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DEVELOPMENT OF CREATIVITY OF THE FUTURE PRIMARY SCHOOL TEACHER IN THE PROCESS OF PROFESSIONAL TRAINING

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РОЗВИТОК КРЕАТИВНОСТІ МАЙБУТНЬОГО ВЧИТЕЛЯ ПОЧАТКОВОЇ
ШКОЛИ У ПРОЦЕСІ ПРОФЕСІЙНОЇ ПІДГОТОВКИ

1. Introduction

Modern innovative processes taking place in the educational space of Ukraine actualize the problem of quality of education and preparation of teachers for professional activity in new conditions. The main priorities of education development in Ukraine are defined by national documents (Law of Ukraine “On Higher Education” (2014), “On Education” (2017), “Strategy of Innovative Development in Ukraine 2010–2020 in the context of globalization challenges”, the concept of “New School”). According to the concept of the “New School” in Ukraine, the reform of secondary education has begun, which necessitates the restructuring of the educational process in higher pedagogical institutions, taking into account its main provisions. In the context of this concept, important indicators of the future teacher’s readiness for carrying out professional activities are his/her competence and creativity, for even V.O. Sukhomlynskyi emphasized that “... only a creative teacher is able to ignite in students a thirst for knowledge...”. The activity of a teacher, which is inherently creative, is largely determined by the

diversity, complexity and delicacy of its subject – the human personality that is being formed. Children, conditions, personality of the teacher are unique, and therefore any pedagogical decision is conditioned by these always non-standard factors. And this, in turn, necessarily involves a creative approach, so every teacher needs to develop creativity, which is the main indicator of his/her professional competence. That is why the scientific and pedagogical solution to the problem of developing the creativity of the future teacher during his/her professional training is of great importance.

2. Current state of the issue

The term “creativity” in pedagogy and psychology became widespread in the West in the 1960s after the publication of J.P. Guilford (1968), which effectively gave birth to the modern psychology of creativity. Exploring the intellectual abilities of a man, the structure of his/her intellect, J. Guilford identified two basic types of thinking: divergent and convergent. Convergent thinking is logical, consistent, aimed at analyzing all available ways to solve a problem in order to choose the only correct one. Convergent thinking is the basis of intelligence. Divergent thinking works in many directions at the same time and aims to generate many different solutions to the problem. This is an alternative, illogical thinking that manifests itself in the process of solving problems that involve the existence of many correct answers. J. Guilford associated the divergent type of thinking with the production of many solutions to a problem situation on the basis of unambiguous initial data, believing that it is the “core” of creativity.

According to J. Guilford, divergent thinking is characterized by the following features: lightness and productivity (how quickly an individual can create certain products of creativity -ideas, thoughts, objects, etc.); flexibility – the ability to quickly switch from one problem to another or combine them; originality – originality of thinking, unconventional approach to the problem, its newly designed solution; accuracy (compliance) – the coherence of mental operations on a problem, the choice of a solution adequate to the goal. Later, J. Guilford concluded about six main parameters of creativity: identifying and formulating problems; generating a large number of ideas (productivity); production of various opinions (flexibility); ability to respond to stimuli in a non-standard way (originality); improving the object of perception by adding certain details; solving the problem by implementing appropriate analytical and synthetic operations.

The components of creative thinking were identified by the researcher and his followers as follows: the ability to analyze, synthesize, compare and establish cause-

and-effect relationships, critical thinking and the ability to find contradictions, predict possible developments, the ability to multi-screen see any system or object in aspect past, present, future, build an algorithm of actions, generate new ideas and solve them in figurative and graphic form (Pavlyuk, 2007).

