

## Development of Creativity of the Cadets of Military Higher Educational Institutes

<sup>1</sup>Balabek Kenishtayuly Saktaganov, <sup>1</sup>Ospan Seydullaevich Sangilbaev,  
<sup>1</sup>Ernar Erlanovich Ospankulov, <sup>2</sup>Bulatbaeva Aigul Abdimazhitovna and <sup>2</sup>Ulan Rakhimbaev

<sup>1</sup>Abai Kazakh National Pedagogical University, Almaty, Kazakhstan

<sup>2</sup>Academy of Boundary Service of the National Security Committee of the Republic of Kazakhstan,  
Almaty, Kazakhstan

---

**Abstract:** Over last decade, one of the main requirements for the education of the prospective military officer is the development of his professional thinking including the discourse and creative components. One of conditions for sustainable development of Kazakhstan in conditions of integration and globalization along with military power of the state is a quality of the education of military officers guarding the territorial and national security. It should be noted that despite of the complex changes in the system of military education, the existing traditional model of education of cadets of military higher institutes is not aimed to development of creative abilities of students. Development of creativity requires the specific pedagogical, psychological and didactic conditions. This article is to analyze the problems of creativity development of the military students and suggest the practical approaches for teachers. The cadet is an active participant in own development, implementing his professional interests and needs through independent educational-cognitive activity. The article also contains some results of experimental work.

**Key words:** Military education % Creativity % Creative thinking % Military-educational process % Psychological and pedagogical conditions

---

### INTRODUCTION

Life in the modern society requires from the future specialist the flexible thinking, the use of extraordinary ways to solve problems, the ability to foresee and predict, model the situation despite the difficulties. These requirements are also applied to the system of education of military specialists. Analysis of modern requirements for officers and military-educational environment allows the systematization of prerequisites to study of problems of creativity development of cadets in military higher educational institutes: economic, social, military, psychological and educational.

At the present level of military education in Kazakhstan, the ability to find a unusual solution in a difficult situation with the maximum result despite of the lack of information, theoretical or technical equipment are important besides the physical education, shooting to kill and quick performance of the specified command algorithms. Therefore, in present, the development of creativity of prospective military officers is more important.

The problem of development of creative thinking has been studying for a long time in psychological and pedagogical literature. Thus, the indices, properties and factors promoting and impeding its development were considered by J.P. Guilford [1] and T.P. Torrance [2]. R.I. Sternberg highlights the following components of creativity: synthetic ability to see problems in a new scope and avoid the usual way of thinking; analytical ability to evaluate whether the costs of ideas of further development are effective; nearly contextual ability to convince others of the value of the idea [3]. Simpson defines the creativity as “the capacity for the destruction of conventional, the normal order of ideas during thinking process” [4]. F. Barron and D. Harrington consider creativity as the ability to adaptively respond to the need for new approaches and new products. This ability allows the perception of the new being, although the process can be both conscious and unconscious [5, 6]. The specific properties of the creative process include originality, consistency, validity and adequacy to the task and another feature that can be called the suitability that is esthetic, ecological, correct, original and optimal form, in the present.

To understand the theoretical basis of the present study, we studied the works of Kazakhstan researchers considered the creativity of students as practical-oriented and professionally important category providing the productive transformation in professional activities and in other areas of a individual behavior and forming the core of its development [7, 8]. O.N. Ovsyannikova [9] studied the creativity of military specialists by example of learning a foreign language.

In general, we have made three conclusions based on a review of the available theoretical material on the problem of creativity development. *First*, numerous psychologists agree that creativity is the ability to generate unusual ideas, deviate from traditional schemes of thinking and quickly solve the problem situations. *Secondly*, the creativity implies a group of mental and personal qualities required for the development of creative capacities. *Thirdly*, the creativity is more than the intellect and determined by factors of environment. This depends on the opportunities provided by the environment for realization of the potential, which, with different degree, is inherent in each of person.

