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Creativity in Education: Social and Pedagogical Aspect in Training a Professional Teacher

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Abstract--- The article specifies the essence of creativity, structural components (motivational-need, content-procedural and productive-resultative, social-administrative), criteria, indicators and levels of its formation as an important characteristic of pedagogical professionalism. An experimental program for the formation of creativity by means of the educational process has been developed as a system of interrelated and interdependent elements. It was based on the model of the formation of a creative personality. When creating the model, it was taken into account that initially the student masters the experience of problem-cognitive activity, and then he masters quasi-professional creative activity. Experiential learning was carried out in three stages. 1. Creation of a creative educational environment; 2. Inclusion of students in systematic creative activities. 3. Participation of students in independent individual creative activity, taking into account creative possibilities and abilities. The training program included simulation-game and problem-situational technologies, modeling of event-role situations of a problematic plan, active methods: business game, discussion, dialogue, debate, brainstorming, etc. The control cut to determine the effectiveness of the experiential training program confirmed the hypothesis of the study, the presence of a relationship between creative learning and the development of creative personality traits. The collected data showed positive changes in the levels of students' creativity in the process of solving learning problems.

Keywords--- Creative Activity, Staged Nature of Education, Model of a Creative Personality, Pedagogical Conditions.

I. Introduction

In the crisis conditions of the pandemic, the increase in the share of distance learning in educational practice, there is a leveling of the quality of education and the cultural and artistic perception of reality by people. Overcoming the difficulties that have arisen involves increasing the role of the human factor in the democratization of modern society and changing the nature of pedagogical activity, further improving the professional training of teachers. The need for creative, reflective, creative and technologically capable teachers is felt in various types of educational institutions.

The results of studying the practice of teaching in higher education have recorded the existence of a contradiction between modern requirements for the training of specialists and its real state. Overcoming this contradiction is possible on the basis of innovative approaches to the organization of university education, which should focus not only on the enrichment of students' subject knowledge, but also on the development of their creative potential, the ability to think creatively and act outside the box.

The reform of professional training in the university system is due to the provision of conditions in which each student acts as a subject of creative professional and pedagogical activity and an organizer of the use of his own

creative abilities in solving professional problems. The problem is that in the preparation of future teachers not only to transmit educational information, to form their professional skills and abilities, but also to create the necessary conditions for the accumulation of creative experience, the development of the ability to overcome clichés, stereotypes, habitual judgments.

The approach to the teacher as a subject, and not a simple executor of ready-made instructions, is more relevant today than ever. A subjective vision of professional tasks, means of their non-standard solution, reflection and dynamism of the educational process - all this determines the study of creativity as an important characteristic of the professionalism of future specialists. The process of professional development of the future teacher is characterized by the level of his non-standard thinking, creativity and the ability to creatively solve professional problems.

The problems of the development of creative thinking of the individual have attracted the attention of researchers at all times. The study of non-standard thinking, creative solution of cognitive problems Andreev (1988), Matyushkin (1989), Makhmutov (1977), Menchinskaya (1989), Rybalka (1996), Gubenko (2007) was associated with modeling problem situations in the educational process. Researchers focus on various aspects of the educational process in the preparation of a creative personality: the organization of the educational process on the patterns of creativity (Zorin, 2006; Korol, 2007, etc.); generating new ideas, developing students' heuristic skills in teaching future specialists (Erokhina, 1999); constructing their own meaning, goals and content on the principles of heuristics (Khutorskoy, 2009), the role of a creative pedagogical environment in the educational process (Pevzner, Shesterninov, 2004).

With the study of the problem of pedagogical creativity, creativity as a characteristic of personality is studied. Creativity is considered by scientists as the ability to perceive a problem acutely (Datsenko, Yarovets, 2006; Boden, 1998; Carlson, Wendt, Risberg, 2000), to see shortcomings, the ability to go beyond the boundaries of the semantic field, to create new associations (Torrance, 1962), the ability to go to risk, overcome difficulties (Cangelosi, Schaefer, 1991), transform experience into a new organization (Derks, Hervas, 1988; Jonsson, Carlsson, 2000;). Despite many years of research, in the scientific literature, questions about the nature of creativity, its connection with intelligence, criteria, and the possibilities of its development in the educational process are still being discussed.

