

Modern Requirements to Preparation of Professional and Pedagogical Personnel

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ABSTRACT

The relevance of the researched problem is caused by the need of providing the educational organizations of the system of professional education with specialists in projecting and implementation of educational programs of training of workers and specialists of a middle link, and formation of a personnel resource for innovative productions. The purpose of the presented article consists in consideration of the discrepancies arising while introduction of the professional standard "Teacher of Vocational Training, Vocational Education and Further Vocational Education" and changes revelation of a pedagogical personnel which are necessary for improvement of preparation quality. The leading approach to the research of this problem is the system-based approach which allows us to reveal the discrepancies arising by the comparison of the professional standard and educational programs that are developed taking into account requirements of the educational standard for the direction of preparation Vocational Training (branch-wise). According to the analysis results, the option of adjustment of educational programs for the direction of preparation Vocational Training (branch-wise) is offered; it promotes improvement of preparation quality of pedagogical personnel for the system of professional education and further vocational education, and also the corporate educational organizations and innovative productions. The materials of the publication can be useful to heads of educational organizations while forming the personnel potential in educational institutions.

KEYWORDS

Educational standard, professional standard, professional and pedagogical employees, teacher of vocational (professional) training

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Introduction

Effective strength of modernization processes in professional education is determined by quality of its personnel potential to a large extent, the system of professional pedagogical education of Russia is designed to provide it (Verbitskaya, Romantsev & Fedorov, 2008; Ivanov et al., 2015; Shaidullina et al., 2015; Tkacheva, Simonova & Matveev, 2016). The graduates are intended for work in the organizations of professional education as teachers of vocational training. In our research the term "teacher of vocational training" is used as the

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generalizing name of the personnel occupied in an educational process of organizations of vocational training, professional education and further vocational education on managerial positions or as teachers of all-technical, special and general education disciplines, senior masters, masters of vocational training, etc. (Fedorov, 1999; Fedorov, 2015; Levina et al., 2015; Platonova et al., 2016; Fominykh et al., 2016).

The results of analysis of providing the organizations of professional education with a pedagogical personnel mean that industry specialists dominate (3/4) in staff of workers of the system of professional education (technologists, technicians, engineers, etc.), and as a rule, they do not have special vocational pedagogical education. These data on the education qualification of pedagogical workers of the system of professional education of the city Yekaterinburg and Sverdlovsk region can be found in the materials of scientific researches (Romatsnev et al., 2003; Tkachenko, 2014; Fedorov, 1999; Fedorov, 2015).

In spite of the fact that lately the teaching staff of colleges and technical schools has changed a little due to involvement of candidates and doctors of science, the regular list of teachers still requires serious updating (Potemkina, 2015; Dudina, Khamatnurov & Trubetskaya, 2016; Dneprov et al., 2016).

Three conceptual models of training of the specialist served as the basis of selection and creation of the content of training of a teacher of professional training for the period of formation and development of professional pedagogical education (Erganova, 2009).

The first model represented the teacher of vocational school as "mono-specialist" with two equally urgent types of activity for accomplishment of tasks of an educational process at vocational school: engineering and pedagogical. Qualification "Engineer-Teacher" was conferred to a graduate of specialty "Vocational Training" (Lednev, 1999).

The second model was built on an integrative basis and allowed graduates of this type of preparation to perform functions of a teacher of theoretical training and master of vocational training. Expansion of the field of professional activity of future teacher of professional training was provided due to acquisition in the course of preparation in higher education institution of skills of production and technological activities in addition to traditional pedagogical types of activity (Romatsnev et al., 2003; Tkachenko, 2014; Khamatnurov, Dudina & Chistik, 2016).

The third model is the model of an expert which is designed on a competence-based foundation. Creation of the model of the graduate of professional and pedagogical higher educational institution is carried out on the basis of expert estimates. The proposed concept of projecting of an educational process lies in the basis of development of standards of the third generation (Romantsev et al., 2011; Sakhieva et al., 2015).