The problems of productive thinking in Western European and American psychology were studied by J. Guilford, W. Keller, N. Mayer, P.E. Torrance, W. Frankl, E. Fromm and other researchers; in domestic psychology this direction is investigated in the works of O. Brushlynskyi, Z. Kalmykova, B. Kedrov, Ya. Ponomareva, S. Rubinstein and many others. Under modern conditions, the concept of “creativity” is actively used in studies of domestic and foreign authors (V. Druzhynin, L. Yermolaeva-Tomina, M. Kozlenko, M. Leshchenko, O. Luk, O. Matiushkin, V. Moliako, etc.). However, even today in modern psychology and pedagogy there is no single unified structure or model of creativity, but all existing ones emphasize the importance of personality traits. It is highlighted that the leading role in creativity is played by motivation (T. Amabail, D. Treffinger, K. Urban); a necessary condition for creating a positive emotional background is an environment in which a creative climate prevails (D. Treffinger); the product of the creative process must be original, conscious, expressive and economical (P. Jackson, A. Kestler, S. Messik); creative achievements are impossible without specific knowledge of the problem of creativity (T. Amabail) and mastery of methods and techniques for generating and analyzing ideas (D. Treffinger, K. Urban).

Recently, the concept of “creativity” is increasingly used along with the concept of “creativity (creative abilities)”. There is no analogue of this word in Russian and Ukrainian. This term has become widespread in domestic psychology, almost displacing the phrase that existed before – giftedness. At first glance, these concepts seem synonymous, which raises doubts about the feasibility of introducing a foreign term. However, it is more correct to define creativity not so much as a certain creative ability or their combination, but as an ability to create. Thus, these concepts, although very close, are not identical.

Despite all the variety of definitions of creativity (as the ability to generate original ideas; abandon stereotypical ways of thinking; the ability to hypothesize; to generate new combinations, etc.) its summary characteristic is that creativity is the ability to create something new, original.

We also find the opinion of Professor I. Myloslavskyi (Myloslavskyi, 2013), who notes that the word “creative” is not any work, but only one that not only puts forward ideas, but also brings them to a concrete practical result, quite relevant. The concept of “creative” is characterized by its original meaning, which

does not distinguish between productive and, conversely, ineffective. Creating a new product requires not only creative, but also monotonous, routine, tedious work. Thus, the concept of “creativity” means different, but necessarily creative activities, work for the result aimed at creating the final product.

The practice of modern school shows that a teacher must not only clearly and correctly reproduce the necessary information, for he/she must be able to generate new, original ideas, find non-traditional and non-conventional ways to solve problematic pedagogical situations and issues, i.e. have creative thinking. V. Sukhomlinsky also said that “...there are no people more inquisitive, more obsessed with thoughts about creativity than teachers. Pedagogical activity, which is an alloy of science and art, by its components involves creativity. That is why a teacher should definitely be a creative person: highly competent, able-bodied, strong-willed, active, communicative, dynamic, self-confident. And, very importantly, able to implement creative ideas in their professional activities...”. Moreover, as noted by I.A. Ziaziun (Ziaziun, 1997), one cannot wait for the completion of higher pedagogical education, and then in practice to become a master, a creative teacher. It is necessary to acquire professionalism during the student years. Individual needs daily and persistent work on the development of his/her abilities for pedagogical activities, including creativity. Therefore, the concept of pedagogical education means not only the acquisition of knowledge, but also the development of abilities, formation of professional qualities and skills that will help to adjust the personality as a tool of pedagogical influence on interaction with children, parents and colleagues. Such a system of education is complex and curricula are not always provided, but today this is the most urgent task of pedagogical HEIs.

Aim of research is to carry out the analysis of the level of formation of pedagogical creativity of future primary school teachers in terms of modernization of the content and process of master’s training.

3. Results and discussion

The study of pedagogical creativity and the peculiarities of training future teachers for is varied out by V.A. Kan-Kalik, N.V. Kichuk, M.P. Leshchenko, S.O. Sysoieva, L.O. Khomich and others. Thus, in particular, S.O. Sysoieva (Sysoieva, 2006) highlights the following signs of pedagogical creativity: a high level of social and moral consciousness; search-transforming style of thinking; developed intellectual and logical abilities (ability to analyze, justify, explain, highlight, etc.); critical problem-solving vision; creative imagination and well-developed

imagination; specific personal qualities (love for children; selflessness; courage; willingness to take reasonable risks in professional activities; purposefulness; curiosity; independence; perseverance; enthusiasm); specific motives (the need to realize their «I»; the desire to be recognized; creative interest; enthusiasm for the creative process, their work; the desire to achieve the greatest effectiveness in specific conditions of pedagogical work); communication skills; ability to self-government; high level of general culture (Sysoieva, 2006). The list of indicators of pedagogical creativity developed by the researcher can be used for their evaluation and self-evaluation by future teachers and teachers-practitioners, as well as for the development of self-improvement programs on this basis.

