

Professional Teacher Development in Educational Organizations

Tat'yana I. Avdeeva, Maria I. Vysokos, Svetlana I. Zykova and
Irina G. Kalinina

Abstract--- *The paper considers the theoretical integration and professional practical development for teachers in educational organizations by enhancing their pedagogical competence as part of advanced teacher training. The analysis resulted in comparative characteristics of key teacher competencies in different countries. Professional teacher development is only possible in the presence of teachers' high level of self-awareness and motivation. The study revealed that, during the research process, the experimental group showed changes in the distribution of levels of teacher competence development. Statistical methods confirmed the reliability of the research results. Internal and external factors influencing teacher training in Russia were identified. Nation-specific peculiarities of Russian teacher behavior were described, in particular, the intensive development of all competencies and a quick access to the international arena. A comparative analysis of teacher competence development in different countries was made. The potential was investigated for improving the advanced teacher training system within and beyond educational organizations. A model for teacher development in educational organizations was developed.*

Keywords--- *Teacher Development Model, Teacher Competence, Education, Professional Development, Teacher.*

I. INTRODUCTION

Integration processes in modern society, globalization, digital transformations as well as new trends in economics and education due to technological and scientific advances and ongoing information updates have resulted in quickly obsolete knowledge and deactivated competencies. This has brought about a change in education concepts shifting from the education-for-the-rest-of-life concept to the lifelong-education one. Under the circumstances, human resource development is coming to the fore as the most valuable capital. In this context, the study deals with teachers' continuing professional development [6, 7, 11 and 12] that encompasses formal and non-formal education, including basic and supplementary training, refresher and advanced training, internal training as well and self-learning and self-development. Advanced teacher training is becoming relevant owing to quickly changing external and internal factors in the functioning of educational organizations. External factors include international integration, scientific and technological progress, globalization processes in education, state-level educational policies, implementation of federal educational standards, increased competition and quickly obsolete knowledge. Among internal factors are changes in terms of structure, organization and technology, strategic

Tat'yana I. Avdeeva, Associate Professor, Candidate of Pedagogical Sciences, Department of Primary and Preschool Education, State University of Humanities and Technology, Moscow Region, Orekhovo-Zuyevo, Zelenaya St.,

Maria I. Vysokos, Associate Professor, Candidate in Physics and Mathematics, Department of Physics and Mathematics, State University of Humanities and Technology.

Svetlana I. Zykova, Associate Professor, Candidate of Chemical Sciences, Department of Chemistry, State University of Humanities and Technology.

Irina G. Kalinina, Associate Professor, Candidate of Pedagogical Sciences, Department of Elementary and Preschool Education Theory and Methodology, State University of Humanities and Technology.

planning, emergence of new professions, such as coaches and tutors, and stricter teacher qualifications and competence requirements, which suggests a need for continuing teacher training and professional development.

International organizations have identified a number of major areas for higher education and secondary-level vocational training for the period up to 2020. These include the following: major efforts to complete the reforms undertaken; promotion of the academic freedom, autonomy and responsibility of higher education institutions as principles of the European Higher Education Area; support for the establishment of a learning environment for all students; increased efforts, in the social dimension, to provide equal and high-quality educational opportunities and advanced training programs. The latter is the main driving force for innovation in the economic and social development of the knowledge-oriented world.

II. MATERIALS AND METHODS

The present study is methodologically based on the system approach to the analysis of teachers' professional development. Therefore, this process can be regarded as an independent system that comprises the same elements as any other pedagogical system (objective, learning content, teaching means and methods, forms of organization of learning activities, teachers and students as well as learning conditions and outcomes). At the same time, knowledge and skills acquisition during professional development can be a separate system acting as a whole and consisting of a certain number of interrelated elements. Teacher development is a system whose elements are directed at generating knowledge and skills as part of integrative education. The system approach makes it possible to examine this process under the broad concept of the development of teacher education rather than separately. An integral part of the teacher education conceptual framework is the creation of a teacher development model within the educational organization, designed by defining his activity-related, cognitive and personal traits as professional requirements.

