

# Development of the Creativity of Students in the Context of the Problematic Teaching

H.Hudoykulov, Sh.Sodikova, E.Ruzimatov



**Abstract:** This article was written with the aim of the development of creative thinking of students in the educational process in the context of problem-based learning. The article defines the following tasks as to reveal the essence, content, basic structural components of the student's creative thinking development, to determine their relationship; to develop a pedagogical model for the effective development of creativity and creative thinking of students; identify and justify pedagogical conditions that ensure the optimality of the development of creative thinking of students in the process of problem-based learning; to carry out an experimental verification of the constructed model for the development of creative thinking of students. The article consists of from introduction, literature survey, methodology, recommendation, discussions, and conclusion.

**Keywords:** problematic training, creativity, creative thinking, creative activity, educational process.

## I. INTRODUCTION

The development of creative thinking of future specialists in any field of training is an indicator of the success of higher education. Against the background of the processes of changing educational trends and paradigms, the introduction of a personality-oriented approach to learning, models of developing pedagogical technologies that emphasize the subject-subject aspect of the interaction between the teacher and the student, this task becomes even more urgent. Of particular importance is the social order for the training of a specialist with a pronounced creative potential, capable of self-actualization in a creative approach.

In this regard, a special role belongs to higher education, designed to preserve and develop the creative abilities of each student. In this regard, the study of the nature of students' creative thinking, the identification of the mechanisms and conditions for its formation in the process of university training continues to attract the attention of scientists.

Studies have shown that more than 70-80% of university graduates are predominantly focused on performing professional activities only, they have a mostly reproductive level of thinking.

Thus, a contradiction is found between the requirements of society and professional practice in specialists with a creative mindset and readiness for creative work and the real level of development of this type of thinking in future specialists. In addition, there remains a significant gap between the capabilities of higher education to engage a student in active, constructive educational and cognitive activities and the student's motivational insecurity.

## II. METHODOLOGY

The purpose of the study and the hypothesis put forward led to the formulation and solution of the following tasks:

1. To analyze the current state of the research problem and clarify the content of the basic concepts of "creativity", "thinking", "creativity", "creative thinking".
2. To establish the basic principles of the problem-activity theory of learning and its capabilities as the basis for the development of creative thinking of students.
3. To carry out modeling of the content of training and the logic of its deployment in accordance with the task of developing creative thinking of students.
4. To develop a methodological system for the development of creative thinking of students in the conditions of problem-active learning and to experimentally verify its effectiveness.

The methodological basis of the study was materialistic axiology, in which a person is considered as the highest value and goal of social development; philosophical interpretation of universal connection, interdependence and integrity of the phenomena of the real world; ideas about the social, activity and creative nature of the personality and its multifactorial development; the principles of the relationship of theory and practice, activity, development, determinism, the unity of consciousness and activity, systemicity, etc.

## III. LITERATURE SURVEY

Several scientific studies have been carried out in the republic of foreign countries aimed at the development of creative thinking and improving creative activity based on problem pedagogical technologies.

Studying the nature of students' creative thinking, identifying the mechanisms and conditions for its formation in the process of university preparation is reflected in the works of N.Borisenko [4], D.Ruzieva [10], N.Azizhujueva [2], Sh.Ramankulov [9], I.Usebayeva [9] and others.

**Revised Manuscript Received on December 30, 2019.**

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The works devoted to the development of the conceptual and terminological apparatus of creativity as a phenomenon, the description of the types and procedural features of creative activity were performed by L.S. Vygotsky [12], J.Dewey [5], E. Torrance [11] and others.

Studies aimed at studying the personality as a subject of creative activity and creative individuality were studied by K.A. Abulkhanova-Slavskaya [1], N. Borisenko [4], I. Beskova [3], and others. D.Mahmudova [8], Gilford [7], A.Diservega [6] relate to the creative nature of a particular type of work.

### IV. THEORY AND DISCUSSION

Despite the diverse theoretical coverage in the literature of issues of creativity and preparation of students for creative work, as well as a certain experience in solving them, emerging trends in the development of society, science and education highlighted new facets in them and, thereby, further updated the problem of developing creative thinking of the future specialists.

