



## TRAINING OF PEDAGOGICAL EDUCATION MASTERS: PRACTICE-ORIENTED MODEL

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### Abstract

**Purpose:** The article deals with the problems of training, attraction, and retention of teachers of the required qualification in educational institutions.

**Methodology:** This problem is analyzed at the regional level in the context of reforms in the higher education system, the transition to a two-level model in accordance with the provisions of the Bologna process.

**Result:** Based on the analysis of open data in the work it is stated that the shortage of teachers in the region (Samara region) is significant and has a negative impact on the educational process of educational institutions; it cannot be compensated exclusively by bachelors of pedagogical education, issued by pedagogical universities.

**Applications:** This research can be used for universities, teachers, and students.

**Novelty/Originality:** In this research, the model of training of pedagogical education masters: practice-oriented model is presented in a comprehensive and complete manner.

**Keywords:** education, master's degree, two-level education system, higher education.

### INTRODUCTION

The situation in Russian education has been the subject of active public debate for several years now. Considerable attention is paid to its key component - the teaching staff, their training in the higher education system, salaries and other forms of stimulation of educators. The success of reforms is assessed ambiguously by the pedagogical community. So, back in 2014, criticizing the draft concept of supporting the development of pedagogical education, the authors note that "the problem of education is not in teachers, but in the prestige, security and security of their profession". At the same time, economic research emphasizes the leading positive role of the implementation of the "May decrees" of the President of the Russian Federation: "bringing teachers' wages to the average salary in the region had a positive impact on a whole range of indicators determining the effectiveness of school education". But it was also noted that the situation in Russia is characterized by "erosion of traditional cultural norms and ... the lack of new status hierarchies recognized by society". As a result, from the point of view of the authors, teachers cannot be fully attributed to the middle-class [Shukshina, T. I., Gorshenina, S. N., Buyanova, I. B., & Neyasova, I. A. \(2016\)](#).

Another important aspect of the personnel problem, referred to in the publications as "double negative selection" is formulated as follows: "Not the best "(in the academic sense) entrants come to pedagogical universities, and not the "best" graduates become teachers" ([Rusniati, Pendidikan 2015](#); [Sujarwo, Reorientasi 2006](#)).

Thus, even a superficial analysis of scientific publications, periodicals, and statistical information allows us to state: there is a problem of training, attracting and retaining the required qualifications in general educational institutions. The situation is complicated by constant reforms in the higher education system, the transition to a two-tier model in accordance with the provisions of the Bologna process [Shukshina, T. I., Buyanova, I. B., Gorshenina, S. N., & Neyasova, I. A. \(2016\)](#).