The methodological framework of the study includes, first of all, the philosophical ideas of humanization of education, the central principles of the cognitive theory, theories of human, social and intellectual capital, human resources management theories and the conceptual ideas of comparative professional pedagogy. Secondly, it includes the conceptual provisions of continuing professional training and those of personality and professional formation and development. Thirdly, it comprises the provision on the relationship and interrelation of the laws of social reality, the system and personality-oriented methodological approaches to the study of teaching practices and trends in socio-economic and cultural development. Fourth, the methodological framework of the study embraces the democratization, humanization and individualization of education; continuity, comprehensiveness and social implications of practices; coherence, complexity, relevance, effectiveness, advanced development, self-development and the principle of objectivity that provides for comprehensive consideration of external and internal factors and of the general philosophical standpoints of the universal and particular unity as well as theory and practice. The following methods were used in the different stages of the research study:

- The system and synergetic approaches that put the process of teacher's professional development in the general teacher education development system;

- The personality-oriented approach combined with directly related cultural, acmeological and axiological approaches and indirectly related subject-subject and sociological approaches;
- The competency-based approach aimed at supporting and promoting the main teacher competencies determining the teacher's competitiveness on the job market and based mainly on the ability to apply theoretical knowledge and practical skills in professional activities;
- The process approach that considers teaching as a number of closely related actions (planning, organization, motivation, control and regulation); and
- The situational approach based on the assumption that successful teaching is determined not only by teachers' inner resources, but also by their ability to fit in their environment and to adapt themselves to it.

The research study involved 118 undergraduate students aged 25 to 30. All students were divided into two groups: the control group (47 persons) and the experimental group (71 persons). This division into groups was determined by the relevance of impact assessment of the proposed advanced training model in the process of professional development. Traditional advanced training took place in the control group. A group of experts consisting of experienced teachers, researchers and other specialists was engaged with a view to obtaining totally objective results. The main objectives of this group were as follows: first, a general evaluation of opportunities for advanced training; second, use of diagnostic procedures and evaluation of advanced training levels; third, analysis of the quality and effectiveness of diagnostic tools; and, fourth, record of changes taking place in teachers' professional development.

The aim of the experiment was to test a teacher development model and to determine the level of teacher competence development. Two criteria of teacher competence development were adopted, motivational and cognitive. The motivational criterion is defined by various personal traits such as positive motivation to engage in professional activity and the need to become a specialist, i.e. the aspiration to become highly demanded teachers along with the prevailing motivation to achieve professional success. The following features determine the cognitive criterion: teachers' thorough knowledge of their advanced training program and application of newly acquired knowledge in their professional activity.

The above-mentioned criteria have identified the following aspects of teacher competence development: creative, productive, reproductive and elementary.

The study, conducted in three stages, adopted a number of teaching methods. During the first (research and analytical) stage, the group of experts evaluated the overall level (the initial state) of teacher competence development. Initial (pre-experiment) testing and work on the advanced training plan were based on the level of teacher competence. The second (formative) stage, based on the test results, focused on the process of developing teacher competence from the standpoint of the motivational and cognitive criteria during advanced training in control and experimental groups and comprised control testing 1 (motivational criterion) and 2 (cognitive criterion). Final testing was conducted during the third (ascertaining) stage. An important theoretical hypothesis is the assumption that only a part of students can reach high levels of professional development in the field of teaching, whereas other students can achieve only relatively high levels. In examining this major objective factor, the authors

put forward a hypothesis that professional development among middle-level students can be improved at the instrumental, representative and minimally creative levels by mainstreaming their personal intentions that are not often directly related to their teaching activity. Overall, the experiment was both enriching and diagnostic. The authors conducted and monitored traditional and innovative advanced training (approximately 15-25%) by testing the teacher development model in educational organizations.

III. RESULTS

Many researchers are surprised by rapid changes taking place in teacher education over the past years, especially after Russia joined the Bologna Process. Importantly, French, British, German and Italian Ministers of Education were the driving forces behind the Bologna Process. By joining the Council of Europe, Russia adopted European education policies that have been actively developing since the 1990s. As an example, the Convention on the Recognition of Qualifications concerning Higher Education in the European Region, ratified by 43 countries, was signed in 1997. The Sorbonne Declaration, aiming to further promote cooperation in the Higher Education Area, was signed the following year. Later, approval of these decisions was echoed in the Bologna Declaration of 1999, signed by 29 European countries. It marked the start of a 10-year process comprising coordinated action, reforms and changes in European higher education. The Bologna Declaration defines the motivation to create an integrated educational area as a need to strengthen the intellectual, cultural, social, scientific and technical dimension of the European community and to foster European citizenship and a stable and democratic society [26].

