

Development of creative potential of future teachers – Strategy for improving the quality of higher pedagogical education

Lydia Valentinovna Kondrashovaⁱ 

Bogdan Khmelnytsky Cherkasy National University, Cherkasy, Ukraine

Mykola Mykolayovych Kondrashovⁱⁱ 

Bogdan Khmelnytsky Cherkasy National University, Cherkasy, Ukraine

Natalia Alexandrovna Chuvasovaⁱⁱⁱ 

Kryvyi Rih State Pedagogical University, Kryvyi Rih, Ukraine

Nadiya Andriyivna Kalinichenko^{iv} 

Volodymyr Vynnychenko Central Ukrainian State Pedagogical University, Kropyvnytskyi, Ukraine

Hanna Volodymyrivna Deforzhy^v 

Volodymyr Vynnychenko Central Ukrainian State Pedagogical University, Kropyvnytskyi, Ukraine

Abstract

The article reveals the interaction of personal orientation of training future teachers and the quality of their pedagogical education, the level of readiness for creative professional activity. The creative potential of the student is considered as an indicator of personal orientation of preparation for professional activity, and its development by means of educational process as strategy of maintenance of quality of the higher pedagogical education. The creative potential of future teachers combines in the structure of motivational, operational, personal and evaluative components, the degree of formation of which depends on the quality of pedagogical education and the degree of their readiness for creative professional activity. The effectiveness of the structural-functional model of the system of development of creative potential of future teachers in compliance with the set of pedagogical conditions has been experimentally confirmed.

Keywords

Strategy. Quality. Education. Creative Potential.

Desenvolvimento do potencial criativo de futuros professores - Estratégia para melhorar a qualidade do ensino superior pedagógico

Resumo

O artigo revela a interação da orientação pessoal da formação de futuros professores e a qualidade de sua educação pedagógica, o nível de prontidão

para a atividade profissional criativa. O potencial criativo do aluno é considerado como um indicador de orientação pessoal de preparação para a atividade profissional e seu desenvolvimento por meio do processo educacional como estratégia de manutenção da qualidade do ensino pedagógico superior. O potencial criativo dos futuros professores alia-se à estrutura de componentes motivacionais, operacionais, pessoais e avaliativos, cujo grau de formação depende da qualidade da educação pedagógica e do grau de prontidão para a atividade profissional criativa. A efetividade do modelo estrutural-funcional do sistema de desenvolvimento do potencial criativo de futuros professores em conformidade com o conjunto de condições pedagógicas foi confirmada experimentalmente.

Palavras-chave

Estratégia. Qualidade. Educação. Potencial criativo.

Desarrollo del potencial creativo de los futuros docentes: estrategia para mejorar la calidad de la educación pedagógica superior

Resumen

El artículo revela la interacción de la orientación personal de la formación de futuros docentes y la calidad de su educación pedagógica, el nivel de preparación para la actividad profesional creativa. El potencial creativo del alumno se considera como un indicador de orientación personal de preparación para la actividad profesional y su desarrollo mediante el proceso educativo como estrategia de mantenimiento de la calidad de la educación pedagógica superior. El potencial creativo de los futuros maestros se combina en la estructura de componentes motivacionales, operativos, personales y evaluativos, cuyo grado de formación depende de la calidad de la educación pedagógica y del grado de preparación para la actividad profesional creativa. La efectividad del modelo estructural-funcional del sistema de desarrollo del potencial creativo de futuros docentes en cumplimiento del conjunto de condiciones pedagógicas ha sido confirmada experimentalmente.

Palabras clave

Estrategia. Calidad. Educación. Potencial creativo.

1 Introduction

Readiness for change in society is specified in the requirements of quality higher pedagogical education and training of future teachers for creative professional activity. The solution of this problem cannot be provided only by mastering a set of knowledge and skills of professional orientation. Life requires the search for a new strategy for preparing future teachers for professional activities, the formation of their ability to make free choices, the effective use of personal resources, creative solutions

to pedagogical problems. The system of teacher training should be aimed at creating conditions for the development of creative potential of the individual, successful activities and self-realization through higher education and the formation of their own educational trajectory. The development of creative potential by means of the educational process corresponds to the social meaning of education, stimulates the creative adaptation of future teachers to pedagogical reality, ensures the quality of their higher education and the positive dynamics of their readiness for creative professional activity. A modern teacher with a high level of creative potential meets the needs of society in a competitive teaching staff that is able to creatively perform their professional duties.