The main objective of creative education system is to “awake” the Creator in the person and develop own creative potential, cultivate courage of thoughts, self-confidence, ability to generate new and creative universal value ideas and at the same time useful for nature and develop the need for creative life [10].

There are several general requirements to creative thinking:

- C Change of the structure of external information and the internal concepts by formation of analogies and connection of conceptual gaps.
- C Constant reformulation of the problem.
- C Application of existing knowledge, memories and images to create new and implement old knowledge and skills in a new way.
- C The use of non-verbal model of thinking.
- C The creativity process requires an internal efforts, which can occur in three ways: in the conflict between the traditional and new in every step of the creative process; in ideas and variety of ways to solve or anticipated products; it can be established between the chaos of uncertainty and the desire to move to a higher level of organization and efficiency within the individual or society as a whole. Perhaps, all three types of efforts occur at various stages of the creation process.

It is proved that creativity is a property of personality. There are the following features of creative thinking in general areas of personality: in the intellectual sphere - flexibility, fluency, originality, elaboration, critical and lateral thinking; in the motivational sphere - intellectual need, the desire for a transfer, focus on independent search for problem solutions; and in the emotional sphere - self-appraisal and anxiety of student; in a strong-willed sphere - an appearance of will qualities in situations of search, modeling and own decisions in educational and professional sphere; in the material and practical sphere - the intellectual ability, cognitive skills and communications.

**Experimental:** We built our study based on the algorithm defining the creativity as the basis for development of other activity: public need for creative abilities is the conditions for their development such as understanding and motivation to be creative and as the result, the practical development of these abilities.

Our research and pedagogical work is based on the integration of general ideas of the three alternatives: a strategy for the prospective specialist (the introduction of new ideas from the outside), the strategy of education (development of motivation, the influence on the position), the strategy of joint activities (higher willingness to change, deep knowledge obtained through activities, co-creation, co-operation).

We have selected the following components of creativity according to these positions:

- C Motivational and value: the desire to solve problems of different complexity; the desire to work in groups; interest in professional growth.
- C Intellectual and creative skills: the ability to search for educational information from different sources; the ability to creative work towards implementing the objectives, to make unconventional decisions, quickly adapt to the new conditions; the ability to solve simple problems in original way and creatively rethink the existing ideas.
- C Reflective component is expressed in the ability to process information (highlight important thing, define the problem, generate ideas, find the relationship between facts and events); the ability to perform learning tasks (productive, problematic and search) on different subjects in a foreign language; in critical thinking.

To identify the characteristics of the creativity components, we also relied on the data of quality ranking by cadets related with creativity of professionals. We obtained the following sequence:

- C The ability to create new and nonstandard ideas;
- C A large number of ideas per time unit;
- C Bringing the unique ideas per time unit (original);
- C Brining the non-recurring ideas per time unit (flexibility);
- C Originality of use of information.

In our experimental work, we have used questionnaires and special psychological tests such as test of H. Ziverga "Determination of the creative abilities", the Johnson's questionnaire to determine creativity, Torrance's test of creativity, "Modified method of estimating the level of individual self-actualization" developed by L.Ya. Gozmana and M.V. Kroza, adapted a technique of verbal creativity of A.N. Voronin and S. Mednik, test of V.F. Ryahovskogo to determine the level of communication skills.

**General:** The first steps of the experiment revealed a weak motivation for learning of students. This can be explained by the fact that some cadets have the lack of knowledge and creative approach to the business and the desire for self-development. This occurs due to the fact that the part of independent work in the military higher institute significantly increases compared with the school program and many cadets are not prepared to process this volume of information due to insufficient development of creative abilities. In addition, the increasing need for the development of creativity among cadets in high institute reveals a lack of systematic and dynamic pedagogical guidance of this process from the beginning to the last period of education of cadets. According to the experiment, only 30% of the respondents are capable of creativity, free from external control and the other cadets (70%), are only capable of productive activities that only transmits the knowledge transfer.

