information obtained from them, they do not answer the question "How to prepare a competitive worker in a corporate education environment?".

The importance and complexity of the search for an answer to this question required a scientific justification for the organization of training process for a competitive worker in the training center of an industrial enterprise. A detailed study of structural components of the process under study in their integrative dependence and interaction made it possible to establish their interconnection and logically represent it in the developed structural and functional model. The proposed model includes a number of modules: 1) *target* (describes the requirements for a competitive worker); 2) *methodological* (provide the methodological grounds and reveals the principles based on them for the preparation of a competitive worker under the industrial production conditions); 3) *organizational* (training packages based on the modeling of work-related situations, accurately simulating the workplaces at the real-time production. Equipment, tools, appliances, instrumentation. Simulators, training aids, mockups of hardware, separate units and details, models, polygons, moulages, and site-collected samples, the forms of documents and manualsaccepted in industries); 4) *content module* (describes the requirements for educational environment of the training center, reveals a set of normative and methodological documentation, regulating the content, organization and evaluation of the

results of workers training, based on the developed corporate vocational standards for occupations and modular program prepared under such standards); 5) *competitiveness assessment module* (reveals the criteria and indicators for assessing the training process for a competitive worker in the training center of the enterprise).

The pedagogical conditions for the presented model implementation have been revealed through the formation of an appropriate educational environment and the content of vocational training (the case of "Welder" profession). The created educational environment accurately simulates the workplaces that are as close to real production as possible. This is done through the use of equipment identical to that installed in the production workshops, as well as the forms, documents, and manuals adopted by the enterprise (e.g. work order, terms of reference, drawing).

In addition, the worker's competencies in the "Welder" profession that are relevant to JSC "SPC" Uralvagonzavod" are determined, taking into account the prospective production requirements, and allowed to draw up the corresponding corporate vocational standards on their basis. These standards became the basis for the modular program development to prepare the competitive welders in the training center of an industrial enterprise and its subsequent implementation.

Effectiveness of the organization of continuing professional and pedagogical development is confirmed for the technical specialists of industrial enterprises, involved as teachers of vocational training under the corporate educational program, taking into account the basic education, work experience, and specificity of the enterprise and industry.The results of experimental and search testing of the developed organizational and pedagogical conditions for the preparation of competitive workers in the training center of an industrial enterprise (structural and functional model and pedagogical conditions for its implementation) allow to draw a conclusion about their effective influence on the quality of such training in comparison with the traditional (by standard programs) system of training workers at the enterprise and confirm the effectiveness of the solution for the problem posed in the study.

5. CONCLUSION

Thus, the studied interrelation of the components of professional training for competitive workers in the industrial enterprise is logically disclosed in the stated organizational and pedagogical conditions, including the structural and functional model that combines the target, methodological, content, organizational and evaluation modules, in which: the requirements for a competitive worker are provided; the methodological bases are given, and the principles of training the competitive workers under industrial conditions are disclosed; the required educational and methodological support for the educational program is described; the requirements for educational environment of the training center, the regulatory and methodological documentation standardizing the content, organization and evaluation of the results of workers training on the basis of the developed corporate occupational standard by profession and modular program developed on the basis of this standard are specified; and the criteria and indicators for assessing the training of a competitive worker in the enterprise's training center are disclosed. The model is complemented by the identified pedagogical conditions for its implementation, including: the educational environment as close as possible to actual production; the content of the training that includes the corporate, technical and functional modules developed on the basis of the employer's requirements for blue-collar occupation, which are specified in the corporate occupational standard; the sequence of the stages of vocational training: theoretical training, practical training (training and working conditions) and on-the-job training (conditions of actual production); the criteria for assessing the competitiveness of workers: competitiveness of a person, professional competence, professionally important skills and professional culture; and the corporate educational program

to improve the professional and pedagogical skills of technical specialists employed as teachers of vocational training, which takes into account their basic education, work experience, specifics of the enterprise and industry.

6. RECOMMENDATIONS

The practical significance of this study is confirmed by the effectiveness of organizational and pedagogical conditions implementation for training the competitive workers (structural-functional model and pedagogical conditions for its implementation) in the training center of an industrial enterprise (JSC "SPC" Uralvagonzavod") and the possibility of applying such organizational and pedagogical conditions of the pilot experimental search in the practice of similar educational structures of industrial enterprises and in the educational institutions of secondary vocational training (where the workers training is conducted), including the development and use of the possibilities of scientific and educational networks (Fedorov, V.A., Davydova, N.N., 2014, Davydova, N.N. et al., 2016).

SUMMARY.

The urgency of this study is caused by the need of the state, the society's order, the needs of developing industrial enterprises, the requests of the individual for vocational training of blue-collar workers in terms of training centers for industrial enterprises integrated in real production. The arising demand for a competitive worker requires the analysis and improvement of their training in such training centers and calls for the development and investigation of the necessary organizational and pedagogical conditions, which are adequate to changing socio-pedagogical and socio-economic factors.

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Leading methods of the study are system analysis, pedagogical forecasting and modeling, which allowed to consider the training of competitive workers as a purposeful and organized process on improving their professional and general cultural competencies necessary for effective solution of production tasks.

Results. The organizational and pedagogical conditions are described, including a structural and functional model that combines the target, methodological, content, organizational and evaluation modules, in which: the requirements for a competitive worker are provided; the methodological bases are given, and the principles of training the competitive workers under industrial conditions are disclosed; the required educational and methodological support for the educational program is described; the requirements for educational environment of the training center, the regulatory and methodological documentation standardizing the content, organization and evaluation of the results of workers training on the basis of the developed corporate occupational standard by profession and modular program developed on the basis of this standard are specified; and the criteria and indicators for assessing the training of a competitive worker in the enterprise's training center are disclosed. The model is complemented by the identified pedagogical conditions for its implementation, including: the educational environment as close as possible to actual production; the content of the training that includes the corporate, technical and functional modules developed on the basis of the employer's requirements for blue-collar occupation, which are specified in the corporate occupational standard; the sequence of the stages of vocational training: theoretical training, practical training (training and working conditions) and on-the-job training (conditions of actual production); the criteria for assessing the competitiveness of workers: competitiveness of a person, professional competence, professionally important skills and professional culture; and the corporate educational program to improve the professional and pedagogical skills of technical specialists employed as teachers of vocational training, which takes into

account their basic education, work experience, specifics of the enterprise and industry.

The aspects of this article may be useful in the practice of training centers for industrial enterprises and in educational institutions that provide training for blue-collar workers.

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