

Current Problems in Developing the Professional — Pedagogical Education System

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The paper focuses on the nature and role of professional-pedagogical education and its main feature, biprofessionalism. There are two main models in organizing the training of teachers: (1) according to the type of mono-specialty based on secondary and vocational education (for undergraduate and graduate levels of professional-pedagogical universities and faculties); and (2) according to the additive model (for graduates in various fields receiving additional pedagogical education necessary to work as a teacher in educational organizations of vocational education). The paper aims to analyze the current state of the professional-pedagogical education system in Russia, identify the main problems, and substantiate ways to solve them under the current trends in developing society and the vocational education system. The main research methods are the following: (1) analysis of scientific and pedagogical literature on the history and current state of professional-pedagogical education; and (2) generalization and systematization of pedagogical experience. The research has found the primary problems that hinder developing the professional-pedagogical education system (terminological, organizational, managerial, socio-economic, methodological, etc.).

Keywords: vocational pedagogical education, vocational teacher, innovative pedagogical activities

INTRODUCTION

The education system is a socio-genetic mechanism that accumulates, preserves, and transfers socially significant experience, a system of social relations, and human culture from previous generations to subsequent ones. Each educational organization, fulfilling its local task of training specialists, is a part of this mechanism. The efficiency of the entire mechanism depends on how smoothly and efficiently its parts work. Many factors determine the quality of training specialists, and the content of the training is one of these fundamental factors. Searching for an answer to what and how to teach is always an urgent problem of didactics since scientific and production development determines the content of education.

Currently, a severe personnel problem in Russia, namely, an acute shortage of highly qualified workers and innovative managers, constrains the development of an innovative economy based on high technologies (Verbitskaya, Romantsev & Fedorov, 2008). Solving this problem is in formal, non-formal, and informal

vocational education: secondary vocational, higher, and additional (advanced training and professional retraining) education, corporate training, and self-education of employees.

Undoubtedly, creating conditions for the self-realization of individuals in professional activities and their conscious self-development ensuring adaptation to a dynamically changing society remains a fundamentally important task of vocational education in the context of its digitalization (Marton, 2004). First of all, the quality of training qualified personnel for the economy of the country depends on the competence of a teaching staff, which meets the requirements of the modern educational paradigm (Zeer, Tretyakova, Kurochina, Bukovei & Beresneva, 2019).

MATERIALS AND METHODS

The research aims to analyze the current state of the professional-pedagogical education system in Russia, identify the main problems, and substantiate ways to solve them under the current trends in developing society and the vocational education system.

The main research methods are the following: (1) analysis of scientific and pedagogical literature on the history and current state of this area of training; and (2) analysis of pedagogical practice in training teachers for the vocational education system.

We have studied the problems of professional-pedagogical education based on Engineering Pedagogy Training Center, created at the Department of Pedagogy and Psychology of Professional Education in Russian State Agrarian University – Moscow Timiryazev Agricultural Academy and accredited by the International Society for Engineering Education [IGIP].

RESULTS

The vocational education system that provides training of specialists was formed along with the production development. At a particular stage of developing this system, the problem of training teachers became relevant, and its decision determined forming and developing professional pedagogical education.

At present, professional-pedagogical education is an established branch of pedagogical education, providing training of teachers and masters of vocational training for the system of continuing vocational education (Dorozhkin & Zeer, 2014; Harvey, 2001).

A feature of professional-pedagogical education is its biprofessional nature, which implies integrating two components – pedagogical and industrial.

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For the vocational education system, the name of this type of pedagogical education changed with forming and developing the training of teachers and masters of vocational training:

- Special pedagogical (in the 1920–30s, it was used to define the training of teachers and masters of vocational training for educational institutions that train specialists, thereby emphasizing the fundamental difference (biprofessionalism) in the content of their training from school teachers in pedagogical institutes and pedagogical colleges);
- Engineering pedagogical (in the 1960–80s, attention was focused on organizing the system of pedagogical departments in specialized industrial universities for engineering specialists working as teachers and masters of vocational training in technical and vocational schools) (Tenchurina, 2000);
- Professional pedagogical (from the beginning of the 1990s to the present, this name summarizes all industry-specific varieties of teachers for the vocational education system, since teachers began to be trained not only for engineering education but also for many other types).

However, terminological confusion became a serious problem due to the fact that one began to use the concept of professional-pedagogical education for training teachers of public schools. This often leads to a misunderstanding of the meaning, role, and functions of professional-pedagogical education and the conditions that ensure the effective and high-quality training of vocational teachers. One puts forward and sometimes implements destructive proposals for training vocational teachers in pedagogical universities, which do not have the necessary production base. As noted above, the integration of pedagogical and industrial components in training content ensures the biprofessional nature of professional-pedagogical education, which means that one first needs to master this profession for teaching someone it. Pedagogical universities solve the problem of training teachers of general school subjects and do not have a production base or scientific and pedagogical workers necessary for technical and engineering vocational education. Consequently, one can implement this component of training only in industry-specific universities, not in pedagogical ones.

One cannot implement the second stage of the additive model of professional-pedagogical education in pedagogical universities. This is because it is impossible to ensure the professional orientation of the pedagogical component of the training (for example, for an engineering teacher or a specialist in another industry) for the same reasons (the lack of a material base and a teaching staff specializing in the relevant subject area).

The lack of pedagogical education among a significant part of university and college teachers remains an acute problem (Maron, Monakhova, Sherayzina, Fedotova & Trashenkova, 2016). Moreover, the constant rise in the average age of teaching staff exacerbates this problem. The average age of teachers in universities is more than 50 years, and one can observe the same situation in many educational organizations. In this regard, one should pay special attention to the personnel renewal of universities and colleges with young scientists (graduates of graduate school) (Chuchalin, 2017; Minin, Pakanova, Belomestnova & Benson, 2013). In the context of this study, this problem also has a *second layer*, which concerns training thesis advisors and consultants for dissertation research.

