

## ABSTRACT

of thesis paper by Margissat Kabidenovna Suyundikova on the topic “Scientific and theoretical basis for increasing the abilities of the creative thinking of the students” presented for the degree of Doctor of Philosophy (PhD) in 6D010300 - “Pedagogy and Psychology”

**Research relevance.** One of the ten core principles listed in “The Guiding Principles for the 21st Century”, created by the Bureau of Education of the International Organisation of UNESCO and the Geneva International School emphasises the need to develop students’ creative thinking skills. It says that we live in a time when complex problems require specialists with creative thinking. The application of creative thinking skills leads to new non-standard solutions in many areas. Creativity is a necessary skill that should be supported and developed in all areas of our lives.

Article 11 of the Law of the Republic of Kazakhstan “About Education” dated July 27, 2007 No. 319 deals with the development of creative, spiritual and physical abilities of the individual, the formation of solid foundations of morality and a healthy lifestyle, enrichment of the intellect by creating conditions for the development of individuality.

In the near future, artificial intelligence will begin to displace people from simple professions, and by 2030 more than 50 professions may disappear, which will be replaced by algorithms, to be more precise, artificial intelligence and blockchain. One of the important tasks of the first election program of the President of the Republic of Kazakhstan, Kassym-Jomart Tokayev, was the creation of a new national atlas of new professions and competencies. In 2020, at the International Economic Forum in Davos, 10 key human skills were identified and creativity was in third place among them. If in 2015 creativity took the last place in the top ten skills needed by a specialist, it can be seen that the importance of creativity has increased several times over 5 years. While creativity is not characteristic of artificial intelligence, therefore, making important decisions and responding to a rapid change in the situation remains with a person, and it is a creative approach to business that can help choose the best option.

In the age of the Fourth Industrial Revolution, people need to rethink their role, their place in life. Because by 2030, not only some specialties will disappear, but also more than 180 new professions will appear that will be associated with soft skills, including creativity. In such cases, the qualification requirements for a specialist also change. Now the specialist will have to meet these requirements, have flexible skills. Particular attention will be paid to the abilities of critical and creative thinking.

In order for our country to reach the level of highly developed countries and be able to compete on an equal footing with them, it becomes necessary to create such conditions for the student, the future specialist, so that he can continuously and independently develop the ability of creative thinking, improve professional

competence. Unfortunately, it is too early to say that higher educational institutions everywhere create or create such conditions for students. The main reason for this is that in the process of teaching the university, special attention is not paid to the formation of the creative personality of students, increasing the ability of creative thinking, creating a creative environment, and priority is given to traditional methods rather than innovative teaching technologies. In this regard, there is a need to reveal the essence of a creative personality, the meaning of creative mental activity, the definition of methods and technologies that contribute to the formation of creative thinking skills.

The methodological foundations of creativity were considered in the works of J. Gilford, E.R. Torrance, S. Mednik, L.A. Taylor, S.B. Eysenck, M. Wallach, D.B. Bogoyavlenskaya, A.V. Brushlinsky, A.M. Matyushkina, N.V. Vishnyakova and others.

The issues of the development of creativity were studied by A.V. Morozov, the formation of creativity among students was researched by L.N. Kharchenko, B.A. Ospanova, A.S. Shvaikovsky, K.M. Nagymzhanova, S.A. Nurzhanova, B.K. Saktaganov, A.E. Tashbulatova, A.K. Mynbaeva.

In their works, A.S. Magauova studied the problems of personality development, S.M. Dzhakupov researched the management of students' cognitive activity, T.G. Galiev investigated the use of innovative technologies in the development of students' creativity, T.N. Galich studied the development of creativity in the context of innovative learning.

In the works of Ya.A. Ponamarev and A.P. Tryapitsyn, the idea of studying creativity as a mechanism for the development of personality was investigated, G.L. Ilyin, A.B. Morozov, V.G. Ryndak researched creative self-expression in a creative educational environment.

S.A. Arkhangelsky, V.P. Bepalko, N.N. Khan, B.S. Gershunsky, B.A. Ospanova, T.S. Sadykov, A.E. Abilkasimova, N.D. Khmel, G.Zh. Menlibekova, E.Zhumataeva, G.M. Kertaeva, N.E. Pfeifer, A.L. Seiteshov, E.I. Burdina and others investigated the problems of education and training of students of higher educational institutions.

Such great Kazakh thinkers as Abu Nasr al-Farabi, K. Yasawi, Y. Balasagun, A. Qunanbaiuly, Y. Altynsarin, A. Baitursynov, Zh. Aimaurov, M. Zhumabaev, Sh. Kudaiberdiev, Mashkhur-Zhusup Kopeev and others made a great contribution to the art of thinking with their works.