Thus, *pedagogical creativity* involves the ability to conduct creative search, as well as to find and apply non-standard solution to pedagogical problems and is characterized by a number of parameters, namely: speed (productivity) and flexibility of thought, originality, curiosity, accuracy and courage. *The speed (productivity) of thought* is identified as the number of ideas that arise per unit of time. The opposite quality is low productivity. *Flexibility of thought* characterizes the ability to quickly and effortlessly switch from one idea to another; ability to see that information obtained in one context can be used in another. This is a well-developed transposition skill. It provides the ability to easily move from one class of phenomena being studied to another, to overcome the fixity of methods of solution, to abandon the imperfect hypothesis in a timely manner, to be prepared for intellectual risk and paradoxes. The opposite quality is inertia. *Originality* determines the ability to generate ideas that differ from conventional, to paradoxical, unexpected decisions. It is associated with a holistic vision of all the connections and dependencies that are invisible during sequential logical analysis. The opposite quality is traditional. Curiosity is understood as the ability to wonder; openness and interest in everything new. The opposite quality is indifference. Courage implies the ability to make decisions in situations of uncertainty, not to be afraid of their own conclusions and bring them to an end, risking personal success and reputation. The opposite quality is moderation.

Based on the analysis of the relevant scientific literature, we have developed the main parameters that characterize pedagogical creativity:

- **ability to implement a creative approach in pedagogical activities** (creativity): speed of thinking (the number of ideas that arise per unit of time); the ability to quickly and effortlessly switch from one idea to another; ability to generate ideas that differ from conventional, jump to paradoxical, unexpected decisions (for the teacher – the search for new forms, methods, means of teaching and educational activities); a sense

of sophistication of the idea; ability to wonder; openness and interest in everything new; the ability to make decisions in situations of uncertainty, not to be afraid of their own conclusions and bring them to an end, risking personal success and reputation; the ability to flexible figurative thinking, which can be manifested in the construction of a new original clarity; flexibility of verbal thinking, vivid figurative language, the ability to “ignite” students with their story; selectivity to learn something new; search-transforming style of thinking; creative imagination, developed imagination; problematic vision of the situation; ability to “disturb peace”; the ability to immerse oneself in attractive activities; desire for inventions, creativity; interest in mysteries, paradoxes, improvisations; ability to make independent decisions; ability to quickly switch attention;

- **ability to constantly develop creative pedagogical experience, competence:** the desire to increase professional competence, gain new knowledge, develop relevant skills, pedagogical skills; ability to quickly find, acquire new knowledge in creative pursuits, expand their professional horizons; ability to purposefully study issues or problems related to pedagogical activities; a sense of satisfaction from the enrichment of the experience of pedagogical activity and at the same time – creative dissatisfaction with the level of achievement, as a condition for further growth of professional competence;
- **ability to form and implement a creative strategy of pedagogical activity:** a steady need for systematic enrichment of pedagogical experience; ability to independently form deep and systematic knowledge in the process of solving key educational problems; ability to develop a flexible strategy of creative pedagogical activity on the basis of definition of the purpose and construction of the program corresponding to it; the ability to mobilize their own experience, or quickly acquire additional competence in order to solve important and complex pedagogical problems; sense of responsibility in performing creative professional tasks.

Based on the developed parameters, we conducted a pedagogical experiment aimed at developing pedagogical creativity in future primary school teachers, which was attended by applicants for the second (master’s) level of higher education. The study was carried out during the 2017–2020 academic years. It was preceded by the development of new educational and professional programmes, focused primarily on preparing teachers for activities in the context of primary school reform.