The development of vocational structure of personnel of the region; the progressing professionalizing of graduates of professional pedagogical education; meta-activity approach to the development of professional and pedagogical competences of graduates; self-determination and projecting of professional plans in educational space of higher educational institution (Erganova, 2009), and also active development and application of professional standards (Fedorov & Vasiliev, 2014) describing the measured requirements to results and quality of

performance of labor functions by workers of specific types of professional activity demand change of approaches to creation of structure and content of professional and pedagogical preparation.

In this regard, it becomes urgent to correlate the requirements to training of teachers of professional training stated in State Educational Standard and Federal State Educational Standard in the direction of preparation "Vocational Training (branch-wise)" to relevant requirements of the professional standard "Teacher of Vocational Training, Vocational Education and Further Vocational Education", and to estimate possibilities of elimination of the revealed discrepancies.

Methodological Framework

Research methodology

System-based approach acted as the leading methodological basis for identification of discrepancies of the existing system of training of teachers of vocational education to the requirements of professional standard "Teacher of Vocational Training, Vocational Education and Further Vocational Education" (Afanasiev, 1980; Bepalko, 1990), which allows us to reveal contradictions and to offer some recommendations on their elimination on the basis of coordination of requirements of the professional standard with organizational and pedagogical conditions of training of students in professional and pedagogical higher educational institutions.

The methodology of the research is enriched by: 1) the theory and practice of training of teachers of vocational training (Erganova, 2009; Romantsev, Fedorov, Osipova & Tarasyuk, 2011), allowing to mark out the principles promoting improvement of quality of preparation of a pedagogical personnel: meta-activity approach to the development of professional and pedagogical competences of graduates; the leading nature of professional pedagogical education to the development of vocational structure of personnel of the region; the progressing professionalizing of graduates of professional pedagogical education; self-determination and projecting of vocational plans in educational space of higher education institutions.

Research methods

The complex of research methods is used for the solution of the research tasks: 1) theoretical: analysis of psychological-pedagogical and methodological literature; studying of regulatory and program-methodical documents in the sphere of vocational pedagogical education and vocational education; system analysis; generalization; 2) empirical: studying and generalization of pedagogical experience; generalization of empirical material; experimental and research work.

Experimental base of the research

Experimental and research base of the study is presented by vocational educational institutions of the cities of Ekaterinburg (Russian State Vocational Pedagogical University), Penza (Penza State Technological University), Mytishchi (Moscow State Forest University), Orenburg (Orenburg State Pedagogical University).

Results

Comparison of the labor functions determined by the professional standard with the list of professional competences

Coordination of educational standards of level of secondary professional education in Vocational Training (branch-wise) with the professional standard "Teacher of Vocational Training, Vocational Education and Further Vocational Education", allows to note that the structure and content of average vocational training completely conforms to the requirements of the professional standard to a position "Master of Vocational Training". Significant changes in the list of professional disciplines for the period of evolutionary development of the considered education level were not pointed out. It gives the ground to state that necessary amendments concern only contents of separate sections or themes of the studied disciplines according to the changing social and economic conditions of training of personnel.

Comparison of educational standards of level of a bachelor degree in the direction of preparation Vocational Training (branch-wise) and the professional standard "Teacher of Vocational Training, Vocational Education and Further Vocational Education" makes it possible to notice that conceptual reasons for disciplines of training of professional and pedagogical workers have been performed since 1987 (Educational and Methodical Association on Professional Pedagogical Education was functioning during this period based on the Russian State Vocational Pedagogical University, earlier Educational and Methodical Association of the Country on Engineering and Pedagogical Specialties). The structure of preparation of vocational and pedagogical personnel consists of the following elements: common cultural preparation (it is provided by the humanitarian, social and economic module, and also the mathematical and natural-science module), psychological and pedagogical preparation (includes disciplines of the all-professional module and student teaching), industry preparation (consists of disciplines of the vocational module, field-specific module, module of a profiling, practical training, production training and externship).