Despite the fact that at present a rich theoretical and scientific material has been collected on various aspects of the problem of increasing creativity, studies and analyzes of scientists show that the necessary methodology, set of actions and technologies for teaching thinking that contribute to increasing creative thinking have not been fully defined, which led to the identification following **contradictions**:

- between theoretical knowledge and practical thinking skills in the learning process;

- between the limitation of the student's creative potential, as a result of learning using traditional methods, and the need for the university to form the student as a creative person;

- between the need of modern society for specialists who are able to think creatively and the offer of the university - graduates whose creative ability is not sufficiently developed;

- between the need for a methodology that provides an increase in the ability of students to think creatively in the learning process and the inefficiency of the chosen teaching methods.

The relevance of the problem under consideration, its insufficient knowledge from the standpoint of the theoretical and methodological approach, the practical need and the need to resolve these contradictions became the basis for defining the topic as **“Scientific and theoretical basis for increasing the abilities of the creative thinking of the students”**.

**Research purpose:** methodological substantiation of the scientific and theoretical basis for increasing the abilities of the creative thinking of the students to think creatively and experimental confirmation of their effectiveness.

**Research object:** the pedagogical process of a higher educational institution.

**Research subject:** scientific and theoretical basis for increasing the abilities of the creative thinking of the students.

**Research hypothesis** is based on the fact that **if** there is cooperation between the student and the teacher in the learning process process; such conditions will be created under which the student could become the subject of mental activity; the student will have internal motivation for creative mental activity; the student will overcome psychological barriers that hinder the development of creative thinking; the student will master the types of thinking that are a prerequisite for creative thinking; the methodology, technologies and teaching methods leading to creative thinking will be correctly selected, **then** the student's creative thinking abilities will increase, **as** the student's creative personality is formed and his creative thinking skills will become the basis for generating new ideas and finding non-standard solutions.

**Research tasks:**

1. Analyze the methodology that contributes to the creative mental activity of students.

2. Reveal the components that determine the essence of a creative personality.

3. Clarify the essence of the creative thinking process and identify the types of thinking that are a prerequisite for creative thinking.

4. Determine the methods that contribute to the creative mental activity of students.

5. Identify learning technologies that enhance students' creative thinking abilities.

6. Develop a model on the topic “Scientific and theoretical basis for increasing the abilities of the creative thinking of the students”.

7. Conduct experimental work to determine the effectiveness of the model for increasing the ability of students’ creative thinking and determine the level of formation of students’ creative thinking ability.

**The leading idea of the research:** to form a creative personality of a student, to encourage students to master the skills of creative thinking, to analyze the ways, methods, techniques of mental activity that contribute to a creative result, to develop a methodology on a scientific basis, to effectively apply innovative learning technologies such as: dialogue, problem, project, interactive and others, develop a model, prepare prepare a competitive specialist in the conditions of entering the world educational space.

**Theoretical and methodological foundations of the study are:**

- the study of the theory of creativity (A.V. Morozov, T.V. Dronova, M.M. Zinovkina, E.E. Shcherbakova, etc.);
- the theory of creativity (S.L. Rubinshtein, B.M. Teplov, M.G. Yaroshevsky, B.M. Kedrov, A.M. Matyushkin, Ya.A. Ponamarev, A.N. Luk, A.V. Brushlinsky and others);
- the personality theory (A. Adler);
- the Gestalt theory of creativity (M. Wertheimer, W. Köhler, K. Dunker, K. Koffka and others);
- the humanistic theory of creativity (K. Rogers, A.B. Orlov, A. Maslow, E. Fromm, etc.);
- the cognitive theory of creativity (M. Boden, R. Weisberg, S. Smith, T. Ward and R. Finke);
- the behavioral theory of creativity (B.F. Skinner);
- the theory of motivation (S.R. Luria, D.S. Kaufman and others);
- the process theory of creativity (M. Mumford, M. Mobley, R. Reiter-Palmon, S. Uhlman and L. Doares);
- the multifactorial theory of creativity (R. Sternberg, T. Lubart, etc.);
- the theory of creative potential (A.M. Melik-Pashaev, A.N. Leontiev);
- the study of the problem of students’ creativity development (F. Barron, D.B. Bogoyavlenskaya, E.P. Torrance, etc.);
- the idea of technologization of pedagogical activity (L.A. Petrovskaya, D.V. Chernilovsky, etc.);
- the theories of cognitive activity of personality and intellect (M.A. Kholodnaya and others);
- the theories of consistency (V.A. Ganzen, B.F. Lomov, etc.).

**Research sources:** regulatory documents regulating issues of science and higher education of the Republic of Kazakhstan (Decrees of the President of the Republic of Kazakhstan, Decrees of the Government of the Republic of Kazakhstan, laws); national projects and state programs that define the strategic goals and objectives of the education system; philosophical, psychological and pedagogical scientific works; research by foreign and domestic researchers on the

problem of increasing the ability of students to think creatively; articles published in scientific periodicals and collections of scientific and practical conferences; research work of the dissertator were used as research sources.