Since 2017, the content of training of future primary school teachers in Ukraine is characterized by changes related to the implementation of the concept of “New Ukrainian School” (NUS). Changes in the system of general education have directly affected the system of training both practicing teachers and future teachers who are currently studying in higher education institutions. It is about training a motivated, active, creative, critical teacher, ready for change and pedagogical innovation.

At the Ivan Franko Zhytomyr State University the content of the training of future primary school teachers has changed significantly in recent years. In accordance with the conceptual principles of NUS, the content of master’s degree in pedagogy included a number of modern subjects, including those aimed at developing the creativity of future teachers: “Fundamentals of pedagogical creativity”, “Development of creative potential of primary school students”, “Pedagogy of partnership in NUS” and other.

For example, the course “Fundamentals of Pedagogical Creativity” aims to solve a number of issues of professional training of highly qualified professionals, including: mastering the system of knowledge about pedagogical creativity, logic, basic elements, stages, methods of forming creative personality of teachers and students. The course focuses on such aspects as the essence, specifics and features of pedagogical creativity, as well as future teachers compare classifications and typologies of creative personalities, analyze their characterological features, study the essence and features of creativity, divergent thinking as its basis, correlate the concept of “creativity” and “intelligence”, determine the conditions for the transformation of the teacher’s activity into a creative one, etc.

The subject of study of the discipline “Technologies of gifted personality development” is the theory and methods of teaching gifted individuals; processes and mechanisms of formation of personality as an individual in life, activity, communication, providing the most optimal ways of its self-realization in life, constructive, competent, highly professional realization of activity as its subject. The purpose of the course “Technologies for the development of gifted personality” is to train primary school teachers who have deep theoretical knowledge about the problem of giftedness and can implement them in practice. The main objectives of the study of this discipline are: to acquaint students with the basic approaches to understanding the nature and essence of giftedness; mastering theoretical ideas on the diversity of models, areas and types of talent; equipping specialists with a system of criteria for identifying the types and signs of giftedness of a child of different ages; mastering by future teachers of the latest technologies aimed at identifying, verifying and developing different types of talents.

The latest learning technologies are becoming important in the implementation of the content of training future primary school teachers and the development of their pedagogical creativity. Thus, the following proved to be quite effective: case-study, inverted class, mental maps, methods of creativity development SCAMPER, “Bus, Bed, Bath”, STEM-education technologies and others.

One of the most promising learning technologies is case study, which promotes students’ independence of thinking, combines theory and practice, promotes critical reflection, better understanding of theory, stimulates problem solving and practical analysis. Case-studies in the preparation of future primary school teachers uses description (demonstration) and analysis of real pedagogical situations in order to form in students primary experience in solving problems in professional and pedagogical activities. They analyze the proposed pedagogical situation (reproduced on print or computer media, presented in the form of dramatization or video), determine the nature of the problem, suggest possible solutions and choose the most productive ones. Cases are based on real-life material or close to the real situation.

Recently, the multimedia presentation of cases has become increasingly popular, which allows to combine both textual information and video images. Video case enables the educator to “transfer” students directly to the proposed conditions of the school lesson, while implementing several functions: demonstration of the real situation, its methodological illustration, the behavior of the teacher, which can be analyzed to obtain the best results. The use of video case in class allows to: immerse participants in a real problem situation, which is typical for future professional activities; to increase the efficiency of learning material through the use of active learning methods and visualization of the problem situation; easy to adapt practical situations to existing training programs due to the specificity and brevity of video cases; develop practical skills directly in the classroom; substantiate different theoretical concepts for solving a problem situation, because the video case does not contain a ready-made solution or answers to questions; to shift the emphasis from the transfer of ready-made knowledge to the development of specific skills and competencies, to make the lesson boring for its participants, as it includes game procedures.