Analysis of the data shows that the cadets of the first and second course reach the productive level of creativity (46.7%). This is stipulated by the fact that the purpose of the productive activity is the formation of different socio-normative behaviors, skills and habits and their underlying principles. The productive level of creativity suggests the assimilation of final knowledge and implementation within the certain frameworks. Therefore, there are numerous cadets among first-year students imitate activities and implement learned algorithm (40%).

Among third-year cadets, 33.3% of students have demonstrated the productive level of creativity. At this level, the cadets revealed the elements of novelty in the activities, unordinary, opening of a fundamentally new or improvement of learned knowledge and activities. Therefore, the students had neither any ready answer for the questions, nor ready scheme for an answer. During assimilation of the earlier learned algorithm, either was adapted to the new situation, or was created again using the parts of several algorithms (36.7 %).

The fourth-year cadets (63.3 %) used the methods of creativity in majority of cases. Creativity of these cadets was characterized by the creation of new values, new methods of transformation of reality, in generating of images, generalizations, goals, meanings, motivations and interests. The target group of students revealed semantic motivations for art and creativity, abilities to overcome obstacles, ability to act not only according to widespread stereotypes, but also in unique situations and peculiarities of the study material (76.7 %).

The summarized data obtained using the all methods showed that the majority of cadets with the sufficient level of creativity, however, the lowest results were obtained using the Johnson's questionnaire, "Modified method of estimating the level of individual self-actualization" developed by L.Ya. Gozmana and M.V. Kroza and adapted a technique of verbal creativity of A.N. Voronin and S. Mednik. Thus, we can conclude that the personal activity of cadets of military educational institutes is important during development of creativity and result in deliberate of applied methods of mental activity, flexibility and originality of thinking and critical thinking.

In this regard, the special educational courses for cadets were organized within the experimental studies to develop the following skills and characteristics:

- C Ability to independent work without guidance;
- C Ability to solve the problems and work with them;
- C Ability to analyze the new situation;
- C Ability to act in uncertain situation and independently obtain required information;
- C Ability to work in a team and the development of communications.

In general, the experience of pedagogical activity shows that the problem of creativity development is closely related with the technological component of the military-pedagogical process. According to the interview, the cadets and teachers evaluated the efficiency of the forms and methods of organization of educational process

Table 1: Learning technologies to develop the creativity of students [11]

Target technologies of education	Teacher's activities	Cadet's activities
Problem-solving education aimed to build knowledge, hypotheses, their development and decision	Activation of creative thinking, creation of problem situations, problem formulation of research tasks	Search and selection of optimal solutions, problem solving, development of logic search skills
Game education: recreation of the context content of research activities	Simulation of situations specific for research and prospective career of undergraduates, methodological support of the creation of simulation and role games	Active participation in role-based interaction, system learning of the social context of research activities and prospective career
Trainings: the creation of a system of student's work to develop specific problem solving.	Planning of the trainings, program development of program and determination of the objectives and tasks of education, in general.	Learn the new skills for organization of research activities through the implementation of game exercises.
Case study: the experience learning, forecasting of solutions in the study of a particular situations	Development of case studies or the implementation of ready cases, the management of group discussion	Analysis of contexts, understanding, comparison, classification, structuring, separation of cause and effect relationships, forecasting, descriptions, etc.
Project-based learning: to teach the student to independent learn knowledge	Development of methods and techniques of some practical or theoretical knowledge learning related to any activity.	Independent planning to perform certain practical tasks with the obligatory presentation of results. Detailed development a problem (technologies)

(based on 9-point scale) as: lecture - 6.85 (teachers) and 6.23 (students); seminars - 7.14 and 7.03; independent work of students - 6.38 and 6.87; and practical work - 7.15 and 7.25.

The use of game elements in education was evaluated as follows: often used to 14.7% (students) - 37.2% (teachers); rarely used - 49.7 and 36.1%, not used - 33.9 and 25.3%, respectively.