Special attention should be paid to vocational and pedagogical disciplines as they found the structure of preparation which shall comply with the requirements of the professional standard. The long experience of activities of the Russian State Vocational Pedagogical University, close cooperation with institutes, faculties and departments of the psychological and pedagogical orientation in higher educational institutions of Russia which are a part of Educational and Methodical Association on Psychological and Pedagogical Education allowed to create the structure of a set of psychological and pedagogical disciplines: Introduction to Vocational and Pedagogical Activities, Age Physiology and Psychophysiology, General Psychology, Psychology of Vocational Education, General and Vocational Pedagogics, Legal Basis of Vocational Education, Information Technologies in Professional Activity, Methodology of Educational Work, Methodology of Vocational Training, Pedagogical Technologies, Research Work of Students, Pedagogical Management.

In our opinion, the structure of training of a bachelor completely complies with the requirements of the professional standard and gives the chance to a

graduate of an educational program to apply for the 6th qualification level and hold the following positions: a master of vocational training, teacher (educator), methodologist (in case of fulfillment of requirements to practical training of the above-noted specialists).

The disciplines of master programs of the direction of preparation Professional Training (branch-wise) was developed by scientific and pedagogical community of higher educational institutions and is based on psychological and pedagogical disciplines: Modern Problems of Vocational Education, History and Methodology of Pedagogical Science, Psychology of Professional Activity, Pedagogical Projecting, Projecting of Educational Environment, Innovative Technologies in Science and Vocational Education.

From our point of view, the structure of preparation completely complies with the requirements of the professional standard and gives the chance to a graduate of the master program to apply for the 7th qualification level and hold the following positions: an assistant, senior teacher, senior methodologist (in case of fulfillment of requirements to practical training of the above-noted specialists).

In the context of estimation of compliance of the available qualification of professional and pedagogical employees with the requirements of the professional standard, it is pertinently to consider recommended qualification levels of teachers of vocational training (Table 1).

Table 1. The qualification of professional and pedagogical employees recommended by the professional standard.

Name of basic group, position (profession)	Experience level	Qualification/Degree	Required education
Master of vocational training	6	Master of vocational training (technician)	44.02.06 Vocational Training (branch-wise)
		Bachelor's degree	44.03.04 Vocational Education (branch-wise) (applied Bachelor's programme)
Teacher of secondary vocational education, Teacher of further vocational education	6	Bachelor's degree	44.03.04 Vocational Education (branch-wise) (academic or applied Bachelor's programmes)
Methodologist Senior methodologist	7	Master's degree	44.04.04 Vocational Education (branch-wise) (Master's degree programme)
Head Manager (director, manager, chief, supervisor) of an educational organization	7	Master's degree	44.04.04 Vocational Education (branch-wise) (in particular, Master's degree programme «State and Municipal Management»)
Deputy Director (associate director, assistant manager, executive) of an educational organization	7	Master's degree	44.04.04 Vocational Education (branch-wise) (in particular, Master's degree programme «State and Municipal Management»)

It is obvious that the data provided in the Table 1 reflect an ideal picture. Significantly, the professional standard contains also requirements to the corresponding experience of practical work except requirements to education. These requirements are consistent with the Order of the Ministry of Health and Social Development of the Russian Federation, d.d. 26 August, 2010 No. 761n "On approval of the single job evaluation catalog of positions of heads, specialists and employees, the section "Qualification Characteristics of Positions of Educators". For example, performance of duties on a position "Methodologist" requires higher education and period of service in a speciality at least 2 years, for work on a position "Senior Methodologist" –higher education and period of service in a speciality at least 2 years too. Moreover, labor functions of the methodologist belong to a subtotal of qualification 6.3 that engages an employee (not the master) to have not only higher education – a bachelor's degree, but also further vocational education in the field of methodical activities in professional education (professional training, further vocational education).

The development and involvement of professional and pedagogical personnel of the system of training of personnel and specialists of the middle link is estimated with attraction of data long-term (1986-2006) analysis of personnel recruitment of the system of Primary Vocational Education (Ministry of Education and Science of the Russian Federation, reference form # 20), studying of high-quality and quantitative list of teachers of professional training in seven territorial subjects of the Russian Federation (2008 - 2011) (Romantsev et al., 2011), studying and analysis of a social portrait and valuable orientations of a master of vocational training (Kopnov et al., 2014) and interviews with heads of the system of Secondary Vocational Education and centers for vocational training (2015, 2016).