The *Inverted Classroom* methodology is based on the assumption that the main learning of new material by students takes place at home, and classroom work focuses on exercises, additional tasks, laboratory and practical research, individual consultations and more. As the experimental introduction of the “inverted classroom” technology has shown, students’ motivation to master new material increases, as much of the learning information takes place at home,

and future teachers share their knowledge in the classroom in collaboration with the educator, creating a “discussion field”. The new role of the teacher in the process of using the proposed technology is to organize the process of collective solution of educational problems in the classroom. The educator acts as a mentor to students, coordinator of cognitive activities; provides intensification of educational activities in extracurricular activities; takes an individual approach by freeing up time in class; increases its level of ICT competencies; solves the problem of “lack of time” in the lesson. Students have the opportunity to study in extracurricular activities at their own pace; they have access to quality electronic educational resources; there is a development of their ICT competencies, self-education skills, the use of gadgets as a learning tool; they learn to work in a team.

SCAMPER creativity developing method provides a step-by-step list of changes that can be made in working on a particular object. It is based on the observation that “everything new is a well-modified known”¹⁰ The implementation of the technique is to consistently answer the question of modification of the task: substitute – to replace something, such as components, materials; combine – to join something with other subjects; adapt – to add some new elements (techniques, exercises); modify – to alter, change the form of conduct; put to other uses – to apply to something else, in another lesson; eliminate – to remove the part, simplify composition of the main; reverse – to change places, to turn over, to find application in something opposite (for example, to spend at first a lesson of fine arts on which each pupil draws something – at math lesson pupils make problems on the drawings – then the neighbor on a desk makes a task, using your drawing).

The essence of the technique “Bus, Bed, Bath” is that good ideas can come to a person anywhere (in transport, in the bathroom, etc.) and at any time. The main task is not to interfere with this process, but to let thoughts come to the surface. To successfully apply this method, you do not need to try to urgently come up with a solution to any problem in this place at the moment. It is necessary to act in a certain sequence: to plunge into the problem; to identify the problem; to move away from solving the problem; to return to the problem; to capture the idea and process it. The method allows to postpone the final decision for the future, connects the subconscious to work on the task, gives the opportunity after a while to return to the problem from new positions, helps to achieve goals. The principle of psychological distancing allows you to generate ideas much more efficiently, while spending less effort. It works quite effectively in combination with the case method.

The method of *using mental maps* (or intelligence maps) is based on the premise that the linear presentation of information in the form of text does

not fully use the capabilities of brain – only its left hemisphere. However, the information is remembered the better, the greater the volume of the cerebral cortex is connected to its perception. Students are asked to write a key concept in the center of the letter, and all the associations that need to be remembered, write on the branches coming from the main word. Ideas can also be drawn. Creating such a map helps to come up with new associations, the image of the map is much better remembered. When working with maps, the cortex of the right hemisphere of the brain is additionally included, which is responsible for the perception of visual and color images and creative activity. Due to this, the visualized information is perceived much faster and remembered longer.

4. Experimental data analysis

Qualitative analysis of the results of the application of experimental methods for the development of pedagogical creativity in future teachers was carried out on the basis of the use of relative frequencies in assessing the formation of a certain indicator of creativity.

Pedagogical creativity is a set of qualities, the presence and degree of development of which allows the student to be creative in teaching. Indicators of pedagogical creativity and the dynamics of their development in students of experimental groups are presented in Table 1 and in Fig. 1.

Table 1. Indicators of pedagogical creativity and dynamics of their development in students of experimental groups.

№	Pedagogical creativity	EG		CG		Post conduct difference in frequencies
		Initial stage of experiment	Final stage of experiment	Initial stage of experiment	Final stage of experiment	
1.	Interest in mysteries, paradoxes, improvisation	0,7	0,96	0,72	0,79	0,17
2.	Creative imagination, developed imagination	0,74	0,95	0,7	0,75	0,20
3.	Striving for inventions, creativity	0,74	0,94	0,71	0,76	0,18
4.	Ability to wonder; openness and interest in everything new	0,77	0,92	0,75	0,77	0,15