Using the data from questionnaires, we have highlighted the psychological and pedagogical conditions of the creativity development. The basis of these conditions is the interaction of personality cadet and a teacher, active position of the cadet, perception and acceptance of creative activity, ability to accept new ideas; auspicious creative atmosphere of the classes and during the self-study and the competence of a teacher. The domination of active cognitive interest in the motivational structure of a student's personality is accomplished if the efforts of the teacher and the student are aimed to the development of internal reasons to cognitive activity, stimulating the mental abilities. Thus, the benchmark for modern educational process is both the formation of the new ideas and the revision of existing knowledge as well as preliminary information on the studied topic can both facilitate and complicate education and require rethinking. This signifies the need to stimulate cognitive activity of students, using different types of educational dialogue with a reliance on the imagination, the use of analogies and metaphors, work with conceptual models, etc.

We distinguished and used the following methods of development of creativity of cadets:

- С Initiating activity of students,
- С Promotion of the productive work methods with a variety of informational texts,
- С Promotion of individual choice and motivation of creativity,
- С The development of critical thinking and exchange of value ideas,
- С Enhanced cooperation in team work,
- С Development of models and strategies of behavior and communication skills,
- С Help in management of self-activities and obtaining the "Own-messages".

The Table shows the range of learning technologies to ensure the development of creativity of students.

The core of this educational process is a special personality-oriented approach of a teacher's thinking which reveals as a peculiarity of the "shift" of concepts of the teacher and context-procedural aspects of educational communication (learned that has done and type of thinking) to the value-meaning (the place, the role of the knowledge acquisition of personal and professional fulfillment of a cadet).

## CONCLUSIONS

To develop creativity means - form and improve the mental operations such as analysis, synthesis, comparison and generalization, classification, planning, abstraction and possess such characteristics as critical, depth, flexibility, breadth of views, quickness, variability, develop the imagination and knowledge of different contents.

For cadets studying for officer specializations, prospective administrators, the development of such qualities as flexibility and fast reaction are the highly important. These qualities allow cadets learn the basics of disciplines very fast, as well as a necessary component of their prospective career. The development of creativity allows the cadets to develop qualities such as competence, empathy, the ability to establish contacts and solve potential conflicts in their professional activities with minimum losses, the ability to quickly react to changing conditions and find appropriate solutions of other military or life situations.

Develop creative thinking and strive to creativity are required for the cadets enrolled in the education courses for officer's or canine specialties. These specialists deal the tasks that cannot always be solved by traditional methods and requires a creative approach.

In this case, the creative potential can be developed by extracurricular activities, which is implemented by participation of the cadets in sports events, conferences, concerts, debates, various clubs and helps to a cadet quickly adapts to the various conditions as well as reveal their hidden personal abilities. According to the present study results, the extracurricular activities help cadets to overcome their complexes and demerits. It was determined that this type of activity allows the cadet to engage and acquire knowledge in the area, which, in his opinion, is seems the most interesting and, consequently, to improve his knowledge and skills, as well as strive for leadership.

The development of creativity of students is often constrained by the fact that they are not able to acquire the huge number of facts that are needed today, but will be useless tomorrow. There is a need to overcome the traditional view to the learning as a process, which is based on memory and recall, revise the content of education courses, highlight the general and important information in education programs, which must indicate that is provided for the evaluation and information and that is subject to memorization.

One of the mechanisms that stimulates the creativity of cadets, are the intellectual tasks. They open and trigger the cognitive resources and form a research type of mental activity. Appearing in the difficult situations and solving the important life problems, the intellectual task specifically models the process of creative thinking and serves an effective tool for its development. In this case, the tasks implying the deep transformation of the initial requirements are the most perspective as well as the tasks with unclear initial data, because these suppose no complete answer and the cadet using his own abilities and skills can infinitely develop the posed question. Thus, the

creative reconstruction of the main structural components of the task, their inclusion into the new connection systems actively contribute to the formation of independent thinking, develop originality and ingenuity of the mind.