The current state of development of the Bologna Process and European Higher Education reveals that, despite economic crises and social transformations, governments and organizations in all developed countries give much attention to educational process and higher education. They also create conditions for equal access to education for local and foreign citizens, realizing that the main objective of education is the development of the intellectual potential of the State [27]. In establishing the European Higher Education Area, politicians identified the major educational objectives and criteria that have an important international dimension. These criteria comprise quality, confidence-building measures, compatibility, mobility and competence development. Qualification is the main prerequisite for conformity, mobility, compatibility and attractiveness in the European higher education.

Overall, analysis of research literature and documents regulating educational processes in the European education area [28, 29, 30, 31] points to the following trends:

- Internationalization and trans-nationalization of higher education;
- Development of advanced training programs for teachers;
- Growing importance of universities in the consolidation and strengthening of social cohesion;
- Promotion of academic autonomy and creativity in higher education institutions as a guarantee for sustainable self-development; and
- Combination of research, business and practical training.

Providing teachers with opportunities for advanced training is the educational community's response to challenges posed by the globalization of education. This trend is related, in the past years, to the growing number of students and educational organizations, the emergence of new educational technologies, the increased independence

of higher education institutions and their openness to the local community and society in general and, finally, issues relating to higher education funding and the appropriate use of education to meet social needs. The standards and recommendations established by the European Higher Education Area provided the basis for the creation of university advanced training systems focusing on the need to implement a new advanced training culture and the responsibility of all participants in the educational process for the outcomes.

Globalization processes taking place in education allow many teachers to pursue their careers internationally. They are offered new opportunities in international education: internships, online learning, hybrid models, blended learning [14], group projects in MOOCs (massive open online courses) [15] and SPOCs (small private online courses) [16] as well as tutor-assisted online learning.

Current trends in teachers' professional development can be divided into two groups. The first group includes trends resulting from external factors, and the second group – from internal ones. Consequently, the first group of trends, influenced by changes in economy and education taking place in Russia and globally, covers three areas: first, Russia's national, political and geographical situation; second, Russia's present-day economic and social situation; and, third, human resources (employment opportunities and professional development prospects). The second group of trends is to be examined from two perspectives, organizational and staffing. The organizational perspective includes the following:

- Changes in approaches to teachers' involvement: educational organizations perceive teacher training as an "engine of progress", a tool for enhancing the value of organizations; consequently, management education becomes a major prerequisite for organizations' prosperity in the fast-moving educational environment, and investment in teacher training and development increases.
- Coordination between a teacher development system and the overall education development program (in other words, the former becomes a primary function of educational organizations).
- Distinction between in-class and online teacher training programs (the most talented employees are offered enrollment in long-term individual training programs with certification in partnership with Russian and international universities).
- Establishment of a talent management system designed for the development of talented teacher, the core element of effective talent management being talent pool planning for high-level positions).
- Promotion of internal training (master classes, consultations, seminars, conferences and webinars).
- Use of new learning models and methods: innovative learning methods are becoming increasingly popular in blended learning, which is, in our viewpoint, an effective concept of modern learning.

The following trends can be observed from the staffing perspective:

- Opportunities for rapid career advancement;
- Enhanced profile of Russian teachers at the international level. Russian teachers worked hard to create a new image of themselves as highly qualified and experienced professionals. The distinctive features of Russian teachers are their goal orientation, career ambition and focus on self-improvement. They are appreciated internationally for their resourcefulness, diligence, ease of adaptation to new cultures and

adjustment of their work style to that of a specific country. Their greatest asset is the ability to work in unpredictable environments and to handle stressful situations.

- Russian teachers' leadership aspirations in the field of education.

IV. DISCUSSION

International research on advanced training programs, teacher training, the active role of teachers in the learning process [21] and conditions for professional development [22, 23 and 24] regard the teacher as a key element in professional development programs. As an example, Laurillard, Mor and Mogilevski perceive the teacher as a person initiating the notion of educational challenge and conceptualizing its solution [19 and 20] and define teachers' professional development as teacher training: how they learn to learn and how they put their knowledge into practice to support their students' learning [18]. John Konen [25] observes that advanced teacher training is the number one strategy to boost student achievement and points to five trends in professional development that are most effective for teacher development: the bottom-up approach, empowerment of employees, attention to culture, problem solving and adoption of several delivery methods.