№	Pedagogical creativity	EG		CG		Post conduct difference in frequencies
		Initial stage of experiment	Final stage of experiment	Initial stage of experiment	Final stage of experiment	
5.	Ability to make decisions independently	0,77	0,9	0,74	0,8	0,1
6.	Ability to immerse oneself in attractive activities	0,73	0,87	0,7	0,72	0,15
7.	Ability to generate ideas that differ from conventional, to making paradoxical, unexpected decisions (for the teacher – the search for new forms, methods, means of teaching and educational activities)	0,57	0,87	0,6	0,65	0,22
8.	Speed of thinking (number of ideas that arise per unit time)	0,62	0,85	0,65	0,71	0,14
9.	Ability to make decisions in situations of uncertainty, not to be afraid of their own conclusions and bring them to an end, risking personal success and reputation	0,62	0,85	0,58	0,68	0,17
10.	Problematic vision of the situation	0,54	0,85	0,58	0,65	0,2
11.	Ability to switch attention quickly	0,75	0,84	0,7	0,75	0,09
12.	The ability to quickly and effortlessly switch from one idea to another	0,65	0,83	0,6	0,66	0,17
13.	Search-transforming style of thinking	0,52	0,83	0,56	0,6	0,23
14.	Selectivity to learn something new	0,65	0,77	0,6	0,64	0,13
15.	Ability to “disturb”	0,6	0,76	0,64	0,6	0,16

Analysis of the dynamics of creativity indicators in students of experimental groups shows an increase in the level of their development in most future teachers who studied by experimental methods. In addition, there is a tendency to equalize the level of development of all indicators.

At the beginning of the experiment such indicators as openness and interest in everything new, including learning (0.77), the ability to make independent decisions (0.77), the ability to quickly switch attention (0.75), creative imagination, developed imagination (0,74), the desire for creativity (0.74), the ability to immerse oneself in attractive activities (0.73) dominated. Other indicators of pedagogical creativity have not received a high level of development.

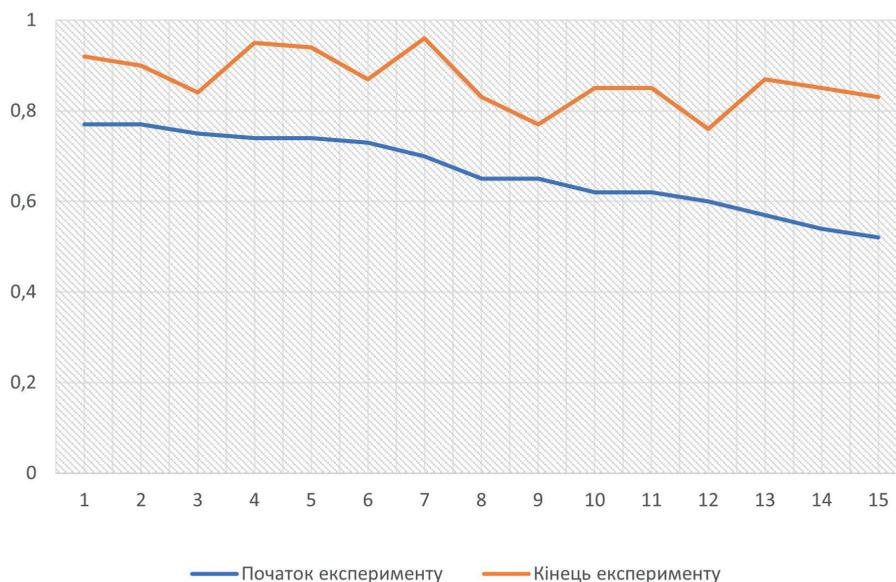


Fig. 1. The tendency to increase and equalize indicators of pedagogical creativity of students within experimental groups.

At the end of the experiment, such qualities as interest in improvisation (0.96), creative imagination, developed imagination (0.95), desire for creativity (0.94), openness and interest in everything new (0.92), the ability to make independent decisions (0.9), the ability to immerse oneself in attractive activities (0.87), the ability to generate ideas that differ from conventional, to paradoxical, unexpected decisions (for teacher – the search for new forms, methods, means of teaching and educational activities) (0.87) were predominant. Thus, those indicators that were at a sufficient level of development at the beginning of the experiment gained positive dynamics. In addition, students note that increased speed of thinking (the number of ideas that arise per unit time) (0.85), improved ability to make decisions in situations of uncertainty, absence of fear of their own conclusions and ability to carry them out to an end while risking personal success and reputation (0.85), developed a problem vision of the situation (0.85), improved the ability to quickly switch attention (0.84) and quickly and effortlessly switch from one idea to another (0.83), formed a search-transforming style of thinking (0.83).