### METHODOLOGY

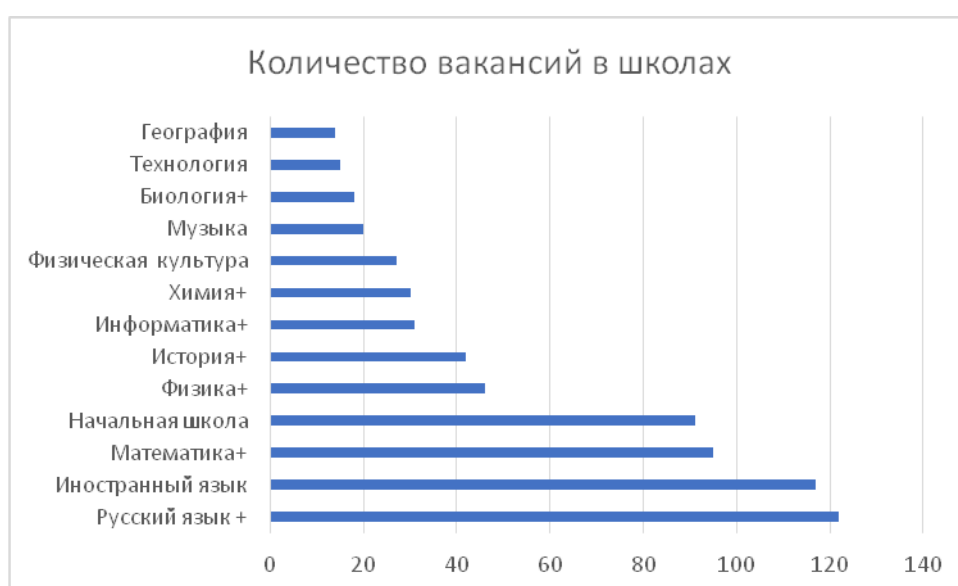
The problem of staffing a specific education system is discussed in modern studies from various perspectives. For example, in, the proposed change in the internal structure of the educational system, the alignment of the production research educational complex, providing the necessary level of academic mobility [Khairullina, E. R., Valeyev, A. S., Valeyeva, G. K., Valeyeva, N. S., Leifa, A. V., Burdukovskaya, E. A., & Shaidullina, A. R. \(2015\)](#). The master's research training in the author's model has been submitted to a research university [Guruzhapov, V. A., & Margolis, A. A. \(2014\)](#). V.E. Romanov, in his work, on the contrary, believes that the active implementation of the Bologna model and the transition to target performance indicators pose a threat to the personnel potential of regional universities, including pedagogical ones. In, the system of continuous pedagogical education and its role (positive, from the position of the author) in the growth of teachers' qualifications, as well as the forms and methods of teaching used in the retraining process, are considered. The authors pay attention to the typical mistakes made when predicting the need for teaching staff, in particular, the use of linear dynamics without regard to the demographic situation. The work analyzes modern

European approaches (“Third Mission”, “Entrepreneurial University”, “Triple / Four-Star Spiral”) to the systemic coordination of authors from academic circles in order to develop innovations) [Zakirova, V. G., & Koletvinova, N. D. \(2014\).](#)

## RESULTS

The purpose of this article is to build a practice-oriented model for the preparation of masters of pedagogical education based on an analysis of the needs of the region (Samara region) in the teaching staff [SAVCHENKOV, A. V. \(2017\).](#)

Anticipating the actual construction of the model, we will conduct an empirical analysis of the need for teaching staff in the Samara region. Let us take as a basis the open data on vacancies presented on the website of the Ministry of Education and Science of the Samara Region. Since the data are presented on 01/02/2019, they represent a deliberately underestimated assessment of the real need for teachers: the main recruitment is carried out at the end or beginning of the school year. For the sake of greater clarity, we conducted a grouping of “close” vacancies (mathematics + informatics assigned to the Mathematics + group, etc.), eliminated the organization of pre-school and secondary vocational education (represented in the initial data set by minor inclusions), and also vacancies of educators and technical staff. The result for vacancies is shown in Figure 1, in expanded form, taking into account the average number of hours offered per vacancy - in Table 1.



**Figure 1:** Number of vacancies at schools of Samara region

**Table 1:** Vacancies for teachers at schools of Samara region

Disciplines	Number of vacancies	The average number of hours
Russian language +	122	34,1
Foreign language	117	41,3
Math +	95	33,7
Primary School	91	23,2
Physics +	46	17,7
History +	42	36,9
Informatics +	31	17,7
Chemistry +	30	41,3
Physical education	27	22,4
Music	20	18,0
Biology +	18	16,6
Technology	15	18,5
Geography	14	18,6
Life safety	5	13,2

Drawing	4	19,5
The overall result	677	30,2

\* compiled by the author on the basis of “Open data on the vacancies of teaching staff in the territories of Samara region – [https://www.educat.samregion.ru/activity/otkrytye\\_dannye\\_o\\_vakansiyakh\\_pedagogicheskikh\\_rabotnikov\\_samarskoy\\_obl\\_asi/vakansii\\_pedagogicheskikh\\_rabotnikov\\_sentyabr/](https://www.educat.samregion.ru/activity/otkrytye_dannye_o_vakansiyakh_pedagogicheskikh_rabotnikov_samarskoy_obl_asi/vakansii_pedagogicheskikh_rabotnikov_sentyabr/)

Even an underestimation of the shortage of teaching staff (table 1) allows us to state that:

- The shortage of teachers in the region is significant and negatively affects the educational process of educational institutions,
- It cannot be compensated solely at the expense of bachelors of pedagogical education, graduated from pedagogical universities of the region (for example, Samara State Social and Pedagogical University in 2019 will graduate less than 60 teachers of physics and mathematics - with 141 vacancies in schools only).