Today, the focus is on major strategies designed to train highly qualified specialists that are competitive on the international job market and sought by research and educational organizations. Consequently, educational institutions need to join the global economic system as equal partners, including on the education market. Educational organizations' role as leading research centers creates a need for the elaboration of specific areas for their development and the definition of top-priority steps towards modernization. Educational organizations are usually regarded as "enterprises" that can offer the following to the market: educational products such as curricula, study guides and textbooks; learning techniques; research findings and developments that can be implemented and used in production; definitions of ways and means of organizing and even managing the learning process. Educational organizations are interested in both generating profits and enhancing their image as research and educational centers.

The early 21st century in Europe and worldwide was marked by the emergence of online universities aimed at providing distance learning services on any scale and for all levels. As of now, online universities have three operating models. The first one is a bi-modal organizational model that combines the traditional education system and the online university/distance learning system; learning modes are the same for all students. The second model is a purely distance education model with no campus. Each educational institution pursues its own educational policies and confers its own academic degrees while maintaining its national features. The top-ranking institution in this group is the UK's Open University whose educational model is adopted in many countries throughout the world. The third model – consortiums – refers to educational institutions consisting of several interacting online universities that exchange their resources and equipment for provision of educational services [32].

The combination of academic research, business and practical training and the establishment of a social responsibility framework results from the acquisition of technological upgrading strategies. Their aim is to help prospective researchers master theoretical programs for implementing strategic changes during advanced training and to create conditions in which teachers will be ready for continuing professional development which is now

becoming an integral part of education. The development of online education focuses on the interaction of the so-called quadrium, i.e. the regional level and the triple spiral (academic institutions, society and industry), which makes it possible to engage all stakeholders in the educational process. This approach imposes stricter requirements for inter-university cooperation, the use - at national and international levels - of open educational resources aimed at competence and intelligence development: high quality materials will be in great demand, hence the improving ranking of the teacher and the educational organization. Open publishing can promote further training: with free access to courses of interest to them, students will go through them, which contributes to the promotion of further training as part of non-formal education. In the future, the role of teachers will be to provide assistance rather than to transfer information. On the other hand, further theoretical research is needed in social and human sciences and teacher studies, which implies analysis, evaluation and systematization of the empirical and generalized material within the framework of a specific conceptual paradigm.

In European countries, highly effective advanced training includes both traditional methods and non-traditional learning methods (modeling, role-playing and didactic games and micro accounting. Among alternative learning modes are free group discussions in which students are discussing different topics and the teacher acts as a listener (Great Britain and Austria). Forward-looking changes in the organization of the learning process also include transition from group learning to individual and group learning: tutoring sessions, trainings, work in small groups and internships as well as interdisciplinary learning models that imply the investigation of a specific problem followed by its project-based solution (the implementation of the problem/project learning). Among active learning methods directed at promoting communicative, cognitive and creative activities among students, preference is given to active lectures, lectures with discussions, essay writing and presentations and independent work. Importantly, educational organization in different countries have both common and specific teaching methods. As an example, the traditional form of learning in Austrian educational institutions are specialized research seminars involving work on research essays (20-25 pages). The main objectives of such seminars is to teach students to have and defend their own points of view. In Germany, students are required to enroll in at least a short-term (6-month or 1-year) study abroad program in order to get a high-paying job. The British higher education system places great emphasis on debates and discussions, which develop students' communication skills, i.e. the ability to express their own opinions, argue, listen to others and be critical, their spontaneous public speaking skills, independence and critical thinking.

A number of research studies have been conducted in Russia with a view to identifying the needs of the Russian educational system, which are now being gradually satisfied. A sociological survey, entitled *Choice of learning programs during advanced training*, was carried out in 2013 and involved 1017 respondents from different RF regions (over 70%). Data obtained from the sociological survey reveals a relatively wide range of advanced training programs teachers can choose from. The vast majority of programs in which employees of educational institutions were enrolled are modular, elective (teachers can choose from a number of modules) and make extensive use of IT technology. Respondents who participated in such advanced training programs report high levels of satisfaction with their professional development within the advanced training system [5].