The need for restructuring higher education in the direction of developing creative thinking of students as an effective result of the educational process has not yet been supported by a sufficient level of development of this problem in the theory and practice of pedagogy. Moreover, in the didactics of higher education, there are practically no holistic studies devoted to the study of the mechanisms of development of creative thinking of students in the structure of educational activity; the initial psychological and pedagogical prerequisites for cognitive activity focused on the development of creative thinking of students as the final result of the pedagogical process have not been identified; in a systematic form, the methodological foundations of the development of creative thinking of students in the conditions of problem-based learning, etc. are not defined.

The relevance and urgent need of the practice to improve the development process of creative thinking of a future specialist determined the choice of the research topic - "Development of creative thinking of students in the context of problem-based learning."

The research problem consists of finding ways to bridge the gap between the growing needs of society in creatively thinking specialists and the prevalence of a formal approach to the development of creative thinking of students in the vocational training system.

The object of the study was the process of developing a student's creative thinking in the system of higher professional education, and his subject is a set of psychological prerequisites and pedagogical conditions for the development of a student's creative thinking in problematic learning.

The purpose of the study is to theoretically substantiate and experimentally verify the totality of psychological prerequisites and pedagogical conditions for the development of creative thinking of students in problematic learning.

The study is based on the hypothesis that creative thinking as a complex type of mental activity, characterized by dialecticism, problemat�icity, cognitive activity, constructive independence, is based on the interaction of intrapersonal and external-social determinants of

development. In modern conditions, it is one of the main professional characteristics of the personality of a modern specialist, activating his inner potential, expanding the scope of self-realization, forming a creative attitude to the world and himself. An effective development of a student's creative thinking is possible in the context of problem-based learning and will depend on the specific construct of the model of developing education at the university, the special construction of the content of education and the logic of its deployment, the methodological system for organizing the educational process, as well as the special style of pedagogical guidance for student self-development.

The scientific novelty and theoretical value of the research is determined by the expansion and concretization of the conceptual apparatus of university pedagogy, the introduction of the concept of "creative thinking of a student" as the main characteristic of a modern specialist, the establishment of the basic principles of the theory of problem-based learning and its capabilities as the basis for the development of creative thinking of a student, the development of a set of psychological prerequisites and pedagogical conditions ensuring the effectiveness of the process of developing creative thinking of a student, with the creation of a methodological system for the development of creative thinking of students in problem-based learning and the selection of criteria for its assessment.

The practical significance of the study is determined by the fact that the theoretical provisions and conclusions contained in it create the prerequisites for the scientific support of the development of creative thinking of a future specialist in the context of problem-based learning. The research results are easily transferred to the organization of educational activities of students of any profile. The study contains specific guidelines for improving university educational practice.

The reliability and validity of the data obtained in the study are ensured by the clarity of the initial methodological positions, a deep theoretical analysis of the problem, the breadth and versatility of the experimental study, adequate to its volume, purpose, objectives and logic of the methods, sufficient duration and the possibility of repeating the pedagogical experiment, which made it possible to conduct a quantitative and qualitative analysis of the results, the representativeness of the sample size and the statistical significance of the data obtained, as well as the control comparison of research results with materials of other authors.

A set of methods was applied in the work that is adequate to the goals and objectives of the study: theoretical study and analysis of philosophical and psychological pedagogical literature, dissertations on the problem being studied, a comparative analysis of various aspects of educational activity, analysis of documentary sources (educational standards, curricula, curriculum programs, statistical and text reports), a generalization of pedagogical experience, a pedagogical experiment, which included focused observation, surveys, conversations, questionnaires testing, retrospective analysis.

**V. EXPERIMENTAL RESULTS AND DISCUSSION**

Organization and stages of the study. Sources of information for solving the tasks set in the study were the experience of training future specialists at the National University of Uzbekistan.

The study covered 4-year students - 420 people and teachers - 20 people.