One of the key prerequisites for the development of creativity is the maximum orientation education task to the individual abilities of the cadet, which is possible only taking into account the individual-typological differences.

The following types of individual learning are widespread in the military higher institutes:

- C Use of different variants of the uniform tasks;
- C Use of the tasks of varying difficulty;
- C Differentiated instructions for cadets during the performance of independent work;
- C Different number of tasks on the similar topic for cadets with different abilities to learn.

The scientific-research activities of the cadets organized during education possesses the enormous potential for development of creative and search behavior of the person. In this case, a cadet may develop the initiative, observation, the interest in the known problem and an ability to perform an independent scientific and practical experiment. The scientific-research interest of cadets raises to maximal if it occurs in the groups. The independent performance of the tasks becomes more difficult as well as the effectiveness of the search reduces. Individual research engages the cadets into a system of mutual dependence and responsibility. In conditions of the group work, teacher has the greatest opportunity to identify the creative talents of the single cadets and organize the research groups.

Thus, the strategy of modern higher military education consists of development and self-development of a prospective military officer, which able to maintain the existing social technologies and go beyond the standard activities, introduce and implement innovations and the creativity in the broadest sense.

This strategy is focused on the content and form of the educational process in higher military institute with the priority of personality-developing methods of education and development of creativity.

We can conclude that creativity is regulatory process, however its levels depend on the personal traits and educational environmental.

The development of creativity of the cadets of the military higher institutes is determined by the goals, objectives, the nature of prospective profession and represents the unity of theoretical, practical and

motivational readiness and ability of prospective military officer creatively perform own duties at the high professional level.

The development of creativity during education in higher institution requires the implementation of the methods of developing and problem-solving education such as a problematic, partly-search (heuristic) and a research; heuristic and business games, due to prevalence of productive and transforming activities of the students.

#### **ACKNOWLEDGMENTS**

The authors are grateful to the Heads of the Department of Military Pedagogic and Psychology of the Academy of the Border Service of the National Security Committee of the Republic of Kazakhstan for the opportunity of testing the materials of the experimental work.

#### **REFERENCES**

1. Guilford, J.P., 1967. The Nature of Human Intelligence. New York: Grawhill.
2. Torrance, T.P., 1988. The nature of creativity as meanest in its testing. In The nature of creativity, Eds. Sternberg R. I. and T. Tardif, Cambridge Univ. Press, pp: 43-75.
3. Sternberg, R.J., 1988. A three-facet model of creativity. In The nature of creativity, Eds. Sternberg R. I. and T. Tardif, Cambridge Univ. Press, pp: 125-147.
4. Amabile, T.M., 1982. Social Psychology of Creativity: A Consensual Assessment Technique. *Personality and Social Psychology Bulletin*, 43: 997-1013.
5. Barron, F. and D. Harrington, 1981. Creativity, Intelligence and Personality. *Annual Review of Psychology*, 32: 439-476.
6. Barron, F., 1988. Putting creativity to work. In The nature of creativity, Eds. Sternberg R. I. and T. Tardif, Cambridge Univ. Press, pp: 76-98.
7. Ovsyannikova, O.N., 2005. Psycho-Pedagogical Conditions of Development of Creative Abilities of Cadets of Military Higher Institution (Based on the Study of a Foreign Language Course). Orel, pp: 24.
8. Nagymzhanova, K.M., 2010. The Scientific Basis for the Pedagogical Creativity of University Students in the Educational Environment. Kazakh State Women Pedagogical University, pp: 38.
9. Ospanova, B.A., 2006. Pedagogical Principles of Creativity of the Prospective Specialist in University. Kazakh-Turkish University, pp: 37.
10. Zinovkina, M.M. 1996. Engineering Type of Thinking (Theory and Innovative Pedagogical Methods). Moscow, pp: 343.
11. Bulatbaeva, A.A. 2009. Methodology of Research Work: Theory and Practice. Military Institute, pp: 260.