**Research methods:** In accordance with the theme and logic of the research, the following methods were applied in the work:

- methods used in the theoretical study: theoretical analysis of philosophical, psychological, pedagogical literature; study and analysis of normative legislative documents on the research problem;
- empirical research methods; questionnaires “Determining the creative potential of students” and “Defining the identity of a creative person” a battery of tests for diagnosing types of thinking, a diagnostic test of creative thinking E.E. Tunick, D.B. Bogoyavlenskaya, T.A. Barysheva, questionnaire A.V. Karpov to determine reflexivity, modelling, experiment;
- pedagogical experiment (stating, forming and control stages);
- methods of mathematical statistics: SPSS universal statistical packages for quantitative and qualitative data analysis, Cronbach’s alpha coefficient to determine the reliability of diagnostic tools, graphics.

**Research base:** The study covered students of six universities in Kazakhstan: Toraighyrov University, D. Serikbayev East Kazakhstan Technical University, Satbayev University, Aktobe Regional University named after K. Zhubanov, Shakarim University, L.N. Gumilyov Eurasian National University.

**Scientific novelty of the research:**

- The methodology for the formation of creative mental activity of students on a scientific basis is determined;
- The components of the creative personality of students are determined;
- The essence of the process of creative thinking has been clarified and the types of thinking that are a prerequisite for creative thinking have been identified;
- Systematised methods that ensure the process of increasing the ability of creative thinking;
- Technologies that increase the ability of creative thinking are identified;
- A model of scientific and theoretical foundations for increasing the ability of students' creative thinking has been developed;
- A model of scientific and theoretical foundations for increasing the ability of students' creative thinking has been introduced into the educational process and the level of formation of the ability of students' creative thinking has been determined.

**Theoretical significance of the study:** the scientific and theoretical foundations for increasing the ability of students’ creative thinking are clarified, the increase in the ability of students’ creative thinking (personal, activity and reflective) is considered from the point of view of methodology, the criterion for the components of a creative personality, activity and reflexive components is determined, a model of scientific and theoretical foundations is developed enhance students’ creative thinking ability.

**Practical significance of the study:** the selection of methods, techniques and methodology, contributing to the creative mental activity of students; selected diagnostic tools to determine the level of creative mental activity of students.

In the course of the study, valuable results from the point of view of methodology were achieved:

- the program of the elective course “Theoretical basis of the creative thinking” for students of the specialty 5B050300 “Psychology” was developed and introduced into the educational process;
- the textbook “Basis of increasing the ability of students' creative thinking” was developed and implemented into the educational process of Toraigyrov University.

Research materials and publications can be used by teachers of the organisation of education in the learning process, as well as for organising independent and research work.

**The validity and reliability of the research results** is ensured by the substantiation of theoretical principles in terms of methodology: consideration of the problem of increasing the ability of students' creative thinking from the standpoint of a systematic approach; proof of the results obtained from experimental work on a theoretical object; correspondence of goals and objectives to the hypothesis; the duration of the experiment; consistency of quantitative and qualitative analysis; statistical analysis of data; obtaining verified positive results; introduction of research results into the educational process.

**Provisions submitted for defence:**

- in the first position, submitted for defence, the theoretical and methodological aspects of increasing the ability of students' creative thinking are investigated;
- according to the second provision, from the point of view of axiology, the student is considered as a value and subject of mental activity, it is determined that the student's creative personality is formed on the basis of his internal motivation and reflection;
- in the third position, the essence of the process of creative thinking and the student's enthusiasm for creative activity are considered in the theoretical and practical mastery of the types of thinking that are a prerequisite for creative thinking, and also that the existential nature of the student is manifested in creative activity;
- in the fourth position, techniques and methods are systematised that increase the ability of students' creative thinking;
- as the fifth provision, educational technologies are chosen that increase the ability of students' creative thinking;
- in the sixth position, a model was developed to increase the ability of students' creative thinking based on the previous provisions;
- in the seventh position, on the basis of all positions, the ability of students' creative thinking was experimentally tested.

Approbation of research results and implementation: the results of the dissertation research were tested at international scientific and practical conferences (Pavlodar, 2019; Brussels, 2021) - 2 publications; in journals recommended by the Committee for Quality Assurance in Education and Science of the Ministry of Education and Science of the Republic of Kazakhstan ("Bulletin of PSU" named after S. Toraigyrov, pedagogical series; international scientific journal "Science and Life of Kazakhstan"; "Bulletin of the Eurasian National University named after L. N. Gumilev, series "Pedagogy. Psychology. Sociology") - 3 publications; in an international journal with a non-zero impact factor included in the Scopus information base (Russian Federation, 2021) - 1 publication; the program of the elective course "Theoretical Basis of the Creative Thinking" was developed, the textbook "Basis of Improving Students' Creative Thinking Ability" was published.

**Thesis structure:** the thesis includes the main page, normative references, definitions, symbols and abbreviations, an introduction, three sections, a conclusion, a list of references and appendixes.