In February-April 2018, a large-scale survey was conducted among teachers and parents (4,500 teachers from 85 RF regions and 3,500 parents from Moscow and Moscow Region) as part of an international project entitled *Universal Competences and New Literacy*. The survey findings were as follows:

- School teachers do not consider the development of universal competencies among their priorities;
- Parents expect the school to provide schoolchildren with a broad knowledge of the core disciplines, but they do not think the school has to teach children to use this knowledge in solving practical tasks.

Over 80% of teachers believe that the role of the school is to provide children with good discipline-related knowledge whereas responsibility for developing soft skills lies with families and children themselves or, less commonly, with the supplementary education sector. Only 29% of teachers think it important to teach teamwork skills and cooperation to schoolchildren. Over a third of teachers (37%) regard creativity in terms of “given or not”, i.e. as a natural talent that cannot be developed with exercises; interestingly, this point of view is more widespread among young teachers. No more than a third of parents relate the development of creative thinking and communication skills to the school, and less than 10% think the school can teach them how to study [10, p. 23].

More than 30% of schools in Russia have switched completely to the online homework diary and parents have started to check them more frequently, as evidenced by a survey conducted by Dnevnik.ru, a Russian digital educational platform, at the end of the 2017/18 school year.

A total of 8,000 parents, mostly mothers (23-45 years old), from different Russian regions took part in this anonymous survey. 82% of respondents said they checked the online homework diary daily, and 16-20% checked it one or two times a week. Three fourths of respondents said they had started to regularly log into the online system that school year. Most parents (70%) explain their increased activity by the fact that teachers uploaded grades more quickly to the online homework diary. Half of respondents mentioned another reason: teachers upload homework electronically. Another 24% of respondents had no other option because their schools had completely abandoned paper homework diaries.

Not only grades make e-diaries increasingly popular among parents: 23% of respondents said they checked the e-diary to find out the latest school news, look through announcements, get in touch with teachers and ask questions.

Four Russian school projects have been listed among the world’s top 100 innovative educational resources in 2018. Announced at the HundrED summit in Helsinki, the list included the Moscow online school, the Medical Class in Moscow schools, the GlobalLab online research platform and The Equality of Opportunities, a school competition project [1, 3 and 8].

Russia now has Regional Competence Centers for Online Learning. Teachers are becoming familiar with online courses and digital tools. The aim of these centers is to involve Russian regions in developing the digital educational environment and to make online training in Russian schools and universities a current practice. Regional centers offer advanced training courses for schoolteachers, regional university and college staff members and administer professional certification tests. Since September 2018, more than 3,500 teachers have taken various courses and have learned to create and use digital tools. These centers are equally useful to students: one platform offers online courses that count as core university courses. Regional centers are part of *The Modern Digital Educational*

Environment in the Russian Federation, a project that provides for the implementation of digital technology into the Russian education system [9].

The Russian Ministry of Education and Rosobrsyuz (Russian Educational Union) have launched the National Online Teacher Education Platform (NOTEP) where teachers can enroll in advanced training courses and learn to develop their own online courses. The objective of the platform is to compile all courseware and to give teachers from all over Russia access to high quality teaching materials developed by leading educators. By frequently visiting the platform, teachers acquire the habit of using online resources during the learning process. Prospective students can get familiar with introductory courses before applying to teacher education programs in order to make sure they have made the right choice. As of now, fourteen courses on different areas of teaching studies are available on the platform [4].

It can be concluded that the professional teacher development system is being developing and updating in Russia, guided by trends in the employment market and by the requirements and recommendations of the EU education policies, notably as part of the Europe 2020 Strategy. This program regards lifelong education and skills development as key elements for responding to challenges facing EU countries in times of economic and demographic crises. Internal resources are an example of effective teacher education and advanced training. The advanced training system is based on consistent and step-by-step internal education oriented towards the coherence of learning objectives, tasks, functions and content, which makes the entire learning process flexible and viable. Table 1 sums up the major findings that come from the research and provides a comparative overview of teacher competence development in different countries.