The latter fact is explained by a number of reasons, some of which were highlighted above - the low prestige of the teaching profession, the low level of wages (see Figure 2), the disproportion in the distribution of budget places in the Pedagogical Education areas, the reluctance of graduates to associate their careers with the general education institution (plan to work on the profile of no more than 50% of graduates) [Dyson, B., & Casey, A. \(Eds.\). \(2012\).](#)

Район	Наименование ОУ	Адрес ОУ	Наименование должности	Предполагаемая нагрузка (количество часов/ ставок)	Зарплата (руб.)
Железнодорожный	МБОУ Школа № 64 г.о. Самара	г. Самара, ул. Пензенская, 65а	учитель математики	21 час	12600
Железнодорожный	МБОУ Школа № 64 г.о. Самара	г. Самара, ул. Пензенская, 65а	учитель английского языка	25 часов	13987

**Figure 2:** Vacant places in schools of Samara (fragment of the document at [https://samadm.ru/upload/iblock/262/2019\\_03\\_27-vakansii-mou.pdf](https://samadm.ru/upload/iblock/262/2019_03_27-vakansii-mou.pdf))

In this situation, a variety of systems of personnel retraining, primarily the magistracy of pedagogical education, are potentially natural reserves. However, the main functions of this level of education have not yet received any proper justification, nor normative and legal consolidation in professional standards.

Currently, a master's degree is formally necessary only for admission to graduate school and work in high school, but some managers include this item in the requirements for an applicant for the position. This status of the magistracy naturally leads to the fact that the second level of higher education is considered as a kind of “pre-graduate study” (8-10). However, the practice of preparing masters at the Samara State Socio-Pedagogical University shows that the proportion of undergraduates continuing to study in graduate school does not exceed 5%, the rest of the students either continue their studies “by inertia”, maintaining the direction and profile of the undergraduate degree (about 30%) as a retraining program for a different profile and/or direction. The latter category of students is of most interest as a potential personnel reserve for the regional education system.

Note that for the Master's programs "Mathematics in Education", "Informatics in Education" areas of training 44.04.01 Pedagogical education the number of those who entered and successfully completed the training differs quite significantly (as of 201 13 out of 13 enrolled graduated from the "Mathematics in Education" profile only 3 people). Interviews with undergraduates and teachers showed that among the main reasons - lack of knowledge of mathematics, lack of readiness for independent research work, inability to plan their time, change in career prospects. Except for the last factor, the rest is amenable to adjustment due to the organization of the educational process in the magistracy [Tarasjuk, O. V., Fedulova, K. A., Fedulova, M. A., Kryukova, P. S., & Yadretsov, V. \(2016\).](#)

Anticipating the formulation of organizational and pedagogical conditions for the organization of practice-oriented training of masters, we briefly describe two main types of students. The first type, conditionally called "Student", continues to study at the undergraduate level. Has usually no more than two years of experience. Benefits include: sustainable study skills, familiarity with modern information technologies, relevant (although often superficial) knowledge of pedagogy, methodology, and bachelor's profile. The main risks that lead to the termination of training: a change in marital status, a change in career prospects, the inability to combine work with study. The second type, conventionally called the “Specialist”, has experience of five years (often more than 10), education at the specialty level, mainly non-pedagogical specialty. The advantages include: strong, fundamental knowledge of the profile, the ability to plan your time. The disadvantages are the lack of knowledge in pedagogy and methodology, modern information technologies (not always) in the field of education. Often already working or planning to work in school. Maybe pre-retirement age. Risks are minimal, mainly associated with a change in career plans. These types are basic, except for them it is possible to note the rare variant