Creativity was studied by Ajumerova (2007), Arkhipkina (2006), Chuvasova (2017), Petrulis (1998) as an important characteristic of pedagogical professionalism. Sensitive periods in the development of creativity were identified and theoretically substantiated by Kozlenko (1990), Kukulenko-Lubyanets (2005). The components of the creative process were studied by Boden (1998), Baylor (2001), Molyako (2004), Ponomarev (1976) and others. The role of personal and professional qualities in the formation of creativity as an indicator of professionalism was studied by Bogoyavlensky (2007); Mitina (1997); Mikhailova (2005); Rozhina, Yurochkina (2007) and others.

The types of creative activity, the processes of creativity and creativity were substantiated in the works of Ermolaeva-Tomina (1977), Klimenok (2006), Koshelev (2004), Kravchuk (1992). In a number of publications by Kostyuk (1989), Sysoeva (2014) and others, the possibilities of a problem-based approach to teaching, the development of content, didactic technologies, and methodological support for creativity in the educational process were concretized. Of known interest are the results of a study by Vishnyakova (1999); Kozlenko (1990); Savenkova (2007); Smiles (2000) on the interdependence of the normative and creative in the activities of a teacher. The provisions on the patterns of formation of a creative personality, the implementation of a creative approach to the organization of the educational process serve as a theoretical basis for solving the problem we are studying.

An analysis of pedagogical practice suggests that the development of students' creative abilities has not yet received due attention in the organization of professional and pedagogical training, has not yet become their professional value, the basis for the development of the creative potential of a future teacher. It is not always taken into account that the experience of creative activity is determined by the level of creativity of the individual, and the real actions of the teacher and students - by a creative approach to solving the problems of professional training. Currently, despite the discussion of the category of creativity in the scientific literature, there is a lack of scientific and practical knowledge about the methods for developing this quality among students. This explains the relevance of the study.

II. Methodology

The purpose of the study is to theoretically substantiate and experimentally test the model of the creative personality of the future teacher, content, technology for the formation of creative qualities of students in the process of professional training in a university education. The goal included: developing a model of a creative personality, identifying the possibilities of a creative approach to the organization of professional training and experimental verification of the conditions that ensure the productivity of the model. It was assumed that the formation of a creative personality in the conditions of the educational process of the university is possible with a creative approach to its organization; creating an emotionally favorable creative environment; humanization of relationships in the

"teacher-student" system; harmonization of the intellectual and emotional in the perception of the studied material; activation of the process of self-development of creative abilities and creative style of activity of future teachers.

The solution of the problem was carried out using the following methods: study and analysis of scientific literature for the theoretical substantiation of the model of a creative personality and substantiation of the conditions for its productivity; questionnaires, conversations, testing, observation - in order to study its actual state in practice; a pedagogical experiment to test the effectiveness of the experiential learning program; mathematical statistics - for the purpose of quantitative and qualitative processing of the results of experimental work. Grades were set as the sum of points for the manifestation of creativity indicators, which was calculated using the formula:

Km = (Z m-p + Z s-p + Z p - p + Z s-y): 54

Where Kgk is the coefficient of formation of a creative personality.

Zx – thesumofpointsobtainedbytheintensityofthemanifestationofindicatorsofaseparatecomponentofthestructureofacreative personality.

X- m-p, z-p, p-r, s-y designation of the components of the structure of a creative personality ("m-p" - motivational-need, "s-p" - content-procedural, "p-r" - productive- effective, "s-y" - social and managerial components). The final cut showed that, in general, the high level of student creativity increased from 16.0% to 34.6%, the average level decreased from 51.6% to 48.2%, and the low level was 17.2% compared to 32. 4% at the beginning of the experiment.

Participants in the study - students 1-4 courses (344 people.) And teachers (20 people) Bogdan Khmelnytsky Cherkasy National University, Cherkasy, Ukraine, KryvyiRih State Pedagogical University, KryvyiRih, Ukraine, Kherson State Pedagogical University, Kherson, Ukraine. The study was conducted in the period from 2017 - 2021.