In the control groups, as can be seen from the presented table, the progress in the development of pedagogical creativity was insignificant.

The validity of the conclusions was checked based on the use of Student's t test.

We formulate hypotheses.

H 0: the number of students in the experimental group, in which the indicators of pedagogical creativity after the formative experiment is not more than in the control.

H 1: the number of students in the experimental group, in which the indicators of pedagogical creativity after the formative experiment is greater than in the control.

Let's check the indicators of the ability to quickly switch attention, because the difference in frequencies after the experiment in EG and CG is the smallest for this indicator.

1. Calculating the root mean square error of the share S_p by the formula:

$$S_p = \sqrt{\frac{p \cdot (1-p)}{n}}$$

where p – share, n – sample size.

$$S_{pe} = \sqrt{\frac{0,84 \cdot (1-0,84)}{516}} = 0,016 \quad S_{pk} = \sqrt{\frac{0,75 \cdot (1-0,75)}{514}} = 0,019$$

Thus: $p_e = 0,84$, $p_k = 0,75$, $n_e = 516$, $n_k = 514$

2. Calculating the average error of the difference of the shares of the two samples:

$$S_{pe - pk} = \sqrt{S_{pe}^2 + S_{pk}^2} = \sqrt{(0,016)^2 + 0,019^2} = 0,025$$

3. Calculating the experimental critical deviation by the formula:

$$tekcn. = \frac{pe - pk}{S_{pe} - pk} = \frac{0,84 - 0,75}{0,025} = 3,6$$

4. According to the table t criterion of Student $t_k = 3,29$ where $p = 0,001$. $3,29 < 3,6$, that is $tekcn < t_k$.

We tested the hypothesis about the significance of differences in the assessment of pedagogical creativity in the experimental and control groups after the formative stage of the experiment for the smallest of the obtained differences in relative frequencies. Since all other frequency differences are greater than 0.1, the differences in their estimation will be even more significant at the level of $p = 0.001$.

The analysis of the effectiveness of the applied methods of creativity development involved evaluating the effectiveness of the applied forms, methods and teaching aids. Students were asked to determine which organizational forms and methods were most effective in developing their pedagogical creativity. Among the most important were lectures-visualizations, case studies, visualization (including with the help of the presentation computer program Microsoft Office PowerPoint 2003–2007) with demonstration of its application to achieve the relevant goals, creative reports (0.85–0.89); defense of abstracts, competitions of pedagogical ideas (0.85); staging lectures, various trainings, methods of creativity development, business and role-playing games, micro-teaching of fragments of lessons, modeling of educational projects (0.8 – 0.81); solving pedagogical problems (0.75); lectures-dialogues (0.73), etc.

The results of the rating assessment of students of these forms of education are shown in Diagram 1.

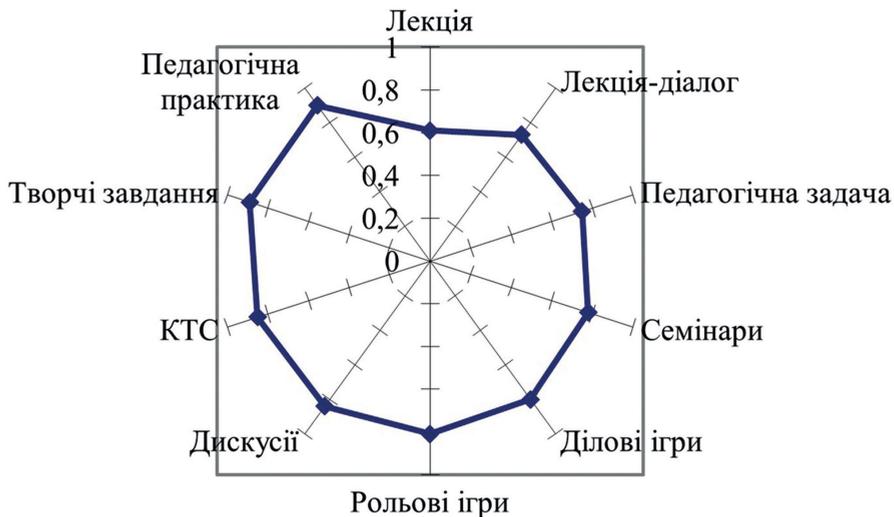


Diagram 1. The effectiveness of forms and methods of teaching in the evaluation of experimental groups.