Table 1: Teacher Competence Development in Different Countries

Country	Competencies
Finland	Thinking and ability to learn Cultural competence, interaction and self-expression Self-nurturing and everyday life management Multi-literacy ICT proficiency Career development and entrepreneurship Participation, engagement and building a sustainable future
China	Self-development (ability to learn, healthy lifestyle) Cultural framework (humanistic context, scientific approach) Social engagement (acceptance of responsibility, focus on innovation and pragmatism)
South Korea	Personal management Work with knowledge and information Creative thinking Aesthetics and emotionality Communication Civic literacy
Canada	Creativity Cooperation Critical thinking and problem solving Communication Civic literacy Character building
Russia	Axiology General culture Information Communication Social and job competencies Self-improvement All-objective (basic) competencies

Basic and advanced training is an integral part of the education development strategy rather than one of organizational practices or an activity undertaken by some teachers in an educational organization. The findings of the present research add to existing research on the topic under investigation. A content analysis of the above-mentioned model leads to the following conclusions: educational organizations are constantly undergoing external and internal changes and, therefore, teachers have to be ready to engage in continuing professional development, which is a prerequisite for professional efficiency and, thus, the key to success and competitiveness. Importantly, the following assumption is the underlying rationale of educational organizations: if an educational organization is to survive in the face of globalization, continuing education must be a crucial and significant component of its development strategy.

To identify the level of teacher competence, the study adopted the averaging method for each characteristic (the motivational and cognitive criteria). The initial evaluation, performed by a group of experts, revealed that most participants (about 46%) have low and, consequently, insufficient teacher competence (basic level), which confirmed the need to resolve this issue by designing a teacher development model for use in educational organizations.

Pearson's C²-square test was used to make a statistical data analysis, which showed $c^2_{emp} < c^2_{crit}$ ($0.512 < 3.84 < 6.63$) where $c^2_{crit} = 3.84$ ($\alpha = 0.05$), $c^2_{crit} = 6.63$ ($\alpha = 0.01$). This means that the respondents had the same teacher competence levels before the updating of educational conditions. Accordingly, the authors concluded that students in experimental groups had the same levels of teaching competence.

The initial testing revealed the following:

First, the students' low teaching competence during professional training in control and experimental groups points to the objective need to develop students' professional competence as part of advanced training programs.

Second, similarities between groups in terms of respondents' distribution by levels of their teaching competence suggests that the input parameters were coherent and the established experimental plan ready for implementation.

The pedagogical experiment aimed at developing students' teaching competence took place under natural conditions. To describe the data obtained, the authors shall now present changes in the main characteristics selected with a view to evaluating the development of students' teaching competence, i.e. their motivation, knowledge and skills.

Analysis of the findings shows that, at the beginning of the ascertaining experiment according to the motivational criterion, most students (45.5%) from the experimental group were at the basic level of teaching competence, 32.8% and 11.2% of students were at the reproductive and productive levels respectively, and 10.5% of students were at the creative level of teaching competence.

At the beginning of the ascertaining experiment, the same situation was true for the control group, i.e. 45.5% of students were at the basic level of teaching competence, 33% and 11.5% of students were at the reproductive and productive levels respectively, and 10% of students were at the creative level of teaching competence according to

the motivational criterion. Consequently, at the beginning of the ascertaining experiment, most students in both groups were at the basic and reproductive levels of teaching competence.

According to the motivational criterion, at the end of the educational experiment up to 27.7% of students from the experimental group were at the creative level of teaching competence, 31.8% of students moved to the productive level, 27.1% of students were at the reproductive level and 13.4% of students were at the basic level of teaching competence. At the end of the educational experiment, the experimental group revealed an abrupt transition of students from the basic level of teaching competence to the reproductive level and of those who were at the reproductive level to a higher level of teaching competence. Therefore, according to the motivational criterion, at the end of the educational experiment, the number of respondents at the basic level of teaching competence went down by a factor of 3.4, that of respondents at the reproductive level diminished by a factor of 1.2, that of respondents at the productive level grew by a factor of 2.8 and, finally, the number of respondents at the creative level of teaching competence was up by a factor of 1.2 with relation to the motivational criterion.