Analysis of scientific literature suggests that philosophers, psychologists, educators recognize the meaning of pedagogical education in the ability of future teachers to solve pedagogical problems, creatively perform the functions of pedagogical activity based on the use of social experience, an element of which is creative potential and readiness for creative professionalism.

The problem of forming a creative personality has always been and is extremely relevant today. At different stages of development of society, it was solved differently, taking into account the needs of practice. Methodological approaches, practical advice and recommendations for its solution are found in the works of classics of pedagogy Kamensky (1982), Rousseau (1981), Pestalozzi (1981), Disterweg (1971), Ushinsky (1988), Makarenko (1984), Sukhomlinsky (1982). Problems of creative teacher training were developed by Guziy (2004), Kuzmina (1990), Sysoeva (2001) etc. Conceptual ideas of problem-based and heuristic learning were developed by Andreev (1988), Ilyin (2009), Matyushkin (1989), Makhmutov (1977), Ponomarev (1976) and others. General theoretical and methodological bases of teacher training were developed Amabile *et al.* (1988), Barron (1963), Boden (1998), Hennessy (1988) and Sternberg (1988).

In modern conditions the question of readiness of the teacher to carry out creative professional activity becomes acute that in turn demands search of new strategy of increase of quality of higher pedagogical education, modernization of preparation of university students with the right of their choice of individual trajectory of professional growth and development. intensification of educational activities that ensure the quality of higher pedagogical education. The problem of developing the

creative potential of the individual in the process of professional training is of great importance, because the emerging specialist is able to implement progressive innovations in society and serves as a means of creating a creative product in professional activities.

2 Methodology

The purpose of the study is to determine the relationship between the quality of pedagogical education of future teachers and the level of development of their creative potential, experimental verification of pedagogical conditions for implementing the model of formation of this complex personal education of teachers in university education.

According to the program of the experiment, an experimental group (EG, 332 people) and a control group (CG, 353 people) were formed. To achieve the goal of research, implementation of tasks and hypothesis testing, a set of methods was used: theoretical: analysis, synthesis and systematization of philosophical, psychological, pedagogical and methodological research on the development of creative potential of future teachers as a strategy to improve higher pedagogical education; empirical: surveys (questionnaires, testing, interviews, interviews, modeling, expert evaluation, pedagogical experiment) to study the essence of the development of creative potential of future teachers, ensuring the quality of higher pedagogical education; methods of mathematical statistics for processing empirical data in order to summarize the results obtained during the experiment, to verify the effectiveness of the research program and the reliability of the information obtained.

3 Results and discussion

We consider creative potential as a personality trait of a future teacher, which combines creative abilities, opportunities to create new or transform previously known, the ability to change and self-improvement of creative qualities and accumulation of creative experience. At the same time, this complex personal education of the future teacher is an important characteristic of the quality of higher pedagogical education.

The creative potential of future teachers as a complex personal education combines in its structure motivational, operational, personal and evaluative components that reflect the set of personal qualities and abilities, psychological states, knowledge, skills and abilities necessary for creative solution of pedagogical problems in future professional activity. Different students are characterized by different degrees or intensities in active cognition. The degree of manifestation of the student's creative potential in the educational process is a dynamic, constantly new indicator (BODNAR; MIRKOVICH; KOVAL, 2019). In this regard, we set a goal: to identify the actual state of development of creative potential, the reasons for the low level of development of creative potential of future teachers and experimentally test a set of conditions that increase its development in the professional training of pedagogical university.

To determine the level of development of creative potential of future teachers, a confirmatory stage of the experiment was conducted. Its purpose was to analyze the quality of student education in the framework of program training and verify its effectiveness, ensuring the objectivity of the selected criteria for monitoring the development of creative potential of students. Among the main methods used during the ascertaining stage of the experiment were used: pedagogical observation, interviews, questionnaires, interviews, expert evaluation, testing, study of student activity products.