In organizations of the system of Primary Vocational Education (in recent years of its existence) only 28% had vocational pedagogical education among administrative board (26% – higher education, 2% – secondary education); teachers – 28,6% (24% – higher education, 4,6% – secondary education); masters of vocational training – 24,6% (9,7% – higher vocational pedagogical education, 14,9% – secondary vocational pedagogical education). Now this system has entered the secondary vocational education, and for staffing condition assessment on the level of training of employees it is correct to be guided by these data. In general, nowadays in the system of vocational education 28% of pedagogical education workers have vocational pedagogical education, and 15% – higher pedagogical education. Therefore, industry specialists (technologists, technicians, engineers, etc.) dominate (about 3/5) by the basic education that doesn't meet the requirements of the professional standard, though many of them have a considerable work experience in the capacity of a teacher of vocational training.

Discrepancies of the content of educational programs to the requirements of the professional standard

The competences promoting accomplishment of the generalized labour function "Implementation of Professional Orientation Actions among School Students and Their Parents (Legal Representatives)" are poorly provided in educational programs.

In educational programs inadequate attention is paid to the questions of: an organization and development of inclusive education; social and pedagogical maintenance of an educational process.

The innovative educational environment of the organizations of secondary professional education requires entering of amendments into the content of a number of disciplines of training of the teacher of vocational training.

Recommendations on improvement of teachers' training of vocational education

It is necessary to include implementation of actions for professional orientation work within extracurricular activities among school students and their parents (legal representatives) in the contents of educational programs and methodical instructions for the organization and carrying out of student teaching.

When updating educational programs it is important to consider the need of studying of the following disciplines: "Social and Pedagogical Support of Students", "Psychological and Pedagogical Bases of Inclusive Education".

In the content of separate disciplines, it is necessary to consider additional sections or topics which will allow:

- to study the features of psychophysical development, individual opportunities of persons with special needs (for training of persons with special needs) – a discipline "Age Psychophysiology";

- to use pedagogically reasonable forms, methods and techniques of organization of a student activity, to use modern technical means of training and educational technologies, including electronic training, to use distance educational technologies, information and communication technologies, electronic educational and information resources, taking into account specifics of educational programs, requirements of the Federal State Educational Standard of Secondary Vocational Education (for the Secondary Vocational Education programs) – disciplines "Professional and Pedagogical Technologies", "Information Technologies in Education";

- to acquaint students with the experience of successful professionals who work in the developed sphere of professional activity and (or) a corporate culture of the partner organizations, to commit its elements to educational environment – discipline "Practical Work by Profession";

- to organize different conferences, exhibitions, competitions of professional skills, other competitions and similar actions (in the field of the taught subject, course, discipline (module)) – disciplines "Method of Vocational Training", "Types of Professional Activity Training Method";

- to develop different tasks, to participate in a work of assessment commissions, to train students for participation in conferences, exhibitions, competitions of professional skills, other competitions and similar actions in the field of the taught subjects, courses, disciplines or modules (for teaching according to Secondary Vocational Education and Further Vocational Education programs) – disciplines "Method of Vocational Education", "Types of Professional Activity Training Method", "Professional and Pedagogical Technologies".

It is necessary to give special attention to the content of the disciplines "Professional and Pedagogical Technologies" and "Method of Vocational

Training", "Types of Professional Activity Training Method". In the professional standard there are some requirements which mean the need of reconceptualization at the organization of educational professional activity of pedagogical staff of an organization of the system of vocational training, vocational education and further vocational education, in particular: an ability to use pedagogically reasonable forms, methods and techniques while organizing activities of students, to use modern technical means of training and educational technologies, if it's necessary to include electronic training, to use distance educational technologies, information and communication technologies, electronic educational and information resources, taking into account specifics of educational programs, requirements of the Federal State Educational Standard of Secondary Vocational Education (for the Secondary Vocational Education programs). In particular, in the content of the disciplines "Professional and Pedagogical Technologies" and "Method of Vocational Training", "Types of Professional Activity Training Method" the following questions aren't considered: features of organization of dual training in a section of branches and regions of Russia; specifics of the practical-focused (dual) training; possibilities of carrying out of procedures of certification of qualifications; principles of the organization of academic competitions, championships on WorldSkills technology; originality of creation of a model of early career guidance and bases of vocational training of students; features of formation of an expert community and system of competitions on foundations of professional skills (JuniorSkills) among students of educational organizations.