V. CONCLUSION

Social, economic and political changes taking place in the European multicultural society influence educational trends in Russia and largely determine the nature of prospective teachers' training. Trends in higher education highlight the need to actually move to a higher level of advanced training rather than merely raise awareness about them. Of special relevance is professional education aimed at developing teachers' high-quality teaching competence and their ability to accept teaching innovations, to build their own pedagogical system and to easily adapt to changes in life. The study identified the following external and internal factors affecting teachers' professional development:

- Russia's national, political and geographical position;
- Rapid development of education and its access to the international stage;
- Growing demand for highly qualified teachers;
- Job opportunities and prospects for professional development;
- Changing approaches to teachers' engagement;
- Coordination between the teacher development system and Russia's education development strategies;
- Formal (traditional) training and non-formal training (internal teacher development programs);
- Creation of talent management system aimed at developing talented teachers;
- Increased share of internal training;
- Use of latest training techniques, models and methods; and
- Focus on enhancing the image of Russian teachers internationally.

The study revealed that, at different stages of the experiment, the experimental group showed changes in the overall distribution by teacher competence levels with 28.8% of students from the experimental group and 17.8% of students from the control group being at the creative level. Students from the experimental and control groups who reached the productive level showed a major increase in numbers – 31.8% and 21.5% respectively. Statistical methods confirmed the reliability of the research results.

In conclusion, further research is needed in the field of advanced teacher training in educational organizations. Greater accountability for the development of relevant internal advanced training systems has to be a priority area of development in Russian higher education. In other words, it is necessary to update the higher education system as a whole and to create conditions for promoting the natural process of strengthening the universities' institutionalized potential and independence. Research into teachers' activity directed at raising cultural awareness in educational organizations would also be of interest.

REFERENCES

- [1] Globalnaya shkolnaya laboratoriya (Global School Laboratory) <https://globallab.org/ru/blog/message/56c90c90-a92e-11e7-87fd-08606e681840.html#.XH623Bihqko>
- [2] Issledovaniye potrebnostey pedagogov v povyshenii kvalifikatsii 2018 goda (Research in teachers' advanced training needs in 2018) <http://nevarono.spb.ru/ims/2-ims/6850-issledovanie-potrebnostej-pedagogov-v-povyshenii-kvalifikatsii.html>
- [3] Moskovskaya elektronnyaya shkola (Moscow Online School) <https://www.mos.ru/city/projects/mesh/>
- [4] Natsionalnaya elektronnyaya platforma pedagogicheskogo obrazovaniya (National Online Teacher Education Platform) <https://www.neppo.ru>
- [5] Opros "Vozmozhnost vybora program obucheniya v khode povysheniya kvalifikatsii" (Survey on the possibility to choose advanced training courses) http://vercont.ru/informatsionnye_materialy/informatsionno_analiticheskie_materialy/rezultaty_analiza_da_nnykh_sotsiologicheskogo_oprosa_po teme_<vo.html
- [6] Letter No. 08-415 from the Russian Ministry of Education and Science and No. 124 from the All-Russian Education Trade Union, of 23 March 2015, on the realization of teaching staff's right to further professional education (along with Explanations on the realization of teaching staff's right to further professional education) <http://sudact.ru/law/pismo-minobrnauki-rossii-n-08-415-obshtcherossiiskogo-profsoiuza/>
- [7] Decree of the Minister of Education No. 3986 of 2 September 2014 on the creation of conditions for continuing teacher training and the development of the regional advanced training system for Moscow Region's teaching and executive staff <http://moscow-portal.info/2014/09/02/a136679.htm>
- [8] Ravenstvo vozmozhnotey (Equality of opportunities) https://www.ravniy.com/project-diary/global_hundred_2018 Modern digital educational environment in the Russian Federation <http://neorusedu.ru>
- [9] Sovremennaya tsifrovaya obrazovatel'naya sreda v RF (Modern digital educational environment in the Russian Federation) <http://neorusedu.ru>
- [10] Universalnye kompetentnosti i novaya gramotnost: chemu uchit segodnya dlya uspekha zavtra. Predvaritelnye vyvody mezhdunarodnogo doklada o tendentsiyakh transformatsii shkolnogo obrazovaniya (Universal competencies and new literacy: What is to be taught today for success tomorrow. Preliminary conclusions drawn from the international presentation on trends in school education transformations) I. D. Frumin, M. S. Dobryakova, K. A. Barannikov and I. M. Remorenko; Natsionalny issledovatel'skiy universitet Vysshaya shkola ekonomiki, Institut obrazovaniya. – M.: NIU VShE, 2018. – 28 p.
- [11] Federal Act No. 23-FZ of 29 December 2012 on Education in the Russian Federation <https://fzrf.su/zakon/ob-obrazovanii-273-fz/>
- [12] Federal target program No. 2765-r of 29 December 2014 on Education development in 2016-2020 http://www.firo.ru/wp-content/uploads/2015/06/FCPRO_2016-2020.pdf
- [13] Khutorskiy, A. V. Opredeleniye obshchepredmetnogo soderzhaniya i klyuchevykh kompetentsiy kak kharakteristika novogo podkhoda k konstruirovaniyu obrazovatel'nykh standartov (Definition of general content and key competencies as a feature of the new approach to setting educational standards) // Internet-zhurnal Eydos <http://eidus.ru/journal/2002/0423.htm>
- [14] The Benefits of Blended Learning <https://www.teachthought.com/technology/the-benefits-of-blended-learning/>
- [15] Massive Open Online Courses (MOOCs) <http://mooc.org>
- [16] MOOC, COOC, SPOC: What's the Difference? <https://www.2elearning.com/top-stories/item/56457-mooc-cooc-spoc-what-s-the-difference>

