

Theoretico-methodological reasoning of the model of formation research activity competences of border service academy graduates

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Abstract. The author considers the issue of formation research activity competence of future cadets in the system of military education. This issue is up-to-date because of the necessity to increase the quality of military specialists' training. The solution, in the author's opinion, is in realization of the model of scientific and research competence of military school cadets.

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1. Introduction

Because of utter importance of border security the state puts forward special requirements to the level of training of cadets. Wide use of technical appliances, their renewal, implementation of new technologies, programs to monitor the results and plan the events and measures, optimization of existing system of border protection, use of modern scientific and technological inventions will allow to form conditions for reliable protection of Kazakhstan borderlines.

The concept of state policy in sphere of education says that "state policy in the sphere of education must be directed to formation of dynamic and adaptive system, able to satisfy social demands in highly-qualified specialists and scientific staff" [1].

Demand from the society in men able for creative and professional actions characterized by wish for professional self-updating makes it necessary to reinforce educational process in the Academy of border service in the area of converging of education with science. Trained specialist must possess practical skills, which allow him to make scientifically grounded choice of optimal forms of organization and management of the unit taking into account specific conditions of their activity, understanding of main trends in theory and practice in the sphere of management and protection of state border, be able to analyze the state of investigated object [2].

This determines the fulfillment of structural and content-related transformations in the sphere of organization of scientific and research work in higher military education [3-5].

Training of research work beginner during

his studies at the academy is only a start-up of prolonged process of formation of a science man, a member of scientific group, creative manager of military-scientific sphere with research potential, which precedes to his studying at Master's degree or post-graduate military course.

Formation of the basis of research activity of undergraduates in out-of-class forms of works will allow future cadets to manifest their individuality, creative abilities most fully, and get them ready to solve instructional-scientific tasks first, and then - professional tasks.

Responding to social demand which was set by the state a number of scientific groups have prepared important inventions which contain scientific-methodological base, provisions and recommendations in regard to most important issues of organization and development of research activity of students which were dealt in PhD works:

- 1 formation of research competence of students of pedagogical university through the system of special courses joint by uniform issue (E.Nabieva, 1999) [6];
- 2 applied form of teaching mathematics in military-engineering school intended for formation of system scientific approach of the students (V. Karpova, 1999) [7];
- 3 scientific organization of educational activity of university students (E. Nechaeva, 2004) [8];
- 4 pedagogical conditions to form readiness of students to creative out-of-class activity (T. Sarafanova, 2004) [9, 10] and many others.

Analysis of scientific literature has shown that theoretic-methodological grounding of forms and

methods which facilitate research activity of undergraduates in higher education military schools in out-of-class sphere of their training is insufficient in military-pedagogical theory and practice. The problem of formation of creative and research competences of students was studied in a great number of publications abroad [11-14].

2. Methods.

Completeness of competences of military schools' undergraduates in the area of research activity was understood through studying best practices of teachers in foreign literature who are busy with organization of research activity of students in a university, through generalization of universities' experience in use of different organizational forms of scientific and research work, through clarification of general concepts and positions in the area of formation of competences; using method of simulation and functional analysis of systems.

3. Main part.

Before we present appropriate benchmark of readiness of undergraduates of military schools for practical research activity it is important to list necessary skills and abilities which must be formed in order to develop and finally form completely research competences of their professional personality.

Further specification of the process of personality's development of future cadet is connected with definition of the developmental program intended to form corresponding skills, abilities and knowledge at every level of organization of research activity during professional training in university: the level of instructional-research work (obligatory, a part of educational plan and programs) and the level of organization of out-of-class activity (non obligatory). Let us consider stage-by-stage formation of research competence of undergraduates in more detail in the framework of above mentioned levels:

Fulfillment of instructional-research work is aimed to:

- 1) master knowledge of general, basic and profile disciplines;
- 2) develop in undergraduates creative analytical thinking, ability for creative work by their speciality, broaden theoretical world-view;
- 3) to make them able to apply theory in solution of practical tasks;
- 4) make them able to re-fill knowledge on speciality on their own;
- 5) broaden knowledge of undergraduates in key for given speciality areas of military science and in other

disciplines which are taught in higher school;

- 6) develop high business and moral features, culture, facilitate personality formation;
- 7) to inculcate in every undergraduate preliminary systematic skills of performing theoretical and experimental research works.

Development of research competence of undergraduates is supplementary component to the process of their professional creative out-of-class development, it facilitates creative realization of personality in accordance with his individual potentialities. On this level 2 forms of inclusion of undergraduates into research activity can be identified:

- 1) research activity as supplementary to educational process;
- 2) research activity in parallel with educational process;

Now we shall characterize the opportunities of scientific and creative development of undergraduates in these two areas.