Discussions

The analysis of psychological and pedagogical literature, studying of regulatory and program-methodical documents in education allow us to state the lack of special researches devoted to a harmonization problem of the existing preparation of professional and pedagogical personnel and requirements of the professional standard "Teacher of Vocational Training, Vocational Education and Further Vocational Education".

The scientists proved earlier used models of professional and pedagogical preparation (Lednev, 1999; Romatsnev et al., 2003; Erganova, 2009; Romantsev et al., 2011; Tkachenko, 2014). There are standard legal bases for improvement of the system of vocational training; it is important to highlight the following:

1) The Order of the Government of the Russian Federation, d.d. 3 March, 2015 No. 349-r "About the statement of a package of measures and target indicators and data of a package of measures directed to improvement of system of secondary vocational education, for 2015-2020". The need of updating and approbation of models of preparation of pedagogical personnel for the system of secondary vocational education in the organizations of higher education is defined in the order. It demands reconsideration of the existing models of preparation and development of the new ones.

2) The Order of the Government of the Russian Federation, d.d. 15 April, 2014 No. 295 "State program of the Russian Federation Development of education for 2013-2020". It is pointed out the necessity of increase of a pedagogical profession attraction and a skill level of the teaching personnel; updating of structure and competences of pedagogical personnel, creation of mechanisms of motivation of teachers to improvement of work quality and

continuous professional development; changes of assessment procedures of qualification and certification of teachers, the payment terms of work which are based on the content and requirements of the professional standard of a teacher.

For almost centenary period, a certain practical experience of preparation of pedagogical personnel for the system of vocational education is accumulated (Tenchurina, 1989; Zhuchenko, Romantsev & Tkachenko, 1999; Fedorov, 2001). Nevertheless, the proposed models of preparation do not solve the problem declared in the real research in consideration of discrepancy of activity of the existing system of the Russian professional pedagogical education with the requirements imposed to it.

Application of the professional standard "Teacher of Vocational Training, Vocational Education and Further Vocational Education" specifies only the necessary direction of changes; detailed study of the structure and content of training of a teacher of vocational education complying with the modern requirements is only the business of an educational community.

In general, the analysis of theoretical sources and empirical data gave an option of coming to the conclusion that not fundamental change of the structure and content of training of teachers of vocational training, but ensuring effective interaction of the main members of an educational community (pedagogical collective, students, employers, social partners) united by the general educational idea (purpose) will allow to increase the quality of training of pedagogical personnel.

At the same time, the development of conceptual theses of ensuring effective interaction of the main members of an educational community has just only begun; in this regard, it is so premature to speak about effectiveness and efficiency of this model.

Conclusion

The existing system of preparation of professional and pedagogical personnel mostly complies with the requirements of the professional standard "Teacher of Vocational Training, Vocational Education and Further Vocational Education" (considering the theses structurally and substantially), though insignificant amendments of the content of preparation are required.

The missing components of preparation according to the programs of previous years can be compensated due to the development of further vocational educational program with the certification "Teacher of Industry-Specific Disciplines". Instead of the word "industry-specific" it is desirable to refer to a specific direction of the taught disciplines: "economic", "electrical energy", "technical", etc.

In the long term, the development of a model of effective interaction of members of an educational community is required.

Recommendations

The proposed recommendations can be useful to the members of executive management of an educational organization:

- 1) for a research of compliance of level of training of employees with the requirements of the professional standard;

2) for working out of an educational route of employees who need advanced training;

3) for conformity assessment of the proposed professional and pedagogical preparation with the modern requirements;

4) for determination of the direction of further scientific search and research of processes of interaction of members of an educational community.

The results of the provided research will be useful to the scientists studying the questions of improvement of training of teachers of vocational education.

Disclosure statement

No potential conflict of interest was reported by the authors.

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