- [17] Europe 2020 Monitoring Platform <https://portal.cor.europa.eu/europe2020/Pages/welcome.aspx>
- [18] May Britt Postholm. Teachers' professional development: a theoretical review, *Educational Research*, 2012, Vol. 54 № 4, p. 405-429.
- [19] Mor, Y., & Mogilevsky, O. The learning design studio: Collaborative design inquiry as teachers' professional development. *Research in Learning Technology*, 2013, p. 21.
- [20] Laurillard, D. (2012). Teaching as a design science: Building Pedagogical Patterns for Learning and Technology. By Diana Laurillard. *British Journal of Educational Studies*, 60(4), 448–450.
- [21] Verloop, N., & Kessels, J. W. M. Opleidingskunde: Ontwikkelingen rond het opleiden en leren van professionals in onderwijs en bedrijfsleven. *Pedagogische Studiën*, 2006, 83, 301–321.
- [22] Supovitz, J. A. Translating Teaching Practice into Improved Student Achievement. Yearbook (National Society for the Study of Education), 2001 , 2, 81–98.
- [23] Guskey, T., & Sparks, D. Linking professional development to improvements in student learning. *New Orleans, LA: Annual Meeting of the American Educational Research Association*. April 2002, 1-5.
- [24] Cohen, D. K., & Hill, H. C. Instructional policy and classroom performance: The mathematics reform in California. *Teachers College Record*, 2000,102(2), 294–343.
- [25] Jon Konen 5 Trends in Professional Development We Must Think About <https://www.teacher.org/daily/5-trends-professional-development-must-think-about/>
- [26] Rich, D. The Bologna process in European higher education. *International Encyclopedia of Education (Third Edition)*. Elsevier, Salt Lake City, 2010. 566-572.
- [27] Davies, R. The Bologna process: The quiet revolution in nursing higher education. *Nurse Education Today*, 2008. 28 (8), 935-942.
- [28] UNESCO, Educational Trends in Perspective Analysis of the World Education Indicators. (2005). <http://www.uis.unesco.org/TEMPLATE/pdf/wei/WEI2005.pdf>
- [29] Tortorella, R. A. W., Kinshuk, C. N. S. and Graf, S. A Classification Framework for Context-aware Mobile Learning Systems. *International Journal of Modern Education and Computer Science (IJMECS)*, 2017. 9(7), 1-11.
- [30] Alkhathlan, A. A. and Al-Daraiseh A. A. An Analytical Study of the Use of Social Networks for Collaborative Learning in Higher Education. *International Journal of Modern Education and Computer Science (IJMECS)*, 2017. 9(2), 1-13.
- [31] Vovchenko, G. N., Albekov, U.A., Romanova, F.T., Epifanova, V.T. Study of Factor Which Facilitate Increase of Effectiveness of University Education. *International Journal of Educational Management*, 2017. 31(1), 12-20.
- [32] Martinez, D. Language, history, politics, and culture in global communication through the Bologna process documentation. *Computers and Composition*, 2015. 38(B), 151-163.