The study was conducted using a specially designed program to monitor the actions of students and systems of analysis of behavior, the results of their activities. Methods of studying the need for creative activity, motivation, independence, creative interest, creative style of thinking, development of intellectual and communicative skills, independence, self-improvement, reflection of achievements and determination of prospects for further creative development, level of creative potential were also used (KOVAL; POLYEZHAYEV; BEZKHLIBNA, 2018).

The data obtained during the ascertaining stage of the experiment, made it possible, taking into account certain criteria, to identify and describe three levels of development of creative potential of future teachers in the process of professional training of the Pedagogical University. The results of the survey and questionnaire on the creative potential at the ascertaining stage of the experiment are given in table 1.

Table 1 – The level of development of creative potential of students at the statement stage of the experiment, (in %)

	The level of creative potential development					
	Control group (353)			Experimental group (332)		
	low	medium	high	low	medium	high
Students	51,3	42,8	5,9	53,3	41,9	4,8

Source: Prepared by the authors (2020).

The obtained data indicate the advantage of low (51,3% CG and 53,2% EG) and secondary (42,9% CG and 41,9% EG) levels of development of creative potential of future teachers. The collected facts give grounds to conclude that in traditional teaching there is a spontaneous development of creative potential of future teachers, which does not provide quality education. It was found that the whole learning process was intuitive and spontaneous, and self-organization and self-control were fragmentary. This situation is due to a number of reasons: the creative environment and positive emotional field in higher education institutions are not fully created; the predominance of the knowledge nature of teaching, underestimation of systematic work on the development of creative potential of future teachers, insufficient readiness of teachers and students for creative learning, poverty of methodological support of the educational process; integration of educational work with research work; use of heuristic technologies and underestimation of psychological and pedagogical support.

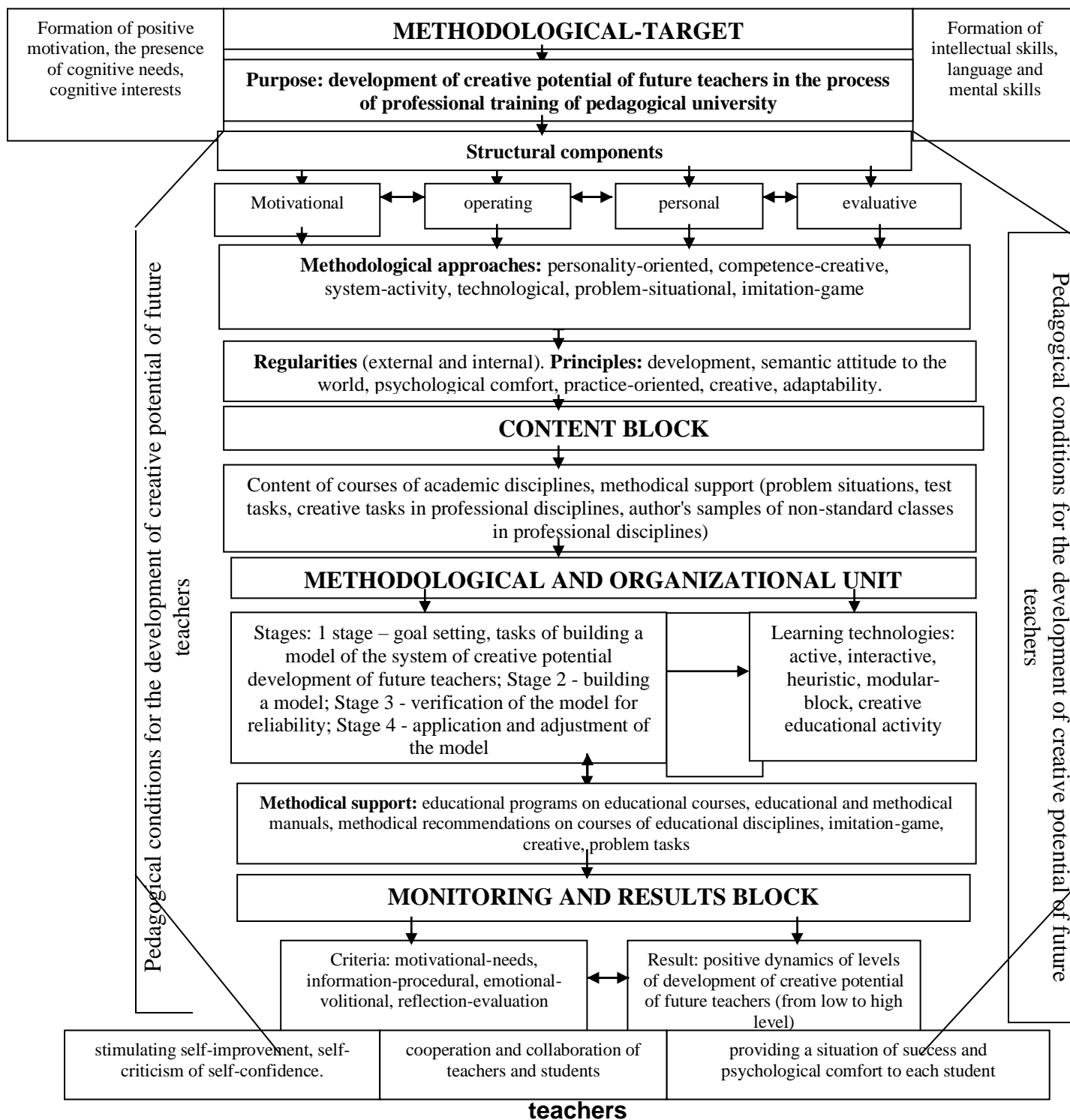
Removing these shortcomings and changing the situation in pedagogical practice has necessitated the specification of the content of the research program. The materials of the ascertaining stage of the experiment allowed to make the program of development of creative potential of future teachers.