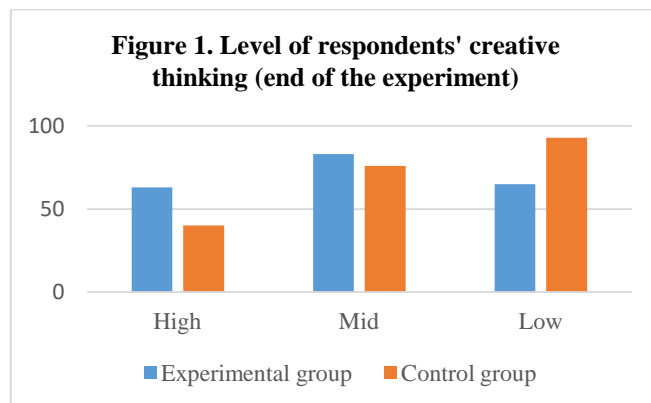
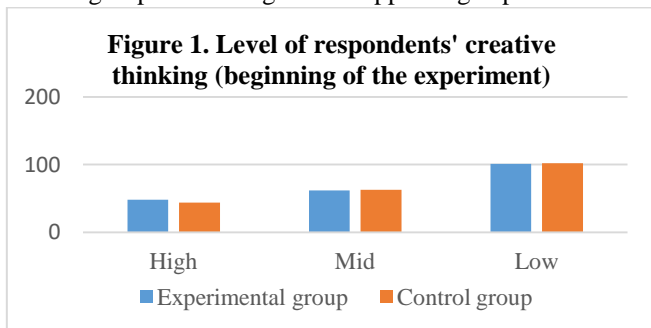
The study was carried out in three stages:

1. The first stage. It included the analysis of scientific literature, normative and educational-program documentation and work experience of higher educational institutions. Discrepancies were revealed in the theory and practice of specialist training. Empirical data was collected. The problem, the general hypothesis, the methodology and the conceptual apparatus of the study were determined.

2. The second stage. An informational scientific search based on a study of the literature continued. Deepened theoretical position. The model of experimental work was developed and tested in the experience of a specific university. The research concept was refined. The effectiveness of the introduced pedagogical actions was assessed.

3. The third stage. The analysis and generalization of the results obtained during the pedagogical experiment were carried out. Its results were summed up. Theoretical and practical conclusions were clarified. The manuscript of the study was drawn up.

The results of mathematical-statistical analysis carried out according to the Student-Fisher method showed the proximity of the marked indicators in the experimental and control groups at the stage of the approving experiment.



Mathematical and statistical analysis was carried out in order to assess the presence of differences in the two groups. For the mathematical-statistical analysis adopted the Student-Fisher criterion

**Table I: Statistical analysis sample rates**

Groups Number of respondents	Arithmetic expression	Level indicators					
		At the beginning			In the end		
		High	Mid.	Low	High	Mid.	Low
Experimental $n_i = 211$	$X_i$	48	62	101	63	83	65
Control $n_j = 209$	$Y_j$	44	63	102	40	76	93

Statistical analysis of the experimental part of the work showed a result above zero.

**VI. RECOMMENDATION AND CONCLUSION**

Based on the research, the following conclusions are made:

1. An essential factor in the development of creative thinking of students is the logic of building and deploying the content of training. All questions of the selection and construction of content, the organization of its assimilation, it is advisable to consider at four levels - theoretical presentation, curriculum, academic discipline and didactic cycle. A training strategy must correspond to each level of construction of educational content.

2. The formation and development of creative thinking of students requires a deep methodological restructuring of academic work, the main direction of which is the widespread use of methods and forms of an active nature. At the same time, traditional forms and teaching methods should be preserved, but with a reorientation of them to an auxiliary function.

3. Experimental training of students revealed the positive aspects of the technology of the development of creative thinking developed as part of the study. So, the indicators of cognitive processes in students (perception, attention, memory, thinking) have changed significantly. According to the diagnostic results, they are within normal limits or higher. The level of students' creative activity and the degree of their personal attitude to the work performed at the final stage of the experiment corresponds mainly to the "average" and "high" indicators.

4. The experimental work confirmed the hypothesis that the pedagogical leadership of this process plays a significant role in the development of creative thinking of students. Ultimately, it brings the student to a desire to engage in self-development of creative abilities. For this purpose, it is necessary to introduce special courses into the educational process as a rational version of the formation of a culture of mental work, the transfer of student thinking from elemental levels to heuristic and dialectic-heuristic.

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