III. Results

Within the framework of high-quality teacher education, a large role is given to the formation of a professional image, a particularly significant characteristic of which is creativity. The study predetermined the need for an experiment that combined two stages: diagnostic-stating and forming. In order to study the state of the problem under study, a survey was conducted in practice. The students were asked to answer the question: How inherent is the need for new knowledge and the desire to overcome patterns, stereotypes in your own actions? 15% answered that they did not have enough information received from the teacher in the classroom, so they replenish their intellectual baggage via the Internet, in the process of studying additional literature, they strive for non-standard actions, to overcome patterns; 45.3% of students limit themselves to the information received in the classroom and are convinced that it is quite enough to get a good grade; 16.2% answered that they do not always have a desire to engage in self-education, from time to time they feel the need for new information and the desire to deal with stencils encountered in educational practice; 22.5% found it difficult to answer. It was found that only 40.1% of students feel the need for non-standard actions, 6.7% have a creative attitude to the study of program material.

During testing, three groups of students were identified: a group of reproductive level (37%), whose students did not show independence, activity, showed poor command of the program material; a group of reproductive and creative level (53%), the students did not have good knowledge of the subject, but showed the ability to set tasks, they were well oriented in situations of a professional orientation, they tried to substantiate their ideas; the creative group united students who completed the task at a creative level (10%), who showed fluency in subject knowledge and methods of non-standard solution of educational problems, manifestation of initiative, originality of judgments, and the ability to defend their own views.

The diagnostic section was carried out according to the following parameters: originality of judgments; clarity and originality of the solution of the educational problem; argumentation and evidence of ways to solve it; emotionality and conviction. The score was set in points: "3" - was set for a strong and intense manifestation of the indicators of a creative personality; "2" - for a rather changeable manifestation of indicators; score "1" - for a weak manifestation of indicators; "0" - there was no information about the manifestation of indicators of a creative personality. 54 - the maximum possible score obtained in the course of evaluating the intensity of manifestation of 18 indicators of a creative personality with a given 3-point scale. The number of expressions of the intensity of the manifestation of indicators of a creative personality made it possible to determine the boundaries of the levels of its formation among students on a three-point assessment scale: from 1.0 to 0.84 points - a high level; from 0.83 to 0.67 points - an adequate level; from 0.66 to 0.50 points - the average level; from 0.49 and below - low level.

Table 1: The Results of the Formation of the Structural Components of a Creative Personality at the Stage of Ascertaining Experiment

Levels of formation of a creative personality			
High	Sufficient	Middle	Low
-	14%	29%	57%

Source: Prepared by the authors (2021).

From Table. Figure 1 shows that students have medium (29%) and low (57%) levels, a high level of formation of creative qualities was not revealed. engage in creative thinking. Actions according to the model fix stamps in thought processes. Of the 20 teachers whose work we got acquainted with during the ascertaining experiment, 78% do not pay attention to the work on developing the creative qualities of the personality of the students with whom they work; 15% of them use various methods: special conversations, observations, exchange of opinions about the characteristics of the personality of a modern specialist, studying the work of students. Rarely, control work is used to identify the creative qualities of a person - 21%, tests - 4%. Teachers explain the reasons for this situation: overload - 67%, lack of methodological support - 63%, the prevailing attitude that a student should study if he came to a higher school - 78%. The explanation for this should be sought in the methodology and technology of the educational process. In practice, reproductive methods of work prevail, the emphasis is on the informative side, with an underestimation of the procedural side of learning, creative activity, active forms and methods that stimulate the active position of students, the possibility of displaying creativity and a creative approach to solving educational problems.