“Researcher” - the future graduate student. It is advisable for such students to provide an individual work plan and a supervisor-supervisor. There is also the category “Passer-by” - a subject who plans to get a master’s degree diploma “just in case”. It is preferable to screen out such applicants at the entrance examinations stage. Note that the types of “Student” and “Specialist” complement each other, compensating for the shortcomings in properly structured group work Broekkamp, H., & van Hout-Wolters, B. (2007).

In conclusion, we formulate the organizational and pedagogical conditions that allow us to ensure the effectiveness of the preparation of masters for further work in the general educational institutions of the region [Ahtarieva, R. F., Mokshina, N. G., & Rakhmanova, A. R. \(2015\)](#).

1. The condition of expediency, interpreted as a “consistency of ends and means,” in other words, consideration of the effectiveness of time, financial and other costs on the part of both the teacher and the undergraduate. To implement this condition requires a set of measures:
  - Two-stage system for selection to the magistracy (at the first stage optional remote / online testing is carried out on the chosen training profile, at the second - an interview, which allows to identify not only the amount of knowledge, but also the motivation of the applicant), which will eliminate those who do not have basic knowledge of selected profile (at least in the scope of the school program);
  - Initial acquaintance with the program, requirements and choice of the direction of research work, as well as with the rules for the formation of the portfolio ([Ameen, Ahmed & Hafez, 2018](#); [Yazdekhasti Erfan & Nazari, 2015](#); [Razavi, Nasirian & Afkhami, 2015](#); [Araújo, Henriques, & Martini, 2018](#)), which will allow the undergraduate to make effective use of their own time;
  - Recommendations on self-education (mass open online courses, video lectures, university courses), which will allow you to familiarize yourself with the current research areas of the chosen profile [Kozhanova, T. M., Karev, B. A., Khabibullina, G. Z., Ibragimov, I. D., Khisamiyeva, L. G., Zaytseva, N. V., & Kulkova, M. A. \(2015\)](#).
2. The condition of polyfunctionality, that is, the formation in the educational process of competencies associated with the implementation of the main functions of the teacher ([Novikova, et al. 2018](#); [Kenan, 2018](#)): pedagogical, project, research, methodological, managerial, cultural and educational.
3. The condition of the priority of law and ethics. According to FGOS VO 3 ++, a graduate must carry out professional activities in accordance with the normative legal acts in the field of education and the norms of professional ethics, as well as actively participate in the civil-patriotic education of schoolchildren.
4. The condition of the active use of modern educational technologies. The key to the implementation of this condition is the organization of cooperation of various types of undergraduates “Student” and “Specialist”. Having experience in practical activities in various fields, “Specialists” can offer a variety of case studies, tasks (both professionally-oriented and ethical-legal). On the other hand, “Students” have a better knowledge of the theory in the field of interactive learning technologies and are able to effectively design and present methodological developments [Fattakhova, N. N., Yusupova, Z. F., & Fedorova, N. I. \(2016\)](#).

Fulfillment of these conditions should lead to the formation of a socio-cultural educational environment, not only conducive to the development of the undergraduate's information and research competence but also its readiness for the practice of teaching in school.

## CONCLUSION

The application of the formulated organizational and pedagogical conditions to the construction of the master’s curriculum in the Pedagogical Education direction (the Master’s programs in Mathematics in Education, Informatics in Education) can attract students and increase the percentage of students who successfully complete these programs. As a result, to improve the personnel potential of the region by attracting specialists with extensive practical experience in various industries. Further studies are planned in the area of developing a marketing strategy for attracting additional sources of funding: funds from educational institutions targeted retraining programs, and employment of the population, including pre-retirement age.

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