



NECESSARY CONDITIONS FOR THE DEVELOPMENT OF CREATIVE THINKING IN FUTURE TEACHERS

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Annotation: The highest level of effective thinking is creative thinking, whose function is to create, think, prepare, innovate, invent, and so on. Today's demand also requires not only the infinite expansion of the content and scope of education, but also the preparation of the individual to solve existing problems in an unconventional way. Improving the student's academic performance, that is, the formation of his intellectual thinking ability and the development of creative thinking should be the main result of modern education. This article discusses in detail the necessary conditions for creativity and development of future educators.

Keywords: creativity, creative thinking, intellectual thinking, modern technology, personal creativity, comparative analysis, problem-based, heuristic, project education.

It is known that innovations in the training of comprehensively mature professionals in the social and economic spheres of society: science, technology, culture and education have led to the problem of developing creative thinking in students in higher education. Therefore, in the current period of intensive increase in scientific and scientific-technical information, in the context of changing and updating knowledge in various disciplines, as well as the rapid penetration of modern technologies in all areas, training of "highly qualified competitive personnel" in higher education. In particular, they are required to take an independent scientific and creative approach to each work, to think actively, to apply the received innovations.

After all, today a specialist who can not think creatively can not adapt to the rapidly changing conditions of science, engineering, technology and finds it difficult to organize a successful activity. Therefore, equipping future professionals with creative thinking skills and competencies is one of the urgent tasks and future challenges of higher education.

In modern pedagogy and psychology, the nature of individual creativity and the problems of its development are comprehensively scientifically based (S.P. Rubinstein, A.V. Brushlinsky, Ya.A. Ponamarev, L.M. Popov, A. Samarin and others). Research has shown that a person's creativity is based on his thinking and thinking operations (comparison, analysis, integration, abstraction, generalization) and hypotheses (problem situation, assumption, solution, practical examination, formation of theoretical conclusions, etc.).

➤ S.O. As Rubinstein points out, thinking "always begins with a surprise or inability to understand or contradict a problem or question" [2]. It is a modern requirement to teach students to think

independently, logically, to analyze, synthesize, compare and generalize what is being studied, and to create such situations, confirming the views of modern scholars.

- It is important to note that an important feature that distinguishes productive thinking from reproductive thinking is the independent discovery of new knowledge. The highest level of effective thinking is creative thinking, whose task is to create, think, prepare, innovate, invent, and so on [3]. Today's demand also requires not only the infinite expansion of the content and scope of education, but also the preparation of the individual to solve existing problems in an unconventional way. Improving the student's academic performance, that is, the formation of his intellectual thinking ability, should be the main result of modern education.
- In our opinion, one of the important conditions for the development of creative thinking in students is the need for training of every employee of higher education, leaders, professors and teachers, especially bachelors and masters. All persons involved in the system of training must have a clear idea of the image of a creative specialist, a student.
- As a result of the analysis of the scientific literature on the problems of creativity, personal creativity and creative thinking, our experience and observations in the field of higher education, we were able to identify the following specific features of the image of a creative student:
 - ✓ ability to see the problem;
 - ✓ specificity of thinking (analytical);
 - ✓ conciseness and thoroughness of thinking;
 - ✓ The richness and diversity of creative imagination;
 - ✓ speed of mind and mental operations;
 - ✓ easily assimilate ideas and apply them in practice;
 - ✓ growth of critical thinking;
 - ✓ breadth of memory and knowledge;
 - ✓ quick access to ideas and feedback;
 - ✓ The advantage of the ability to generalize;
 - ✓ be able to analyze their views and opinions;
 - ✓ be able to objectively assess their own and others' capabilities.

It is also required that university students now have meta-knowledge about the search for knowledge [4]. They should be familiar with the logic of scientific research, the technology of research activities, they should also be able to evaluate the results of their activities, to correct it, to express and present the results of research. In order to determine the level of formation and development of creative thinking in students, we observed the characteristics of the creativity of young people studying in the field of preschool education at Fergana State University. We know that the departments have developed a plan for each professor to work with creative students. Analysis of the work done by these students and their lectures at scientific and theoretical circles and conferences, the above creative features as a result of interviews with them; 12.3% - high in the student; 24.7% - moderate, 62% - low.

It turns out that many students are not able to adequately observe new ideas in their subject area; those who could not put a clear and concise problem in front of their research; research methodology, methodology, scientific-theoretical assumptions, (hypothesis) issues of comparative analysis at a low level; it can be observed that most of the articles in speeches and speeches consisted of interpreting, expressing certain facts, recording existing ideas.

So, growing and developing creative thinking in students, equipping them with certain skills and competencies is a requirement of today. At the same time, educational practice shows that education,

which develops the student in all respects, teaches him to think creatively and independently, allows him to gradually develop his abilities, opens new frontiers of thinking, allows to achieve concrete results only in combination of certain pedagogical methods.

Therefore, it is advisable to use active learning technologies aimed at developing students' creative abilities and thinking in the classroom.

To this end, it is important that teachers make extensive use of problem-based, heuristic, project-based learning, active learning, case studies, group discussion, a "multi-faceted thinking development model" [3], and concise, concise expression of ideas and feedback in writing. In particular, our research has shown that each professor-teacher can work with a creative student attached to him to create a model of step-by-step development of his creative abilities and then work on this basis (problem analysis, reflection, design).

The growth and development of creative thinking is the result and result of continuous teaching the student to analyze and synthesize, find similarities and differences, compare, evaluate, abstract, determine results, formulate conclusions, make analogies, and more [8]. The development of creative thinking has a dynamic character that rises from the bottom up. Therefore, in our small study, we were able to determine the level of manifestation of creative thinking skills and abilities in the student. They are:

Level 1. The student's creative thinking is general, and all his activities are focused on a specific area of science.

Level 2. They focus on solving problems in different directions and think without fully understanding its social necessity. At the same time, students will be able to "enjoy" solving the problem of "interest", the search for new ways and means of solving, the desire to model.

Level 3. When they think about and solve a problem, they pre-determine the options for solving it and then proceed to solve it quickly. They show the qualities of logical analysis, initiative, activism in solving a problem quickly, based on previously used methods.

Level 4. Relying on their own experience in the search for ways and means to solve the problem, they always strive for an independent approach, comprehensively understand the idea put forward in the problem, determine the ways to solve it.

Level 5. The solution of the problem will be focused on the search for logical-mathematical methods, modeling generalized paths; to compare and understand the essence of the problem, to try to determine the methods and techniques of solving the problem before some students and teachers; they begin to express the essence of the problem in formulas, diagrams, equations.

In conclusion, we can conclude that the formation and development of creative thinking in students is one of the most promising pedagogical problems associated with the training of creative professionals who serve to improve the economy, science and culture of our country. In order to solve this problem more effectively in higher education institutions, based on our observations and experimental results, we can recommend the following:

1. The need to train creative professionals requires the creation of a clear image of a student who thinks creatively and turn it into a level of practical application that will be deeply understood by every professor of higher education.
2. The growth and development of students' creative thinking is provided by professors and teachers with real creativity, pedagogical skills, scientific potential. Therefore, special attention should be paid to raising the level of scientific and methodological potential of teachers.
3. Further improvement of the system of working with students to the scientific level, taking into account the level of creative thinking (group coach, teacher, department, faculty, university, competitions, etc.)

4. In order to effectively develop and develop students' creative thinking, we believe that in order to equip students with creative skills and abilities, it is necessary to prepare curricula, manuals, training projects and include them in the plans of higher education institutions as elective subjects.

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