Research activity which is supplementary to educational process will provide:

1. mastering scientific methods of cognition;
2. teaching methods and ways of independent solution of scientific and technical tasks including use of computers;
3. formation of skills necessary for preparation and formalizing of service analytical and regulatory documents;
4. mastering method of setting and solution of theoretical and practical tasks of analysis and evaluation of social processes and phenomena, ability to arrive at right conclusion in regard to analyzed materials;
5. familiarization with separate issues of personal security theory, the theory of social and state security, up-to-date tasks of security bodies, perspectives of their scientific development;
6. fulfillment of specific scientific work, individual or collective research tasks.

Scientific activity which is supplementary to educational process suggests engagement of undergraduates into work of scientific groups, at scientific conferences and seminars, Olympiads and contests.

Organization of this kind of research work, in Balashov's opinion [10], must be built as a mechanism which facilitates searching for the most talented undergraduates, to increase the level of their professional and creative preparedness.

Targeted formation of future cadet-researcher is impossible without integral model of undergraduate's competences in the sphere of scientific and research activity which can help to

assess with high precision the degree of efficiency of the system of its organization with orientation to final result.

On the base of theoretical understanding and generalization of all mentioned above areas and their contents (knowledge, skills, abilities) and taking into account the possible levels of competences of future cadet we can present the following general model of completeness of competences of undergraduates in the sphere of research activity (Table 1).

Presented model includes criteria and indicators of completeness of competences of future undergraduates in the sphere of research activity

(motivational-axiological, intellectual, pragmatist-operational with their content-related characteristics). Levels of research competence which can be possibly achieved by the undergraduates are as follows: by the time of graduation from Academy of Border Service (general, special) and during further professional training at other stages of educational process - Master's studies, post-graduate military course (scientific – qualification) (Table 1).

Among mentioned levels “general” means obligatory minimum of research qualification put into standard of higher military education in the section "Instructional-research work".

Table 1. Model of undergraduate’s competence in the sphere of research activity

| Component of competence | | |
|--|--|--|
| Motivational-axiological | Intellectual | Pragmatist-operational |
| 1 | 2 | 3 |
| Components of competence | | |
| Recognition of importance of knowledge about research activity, availability of positive motive to practice research activity, personal participation in research activity and satisfaction with research activity | Ability to plan and implement one’s own research activity, work with literature, analyze, to chose the main points, see the problem of study, find out the contradictions, formulate hypothesis, select proper means (tools, equipment), to arrive at conclusions. | Skills of independent research, defense of scientific Provisions, formalization of the results of study in the form of publications, ability to self-analysis, true-to-life self-appraisal, self-criticism, readiness to overcome difficulties, to eliminate their origins, ability to forecast one’s own activity |
| Indicators of competence | | |
| Interest in creative work as in knowledge which brings satisfaction | Adequate attitude to cognition as creative process | Exploration of practice of creative activity of cadets in fulfillment of their duties, as well as training, education and development of subordinates |
| Recognition of importance of research activity to achieve high results in professional military activity | Mastering methods of research in regard to updating, training, education of subordinates and military-combat activity of Border forces of the Republic of Kazakhstan | Knowing the methodology of research activity in the sphere of military activity in regard to training, education and development of subordinates and solution of combat tasks |
| Recognition of personal potentialities in transformation of military practice; | Studying techniques of fulfillment of research works of different types | Possession of technique to fulfill research works of different kinds |
| Constant need to renew knowledge in the sphere of science, connected with specialization | Mastering skills of research planning, fulfillment of research procedures (analysis, synthesis, study of best practices, diagnostics of subordinates’ abilities); | Completeness of skills to plan the research, fulfill research procedures (analysis, synthesis, study of best practices, diagnostics of subordinates’ abilities); |
| Completed wish to acquire scientific competence | Mastering skills and abilities needed for defense of scientific provisions, formalization of the results in the form of publications | Completeness of skills and abilities needed for defense of scientific provisions, formalization of the results in the form of publications |
| Level of research competence of undergraduates | | |
| General (obligatory) | General (obligatory) | General (obligatory) |

Special level refers to that part of undergraduates which in the framework of participation in research out-of-class activity were able to manifest and realize their creative potential in mastering technologies of research activity. Scientific-qualificational level can be achieved by the

undergraduates who are most gifted in the sphere of research activity.

Last level means possible reserve for candidates, which can be given a recommendation for continuation of education at Master's course, post-graduate military course and PhD course.

4. Conclusion.

Identifying ability of undergraduates for research activity as obligatory condition of correspondence of a military school graduate to active creative-transformational activity, it must be mentioned that in practice of Border service at present time the completeness of competences in the sphere of research activity is of utter importance (component of SRA skills), which was the object of our study. As it became clear from our ascertaining study this component is manifested in practical work with undergraduates insufficiently and must be given deep, specific scientific-methodological grounds.

Implementation of the model into practice of military schools will facilitate formation of research skills of undergraduates, will found the base of creative, system thinking of future cadets which will influence the quality of preparedness of cadets.

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