Another destructive tendency lies in misinterpreting the indicator of *specialization* of universities related to professional-pedagogical education. The problem here also lies in the fact that one does not take into account the biprofessional nature of professional-pedagogical education. We should note that the main activity of vocational teachers is pedagogical (as a more general concept compared to the concept of professional-pedagogical activity). Consequently, it is quite rightly on this basis, and according to the current classifier of areas for training specialists, professional-pedagogical education relates to the group *Education and Pedagogical Sciences*. Furthermore, relying on the classifier and not delving into the essence of the issue, one considers it on *legal grounds* as pedagogical without taking into account its industry specificity. At the same time, pedagogical universities cannot and should not prepare teachers for the vocational education system for understandable (and discussed above) reasons, while industry-specific universities are considered non-core with such a formal approach. Hence, the type of education (professional-pedagogical) is legalized, but there are no specialized universities in the country. More precisely, there is, but only one, the Russian State Vocational Pedagogical University in Ekaterinburg. Until recently, there have been about 120 industry-specific universities that train vocational teachers, and all of them are considered non-core, which negatively affects forming the student population and, as a result, the quality of training.

As a result of some organizational decisions made in recent years, additional difficulties have appeared in improving teacher training quality in terms of educational and methodological support for training specialists. According to the results of a questionnaire survey of teachers mastering additional professional education programs, they realize the importance of professional and personal development and feel the need for it. Unfortunately, a permanent routine overload of teachers, associated with the avalanche-like re-registration and processing of educational documentation for all *improved* standards over and over again (good intentions, as it happens, lead to unwanted effects if something is not taken into account), does not facilitate implementing these intentions of teachers. A constant *race* for scientometric indicators on an effective contract, which do not always reflect the essence of the issue, but represent only its formal front part, masking the inner content, contributes to the same.

DISCUSSION

We have identified the problems that hinder developing the system of professional-pedagogical education and contribute to its destruction. Among them are terminological, organizational, managerial, socio-economic, methodological, and other problems, making many researchers look for effective ways to solve them.

At the level of state educational policy, it is necessary to do the following:

- Recognize the role and place of the professional-pedagogical education system in the general system of continuous education;
- Differentiate professional-pedagogical education from pedagogical education (training of school teachers);
- Recognize professional-pedagogical education as specialized education for industrial technology and engineering universities, not for classical pedagogical ones.

The next step should be the material and technical re-equipment of specialized (industry-specific) universities according to the modern development of technology and ahead of it. In fact, the problem is that rapid changes in production and the labor market lead to a situation where when training specialists, we often do not know yet what new technologies they will use in their professional activities and what production problems they will have to decide (Fadel, Bialik, & Trilling, 2015). The present graduate of the professional-pedagogical education system must have such competencies to ensure training graduates of secondary vocational education for the innovative technologies introduced (Verbitskaya et al., 2008).

It seems extremely difficult to ensure the anticipatory nature of vocational education, but it is important to move towards this goal persistently and progressively, integrating education with science, production, and business and developing dual education (Tkacheva & Sazonova, 2014; Zholdasbekova, Nurzhanbayeva, Akhmet, Karatayev & Anarmetov, 2016).

It is impossible to be limited to short-term courses of an episodic nature. First of all, vocational teachers must master the technological process and the peculiarities of training to work on new equipment. The knowledge of the specifics in organizing the production process and the features and possible defects of the equipment are the strengths of the specialists working at enterprises and involved in training specialists. However, they usually have insufficiently formed competencies necessary for pedagogical activity, which negatively affects teaching their knowledge. In this regard, it is important to apply an individual approach, personalize the training process of professional-pedagogical personnel according to the requirements of the social order and considering the basic training level of teachers (or future teachers), the experience of their professional activities, individual characteristics, professional and personal needs, etc. At the same time, we consider it necessary to pay special attention not to the deficit approach (what teachers lack) but to the need-based approach (what teachers need for effective professional pedagogical activity).

Reengineering is a promising direction for improving the vocational pedagogical education system. Its main idea is the organizational reform of the system when the system-forming factor is an integral process that ensures the achievement of the goal set (Romantsev, Larionov & Tkachenko, 1999).

Personnel renewal of universities and colleges based on established traditions and scientific schools and developing professional pedagogical competence of teachers, even during additional professional education, are important resources for improving professional-pedagogical education (Blank, 1982; Karabaevna, Xamroevich & Musurmanova, 2019; Kubrushko & Nazarova, 2013; Loginova, Akimova, Dorozhkin & Zaitseva, 2018). The active development of digital technologies and their use in the education system (including a sharp transition of educational organizations to distance learning due to the dangerous epidemiological situation in the world in the spring of 2020) provide new opportunities for improving the educational process. In this context of the information and educational environment, the educational process requires developing digital literacy, information competence of all subjects of the educational process (Kucirkova, Alipichev, Vasbieva & Kalugina, 2017; Savinova, Sivtseva & Latysheva, 2019) and, in particular, innovative competence of teachers as a key one (Kiseleva et al., 2018; Kubrushko, Kozlenkova, Mikhailenko & Nazarova, 2018).

CONCLUSION

Thus, developing the professional-pedagogical education system largely depends on the state educational policy and balanced and well-grounded management decisions. However, educational organizations, the scientific and educational community as a whole, and every teacher independently should improve the quality of the educational process, beginning with their professional and personal development.

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