It should be noted that students of different levels differently assess the effectiveness of certain types of work. Thus, high-level students among the most effective forms and methods of educational activities highlight the performance of creative tasks (0.94), activities during pedagogical practice (0.93) and work according to the method of CCC (0.91). Low-level students prefer reproductive activities, namely traditional seminars (0.89).

5. Conclusions and research perspectives

On the basis of the indicators of manifestations of pedagogical creativity developed by us, students of experimental and control groups were grouped into three levels: high (creative), sufficient (constructive), initial (reproductive). At the beginning of the experiment, the number of students at the creative level was – 18%, constructive – 48%, reproductive – 34%. At the end of the experimental work, the number of students by level changed as follows: creative – 37%, constructive – 43%, reproductive – 20%.

It is concluded that the construction of educational activities on the basis of the proposed methodology helps to increase the cognitive activity of students, stimulates interest in learning activities; develops initiative, creative potential; helps to create an installation for creative professional activity, for constant search. 80% of students rate the impact of experimental methods on the development of their creative abilities as high and very high, and only 20% of respondents consider it mediocre. However, none of the surveyed students said that studying at HEIs did not affect the development of his abilities and becoming a future teacher.

ABSTRACT: On the basis of the analysis of the current state of primary school reform in Ukraine a conclusion was made about the need to develop the creativity of the future teacher(s) during his/her training. The essence of the concept of “creativity” is defined as the ability of an individual to create something new, original, genuine. The structure of pedagogical creativity and the main parameters of its evaluation (speed and flexibility of thought, originality, curiosity, accuracy and courage) are developed. The content of training of the future primary school teacher at the second (master’s) level is analyzed. Thus, the directions of its modernization are defined by introducing the subjects, which are aimed at developing his/her pedagogical creativity (“Fundamentals of pedagogical creativity”, “Development of creative potential of primary school students”, “Technologies of gifted personality development”). Education technologies that promote creativity of future teachers (case-study, flipped classroom, mind-mapping (mind maps), SCAMPER methods of creativity development, “Bus, Bed, Bath”, STEM-education technologies, etc.) are offered. The effectiveness of the designed methodology has been confirmed by conducting a pedagogical experiment.

KEYWORDS: creativity, pedagogical creativity, case-study, flipped classroom, mind-mapping, methods of creativity development.

АНОТАЦІЯ: На основі аналізу стану реформування початкової школи в Україні зроблено висновок про необхідність розвитку креативності майбутнього вчителя під час його професійної підготовки. Визначено сутність поняття “креативність” як здатності особистості створювати щось нове, оригінальне. Розроблено структуру педагогічної креативності та

основні параметри її оцінювання (швидкість і гнучкість думки, оригінальність, допитливість, точність і сміливість). Проаналізовано зміст підготовки майбутнього вчителя початкової школи на другому (магістерському) рівні, визначено напрями його модернізації шляхом введення предметів, спрямованих на розвиток його педагогічної креативності (“Основи педагогічної творчості”, “Розвиток креативного потенціалу учнів початкової школи”, “Технології розвитку обдарованої особистості”). Запропоновано технології навчання, які сприяють розвитку креативності майбутнього вчителя (case-study, перевернутий клас, ментальні карти, методики розвитку креативності SCAMPER, “Bus, Bed, Bath”, технології STEM-освіти тощо). Шляхом проведення педагогічного експерименту підтверджено ефективність розробленої методики.

КЛЮЧОВІ СЛОВА: креативність, педагогічна креативність, case-study, перевернутий клас, ментальні карти, методики розвитку креативності.

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