Based on the collected data and analysis of pedagogical practice, systematic observation of students' activities, results of diagnostics of theoretical positions on the researched problem, we believe that for development of their creative potential it is necessary to concentrate efforts for realization of such directions of educational work: development of creative thinking and intellectual abilities; formation of skills and abilities of creative activity; innovation of the educational process; involvement of students in scientific research; efficiency and productivity of psychological and pedagogical support of the educational process. We assumed that the process of

developing the creative potential of future teachers will be successful if we ensure the activity of communicative activities, a variety of educational dialogue, psychological comfort, interaction, cooperation and collaboration in solving educational problems, which stimulates self-disclosure, creativity and reflection. in students. The training of future teachers should be aimed at the individual, its main processes are the formation of a heuristic meaning (TIKHOMIROV, 1975); heuristic and developmental learning (DAVYDOV, 1986; LERNER, 1994; ZAGVYAZINSKY, 1987); implementation of a creative approach to solving educational problems (GUZIY, 2004; KHUTORSKOY, 1998; SYSOEVA, 2001).

We assumed that the modeling method should be used to structure the training of future teachers, the success and effectiveness of which depends on many factors and relationships. Kolosova (2011), Korets (1998), Matushinsky and Frolov (2000) note that pedagogical modeling makes it possible to combine empirical and theoretical in pedagogical research, i.e. to combine in the process of studying pedagogical object experiment with the construction of logical constructions and scientific abstractions. The use of modeling in the process of our study provides an opportunity to analyze and evaluate in detail the main stages of the educational process, its elements and the behavior of future teachers (MUSHYNSKA, 2018).

The model of the system of creative potential development includes a system of blocks that carry objective and sufficiently complete information about the purpose, content, nature and results of future teachers; components of the process of development of this complex personal formation; scientific and methodological support and pedagogical conditions. The above is graphically displayed in Fig. 1.



The methodological and target block of the model is represented by the unity of purpose, structural components of the creative potential of future teachers, methodological approaches, patterns and principles of teaching. The purpose of the

proposed model is to ensure the holistic systematic development of the creative potential of future teachers in the system of the pedagogical university.

The content block includes the content of training future teachers, aimed at developing creative potential as an important characteristic of the quality of higher education.

Methodological and organizational unit provides a method of developing the creative potential of future teachers and contains: the tasks of educational work, forms and means of teaching, technologies by which the creative activity of students and the stages of this activity.