The removal of these shortcomings in educational practice necessitated the development of a program and the conduct of experimental work. When developing the program of experiential learning, we proceeded from the multidimensionality of the essence of creativity as a natural, internal property, on the basis of which creative abilities develop (Klimenko, 2006, p. 106). Creativity is the ability of a person to quickly solve intellectual problems on its basis (Sysoeva, 2006, p. 139); create original values and make non-standard decisions (Slastenin, 2003, p.18]); abandon the stereotypical way of thinking (Guilford, 1967); find new ways to solve a problem (Baylor, 2001); perception of material at the subconscious level and transferring ideas to a conscious state (Carlson, Wendt, Risberg, 2000), modeling the process of innovative development (Fomin, 2004).

We proceeded from the fact that creativity as a complex personal formation provides an opportunity for a future teacher to think and act outside the box, critically accept educational information and create new knowledge, show independence of judgments, assessments, conclusions and achieve a productive solution of predicted results. Given that in the educational process, personal abilities interact with cognitive needs and intellectual activity, the model of a creative personality is put on the basis of experiential learning (Table 2.).

Table 2: Structural Components of a Creative Personality

Components of a Creative Personality	**Signs of creativity**	**Score in points**
1.Motivational-need	• Positive motivation in learning. • The need for new knowledge. • The need to overcome outdated dogmas, patterns,outdated actions.	3210
2.Content-procedural	• Fundamental knowledge. • Procedural knowledge. • Creativity of thinking. • Activity. • Reflexivity	3210
3. Productive and productive	• Productivity. • Originality. • Non-standard thought. • Resourcefulness in solving problems. • Speed and accuracy of solving educational problems.	3210
4.Social management	• Information handling. • Argumentation and evidence of speech turns. • Communication. • Analysis and evaluation of results. • Emotionality and conviction.	3210

In its structure, it combines motivational-required, content-procedural, productive-resulting and social-administrative components, which are closely interconnected and interdependent. The indicators of creativity were: fast and accurate performance of educational and cognitive tasks; manifestation of ingenuity, originality in solving educational problems; the ability to analyze and summarize educational information, reason and draw conclusions; argue your own point of view and refute other approaches to solving educational problems; think and act out of the box.

The implementation of the creative personality model led to a constant transformation of activities. It was assumed that initially the student masters the experience of problem-cognitive activity, in which creative actions are modeled, theoretical issues and problems are discussed. Then quasi-professional creative activity is mastered by modeling situations of a problem plan, using active methods: a business game, discussion, dialogue, debate, brainstorming, etc.

The experimental training was carried out in three stages:

- The first stage is the creation of a creative educational environment, the consolidation of the emotionally positive attitude of students to the study of subject knowledge, their own professional choice and future professional activities.
- The second stage - the inclusion of students in a systematic creative activity that positively affects the activity and independence, stimulating an adequate self-assessment of educational achievements and the development of creative abilities of future teachers.
- The third stage - the participation of students in independent individual creative activities, taking into account their creative capabilities and abilities.

In the course of independent work, Internet resources were used, with the help of which the following tasks were solved: expanding, deepening and consolidating educational information; active acquisition of new knowledge; originality and originality in solving educational problems; development of practical skills to work with various information sources; productivity, clarity and speed of the educational task. For self-fulfillment, various options for tasks were offered: work with online courses to study subject knowledge; passing a general level test; performance of training and test exercises for the assimilation of specific sections of the course; participation in forums, conferences, chats, etc.; search for information on a given topic, preparing it for a presentation; entertainment resources: riddles, flash games, etc.

When developing the tasks of experiential learning, attention was paid to the formation of social thinking of future teachers, which makes it possible to understand the sphere of human relations. Its essence, according to Abulkhanova-Slavskaya (1992), is determined by the nature of people's relationships, social processes and the specifics of a person's life path. The choice of means for solving the problems of experiential learning and the structuring of the content of training tasks was carried out taking into account the leading characteristics of social thinking, the main characteristics of which are: the ability to operate with social values; the ability to mentally take the position of another person, to see the similarities and differences in positions; the ability to have an internal dialogue, the meaning of which is to double-check one's point of view, search for arguments for and against, exit into a new problem space; the ability to objectively evaluate.