Monitoring and performance unit combines in its structure the monitoring, levels and results of creative development. The effectiveness of the proposed model is determined by the clarity of goals and objectives of training future teachers for creative activities in a university education.

The level of creative potential of students was assessed according to the manifestation of its main criteria: motivational-needs, information-procedural, emotional-volitional, reflexive-evaluative. The defined criteria are characterized by indicators, the manifestations of which allow us to talk about the dynamics of development of this complex personal formation and to characterize the levels of its development in future teachers. The high level of development of creative potential presupposes the formation and active functioning of all components of the creative potential of the individual; the average level of development of creative potential is typical for students who have the necessary creative forces, but do not use them to the full and is characterized by the appropriate level of educational, social and personal achievements (BUKANOV *et al.*, 2019); low level of development of creative potential of the future teacher is shown in not formed its basic indicators, such as: low level of educational achievements; indifference to the development of their creative qualities, personal creativity.

Favorable pedagogical conditions have been created for the successful implementation of the model of the system of development of creative potential of future teachers. The main pedagogical conditions that ensure the positive dynamics of this complex personal education in the training system are: the creation of a creative environment and a positive emotional field at the university; ensuring the creative nature

of the educational process, its focus on collective creative activity; integration of educational work with research work; use of heuristic technologies.

The developed model and experimental verification of its effectiveness led to the formative stage of the experiment, the purpose of which was: experimental verification of the effectiveness of the introduction of the developed model of the system of creative potential development of future teachers, which operates in specially created pedagogical conditions.

Diagnostic materials were developed to determine the level of development of creative potential of future teachers in the process of professional training of the Pedagogical University.

The dynamics of the levels of development of creative potential of future teachers according to the results of the control stage of the experiment on the implementation of certain pedagogical conditions are presented in table. 2., which shows that the process of its development in compliance with a set of pedagogical conditions was much more successful in the program of research training and provided growth of its level in a positive direction from low to medium and high in the experimental groups.

Table 2 – Dynamics of the level of development of creative potential of future teachers

Levels of development	Measurements, %			
	The ascertaining stage of the experiment		Forming stage experiment	
	students CG	students EG	students CG	students EG
low	51,3	53,3	40,3	9,2
medium	42,8	41,9	47,3	61,3
high	5,9	4,8	12,4	29,5

Source: Prepared by the authors (2020).

The results of the research confirmed the positive dynamics of the levels of development of creative potential of future teachers. Its high level was according to the results of the final cut in the control group - 12.4%, medium - 47.3%, low - 40.3%, and in the experimental group the results are much higher - respectively, have a high level - 29.5%, average - 61.3%, low - 9.2%. Thus, the positive dynamics of the levels of development of creative potential of future teachers is revealed.

The reliability of the results of the study of the development of creative potential of future teachers for each structural component was checked on the basis of the

application and definition of statistical criteria χ^2 proposed by Novikov (2004). According to certain indicators of structural components of creative potential at the ascertaining and forming stages on the basis of use of criterion χ^2 the efficiency of introduction of the developed structural model of the system of development of creative potential of future teachers in higher educational establishments into professional preparation is confirmed.

Based on the experiments, we can say that the most favorable for the awakening and development of creative potential of future teachers in the process of professional training of pedagogical university is to ensure the development of positive motivation, stable cognitive interests in creative activities, cognitive needs; ensuring self-management of learning processes and successful formation of the knowledge system, successful mastery of intellectual skills related to the processing of acquired information, creative skills; creative environment, ensuring a situation of success and co-creation, psychological comfort of each student, self-confidence that creative potential is the basis of quality higher pedagogical education and career growth in independent professional activity.

5 Conclusions

The study is one of the possible strategies to improve the quality of higher pedagogical education. It is experimentally confirmed that positive results in preparing future teachers for creative professional activity are possible if: a) the main form of work is a joint creative search, selection of optimal solutions to educational and cognitive problems, the predominance of group and individual creative forms of work over frontal; b) the main role of the subject of teaching - assistant, senior, more experienced friend, mentor and colleague of students in the search for truth; c) the main duty of the subject of teaching – the organization and involvement of subjects of learning in the active process of solving various didactic tasks; d) the main function of the subjects of learning - to actively cooperate in collective work, to constantly improve themselves; e) the main result of learning - the ability of the subject of learning to independently transfer the acquired knowledge into new creative situations, to understand and improve themselves, to

increase the level of development of their creative potential; f) the program will be implemented in specially created pedagogical conditions.