For the development of social thinking, various forms and methods of work were used in experiential learning: the method of word associations, "brainstorming", when students were offered a list of actions from which they had to choose the most realistic ones, on which to substantiate their answer to the question posed, generate new ideas ; the Delphi method, using which students had to choose the best alternative from the proposed series of alternatives and justify their choice; the “black box” method, which is based on the solution of problem situations, which contributes to the development of originality of judgments, non-standard thought, evidence, persuasiveness of the arguments of the participants in the educational process.

Students were interested in project-transforming types of tasks: aimed at mastering the achieved level of knowledge in the field of the subject; providing, on the basis of new data, obtaining information, knowledge, models, facts, projects, programs, drawing up a plan, etc.; contributing to the development of creative properties and personality traits (communicative trainings, game and role-playing trainings). By completing educational projects, students improved their abilities (learned to structure new knowledge on the basis of previously acquired information, formulate a problem, predict ways and means of solving it, clearly express their own point of view, clearly state arguments in its defense, show ingenuity, originality, flexibility and non-standard thinking, initiative and autonomy). In the process of implementing educational projects, activity competence was improved (the ability to work with various sources of information, to state and present the results of the study, taking into account generally accepted requirements, to plan, organize the work process, allocate time, predict the results and one's own educational achievements).

The activity in the study group was modeled in the form of an event-role situation, where students performed various roles. The role-task allowed the student to take the position of another and evaluate himself, his actions from the point of view of others. The mechanism of accepting and fulfilling a role is a process of self-knowledge of one's creative capabilities and abilities. The role-task helps the future teacher to master creative actions and learn the model type of behavior expected from him in the proposed situation. The simulated situations were of a problematic nature, their content was based on specific educational material, professional orientation, which contributed to the development of the creative qualities of the individual.

The program of experiential learning included simulation-game and problem-situational technologies that provide the necessary conditions for the development of the creativity of the personality of future teachers, the formation of their professional image, the development of the ability to quickly adapt to the dynamic situations of professional activity. The use of business games, event-role situations, conversations, disputes, dialogues, debates is due to the creative nature of the activity in learning. The result of it should be an active person, capable of making non-standard decisions, creatively solving professional problems. Simulation-game and problem-situational technologies provided not so much individual forms of cognitive activity as stimulated interaction, cooperation and co-creation in solving educational problems, created conditions for the exchange of initiatives, original solutions to the tasks that could not but contribute to the development of creative qualities of the personality of future teachers. The direct interaction of the teacher and students stimulated the need for new knowledge, the consolidation of intellectual skills, created conditions for reflection and creative actions.

Upon completion of the formative experiment, using diagnostic methods, a control section was conducted to determine the effectiveness of the experiential learning program, confirm the research hypothesis, and the existence of a relationship between creative learning and the development of students' creative personality traits. The collected data showed positive changes in the levels of students' creativity in solving learning problems. The results are clearly presented in Table 3.

Table 3: Dynamics of the Levels of Formation of the Components of the Structure of the Creative Personality of Future Teachers (in %)

(Components of the Structure of a Creative Personality)

Before the start of the experiment						**At the end of the experiment**				
Levels	Motivational-need	Content-procedural	Productive and productive	Social management	Generally	Motivational-need	Content-procedural	Productive and productive33	Social management	Generally
High	12,0	10,6	19,2	14,3	16,0	9,4	5,0	1,9	3,1	4,6
Medium	53,8	54,4	50,3	51,2	51,6	7,6	7,0	9,3	8,2	8,2
Low	34,2	35,0	30,5	34,5	32,4	3,0	8,0	8,8	8,7	7,2

Source: Prepared by the authors (2021).

From Table. Figure 3 shows the positive dynamics of the levels of structural components of a creative personality. If at the beginning of the experiment, low and medium levels of creativity mainly prevailed, then the final cut showed that, in general, the high level increased from 16.0% to 34.6%, the average level decreased from 51.6% to 48.2%, and the low level was 17.2% compared to 32.4% at the beginning of the experiment.

It has been experimentally proven that positive results in the development of the creative personality of students are ensured by a combination of conditions: the creation of a comfortable creative educational environment; the presence of intellectual activity of students; awareness and comprehension by them of educational material structured in the form of event-role situations; unity of thought and action through the use of creative technologies. A creative approach to the organization of training sessions allowed students to self-actualize in the educational process, perceive professional reality in a new way, overcome clichés and stereotypes in cognitive activity, and abandon the usual ways and forms of work.