Implementation of the strategy of development of creative potential of future teachers provides increase of quality of higher pedagogical education. Students develop a creative approach to solving various problems, which allows to compensate for the effect of aging of scientific information acquired at the university.

6 References

AMABILE, T. M. *et al.* (Ed.). *Conditions of creativity: the nature of creativity*. Cambridge: Cambridge University, 1988.

ANDREEV, V. I. *Dialectics of education and self-education of a creative person*. Kazan: Kazan University, 1988.

BARRON, F. *Discovering of creative personality: the Behavioral sciences and education*. New York: The College Entrance Examination Board, 1963.

BODEN, M. A. Creativity and artificial intelligence. *Artificial Intelligence*, n. 103, p. 347-356, 1998.

BODNAR, S.; MIRKOVICH, I.; KOVAL, V. Human capital development in Ukrainian education system by means of language integrated teaching. *Dilemas Contemporâneos: Educación, Política y Valores*, Toluca, v. 7, p. 14, 2019.

BUKANOV, H. *et al.* Social marketing in public administration of social service institutions. *Revista Gênero & Direito*, João Pessoa, n. 8, p. 457-468, 2019.

DAVYDOV, V. V. *Problems of developmental education: the experience of theoretical and experimental research*. Moscow: Pedagogy, 1986.

DISTERWEG, A. *Guide to the education of German teachers: reader on the history of foreign pedagogy*. Moscow: Education, 1971.

GUZIY, N. V. *Fundamentals of professional pedagogy*. K.: NPU, 2004.

HENNESSY, M. *Algebraic theory of processes*. Cambridge: MIT, 1988.

ILYIN, E. P. *Psychology of creativity, creativity, giftedness*. San Pietroburgo: Peter, 2009.

KAMENSKY, J. A. *Selected pedagogical essays*. Moscow: Pedagogika, 1982.

KHUTORSKOY, A. V. *Heuristic training: theory, methodology, practice*. Moscow: International Pedagogical Academy, 1998.

KOLOSOVA, N. M. Structural and functional model of preparation of future educators for pedagogical support of preschool children. *Pedagogical Discourse*, v. 10, p. 245-251, 2011.

KORETS, M. S. *Development of creative potential of future teachers of labor training in the system of technical training*. K.: NPU, 1998.

KOVAL, V.; POLYEZHAYEV, Y.; BEZKHLIBNA, A. Communicative competences in enhancing of regional competitiveness in the labour market. *Baltic Journal of Economic Studies*, v. 4, n. 5, p. 105-113, 2018.

KUZMINA, N. V. *Professionalism of the personality of the teacher and Master of Industrial Training*. Moscow: Higher School, 1990.

LERNER, I. Y. *Modern didactics: theory - practice*. Moscow: Pedagogy, 1994.

MAKARENKO, A. S. *Pedagogical works*. Moscow: Pedagogy, 1984.

MAKHMUTOV, M. I. *Organization of problematic education at school*. Moscow: Education, 1977.

MATUSHINSKY, G. U.; FROLOV, A. G. Designing models of preparation for the professional activities of higher education teachers. *Educational Technology and Community*, v. 3, n. 4, p. 183-192, 2000.

MATYUSHKIN, A. M. The concept of creative giftedness. *Psychology Issues*, v. 6, p. 29-33, 1989.

MUSHYNSKA, N. Means of future economists' professional self-development in the educational process of foreign language studying. *Economics, Ecology, Socium*, v. 2, n. 3, p. 45-56, 2018.

NOVIKOV, D. A. *Statistical methods in pedagogical research (typical cases)*. Moscow: MZ, 2004.

PESTALOZZI, I. G. *Selected pedagogical essays*. Moscow: Pedagogika, 1981.

PONOMAREV, Y. A. *Creativity psychology and pedagogy*. Moscow: Pedagogy, 1976.

ROUSSEAU, J. J. *Pedagogical works in 2 vol.* Moscow: Pedagogy, 1981

STERNBERG, R. J. Mental self-government: a theory of intellectual styles and their development. *Human Development*, v. 31, n. 4, p. 197-224, 1988.

SUKHOMLINSKY, V. A. *Conversation with the young headmaster*. Moscow: Enlightenment, 1982.

SYSOIEVA, S. O. *Creative development of personality in the process of continuing professional education*. Continuing professional education: theory and practice, 2001.

TIKHOMIROV, O. K. *Psychological research of creative activity*. Moscow: Science, 1975.

USHINSKY, K. D. *Pedagogical works*. Moscow: Pedagogy, 1988.

ZAGVYAZINSKY, V. I. *Modeling in the structure of pedagogical design*. Alma Mater: Bulletin of Higher Education, 1987.

Lydia Valentinovna Kondrashova, Bogdan Khmelnytsky Cherkasy National University, Department of Pedagogical Sciences, Educational and Socio-Cultural Management


 <https://orcid.org/0000-0002-8876-7294>

Doctor in Pedagogy, Professor of the Department of Pedagogical Sciences, Educational and Socio-Cultural Management Bogdan Khmelnytsky Cherkasy National University, Cherkasy, Ukraine.

Authorship contribution: Theoretical substantiation of the state of the problem in scientific researches of foreign and Ukrainian scientists, development of methodological bases of research.

E-mail: kondrashovm@ukr.net

Mykola Mykolayovych Kondrashov, Bogdan Khmelnytsky Cherkasy National University, Department of Pedagogical Sciences, Educational and Socio-Cultural Management

 <https://orcid.org/0000-0002-3411-2209>

PhD, doctoral student of the Department of Pedagogical Sciences, Educational and Socio-Cultural Management Bogdan Khmelnytsky Cherkasy National University, Cherkasy, Ukraine.

Authorship contribution: Development of the program of the ascertaining experiment, carrying out and the analysis of its results.

E-mail: kondrashovm@ukr.net

Natalia Alexandrovna Chuvasova, Kryvyi Rih State Pedagogical University, Department of Chemistry

 <https://orcid.org/0000-0001-7636-6277>

Doctor in Pedagogy, Associate Professor of Chemistry, Kryvyi Rih State Pedagogical University, Kryvyi Rih, Ukraine.

Authorship contribution: Development of the program of research training, models of the system of development of creative potential of future teachers.

E-mail: chuvasovanatalia@rambler.ru

Nadiya Andriyivna Kalinichenko, Volodymyr Vynnychenko Central Ukrainian State Pedagogical University, Department of Biology and Methods of Teaching

 <https://orcid.org/0000-0002-6444-3316>

Doctor of Pedagogical Sciences, Professor, Head of the Department of Biology and Methods of Teaching of Volodymyr Vynnychenko Central Ukrainian State Pedagogical University, Kropyvnytskyi, Ukraine.

Authorship contribution: Conducting a molding experiment and processing its results.

E-mail: kalinichenko1@ukr.net

Hanna Volodymyrivna Deforz, Dnipro Academy of Continuing Education, Department of Educational Management, Public Policy and Economics, Communal Institution of Higher Education
[v ID https://orcid.org/0000-0002-1114-3205](https://orcid.org/0000-0002-1114-3205)
Doctor of History Sciences, Professor, Associate Professor Department of Biology and Methods of Teaching of Volodymyr Vynnychenko Central Ukrainian State Pedagogical University, Kropyvnytskyi, Ukraine.
Authorship contribution: Generalization of research results, formulation of conclusions.
E-mail: deforzhav@gmail.com

Responsible publisher: Lia Machado Fiuza Fialho

Ad hoc experts: Angélica Silva and Karla Angélica Silva do Nascimento

How to cite this article (ABNT):

KONDRASHOVA, Lydia Valentinovna *et al.* Development of creative potential of future teachers – Strategy for improving the quality of higher pedagogical education. *Educ. Form.*, Fortaleza, v. 5, n. 3, p. 1-15, 2020. Available at:
<https://revistas.uece.br/index.php/redufor/article/view/3292>.



Received on May 21st, 2020.

Accepted on June 3rd, 2020.

Published on June 18th, 2020.