IV. Discussion

The problem of professional development, development of creative abilities, creative abilities of the individual in the educational process of higher education has always been and is the focus of researchers today. The results obtained by us in the course of the pedagogical experiment were confirmed in the studies of other authors.

Ismailov (2007), Smiles (2000) see the task of professional training of specialists in bringing the creative potential of each person into an active, active state, creating the necessary conditions for the life of students. Many researchers consider the result of professional training to be:

- A creative person who has a high level of knowledge, the desire for something new, original, knows how to discard the usual, stereotyped (Slyusarenko, 2012).
- A list of qualities (decisiveness, the ability not to stop there, the courage of thinking), from non-standard solutions to a simple problem to a new realization of its unique capabilities (Kapska, 2001).
- The formation of "a set of personality traits that ensure its success in the performance of professional and pedagogical functions" (Slastenin 2003). Among these traits, he distinguishes the ability or state that reflects the dynamism of the individual, the richness of her internal energy, will, initiative, emotional stamina, which provides endurance, self-control, professional pedagogical thinking, which allows one to penetrate into cause-and-effect relationships, explain the reasons for success or failure, and anticipate results. work.

It is these features that allow the teacher to consciously, competently, non-standardly perform their professional functions (Slastenin, 2003).

The results obtained by us during the implementation of the program of experiential learning confirmed the effectiveness of developing the ability of future teachers to create something new, original in solving cognitive problems, which served as the basis for developing their ability to innovate, create copyright programs, projects. Using the forms and methods of organizing the educational process on the principles of creativity, we were convinced of their productivity, which is confirmed by the studies of Slastenin (2003), Belous (2005), Voloshchuk (2004), Slyusarenko (2012). Voloshchuk (2004) notes that the readiness for innovative pedagogical activity is characterized by the ability to create and implement innovative pedagogical experience, relying on creativity, creative abilities, which reinforce the innovative and professional position of the teacher. Slyusarenko (2012) comes to the conclusion and confirms with experimental data that the use of mental tasks, active forms of learning (seminar-dialogue, seminar-conference, seminar-competition, protection of creative projects) positively affects the development of students' creative abilities and quality their knowledge. According to him, in the control group, 27.2% and 8.7% of students showed a sufficient and high level of knowledge, respectively, in the experimental group, these results are much higher - 48.9% and 14.8%. Belous (2005) believes that the development of creative activity as a characteristic of a creative personality of a music teacher is positively influenced by various types of creative activity (performance of musical works, harmonization of melodies, improvisation, etc.) and confirms the data of her experiment. After the end of the formative experiment, the level of creative activity of students in the experimental group increased by 21% compared to the control group (39% versus 18%).

In our study, the theoretical provisions developed, substantiated and experimentally verified, were fully confirmed by the authors of previous years and their results. The actualization of creativity in the training of teachers determines the development of creative abilities, the basis of which is creativity as the basis for the formation of a creative personality, which involves the development of content, structure, and a mechanism for improving this professional quality by means of the educational process.

V. Conclusions

It has been experimentally proven that the method of experiential learning has a positive effect on the development of the creative qualities of the personality of future teachers, ensures the transition of the position of its participants from a simple executor of the will of the teacher to an active figure and organizer of creative cognitive activity. During the implementation of the pilot program, the assumption was confirmed that the modeling of creative activity in the educational process stimulates the development of students' needs for self-expression, self-organization, and the distribution of educational roles, taking into account the experience of creative activity, interests and their attitudes, stimulates the development of creative qualities. A clear distribution of roles, taking into account the experience of creative activity, interests, attitudes of students, ensures the effectiveness of the formation of the creative image of their personality, readiness for creative activity in conditions of independent pedagogical work.

It has been experimentally proven that the productivity of the developed model is due to methodological support; positive educational motivation of students; structuring educational information in the form of mental learning tasks; involving future teachers in creative activities that model the scope of their future professional work.

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