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Implementation of system of socio-economic competence development of future officers in the process of continuing education

Впровадження системи розвитку соціально-економічної компетентності майбутніх офіцерів у процесі безперервної освіти

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Abstract

The article reveals the system of socio-economic training (SET) of officers in the process of continuing education. The structure of socio-economic competence of border guard officers studying to get Bachelor and Master degrees was determined, including motivational-ideological, informational-content, conative-deontological, personal-reflexive components. Formation of the socio-economic competence was diagnosed according to the following criteria: motivational, cognitive, activity-based, developing. To implement the SET for cadets and students at the academy was created an optimal educational environment built in compliance with specific pedagogical conditions of SET. The substantiation of these pedagogical conditions was carried out on the basis of expert evaluation, and reliability of results of the experts' work was proven by using dispersion factor analysis. The developed system of SET demonstrates its dynamism, integral properties and is characterized by stable, repeated cause-and-

Анотація

У статті розкрито систему соціально-економічної підготовки (СЕП) офіцерів у процесі безперервної освіти. Визначено структуру соціально-економічної компетентності офіцерів-прикордонників, які навчаються за освітньо-кваліфікаційним рівнем бакалавра та магістра, що включає мотиваційно-світоглядний, інформаційно-змістовий, конативно-деонтологічний, особистісно-рефлексивний компоненти. Сформованість соціально-економічної компетентності діагностовано за такими критеріями: мотиваційна, когнітивна, діяльнісна, розвиваюча. Для впровадження СЕП для курсантів і студентів в академії створено оптимальне освітнє середовище, побудоване з дотриманням конкретних педагогічних умов СЕП. Обґрунтування цих педагогічних умов здійснено на основі експертної оцінки, а достовірність результатів роботи експертів доведено методом дисперсійного факторного аналізу. Розроблена

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effect relationships. A structural-functional model of the process was designed. Generalization of the results made it possible to prepare methodological recommendations for the teaching staff on the development of socio-economic competence of cadets and students. Verification of the reliability of the results of the formation of socio-economic competence of cadets and students of the Bachelor and Master degrees was carried out by calculating and comparing the Fischer F-criterion. It was found that optimal level of socio-economic competence of the border guard officers can be achieved if the SET of cadets and Master degree students in the process of continuous education at the Academy is organized in accordance with proposed structural-functional model and pedagogical conditions.

Keywords: socio-economic training, competence, continuing education, border guard officers, system.

Introduction

Nowadays, redistribution of spheres of political and economic influence, stratification of modern society, phenomena of separatism and nationalism, instability of ideological attitudes, discrediting of many moral ideals and guidelines, manipulation of human consciousness through the mass media have caused a state of uncertainty and strengthened the contradictions of the younger generation development. In the higher education system, the current situation encourages such educational processes, which, taking into account changes currently happening in society, contribute to the self-development of the future specialist's personality. The conceptual bases of these processes are grounded on the ideas of continuing education. Besides, the level of intellectual potential of any country is the most important factor in its economic, social and political development.

Higher education is considered as an important institution of socialization of the individual, where both training and upbringing reproduce a single process aimed at training highly educated, erudite, creative specialists, including the staff of the State Border Guard Service of Ukraine (henceforward - SBGSU). This is facilitated by the special structure of educational process at the

система СЕП демонструє свою динамічність, інтегральні властивості та характеризується стійкими, повторюваними причинно-наслідковими зв'язками. Розроблено структурно-функціональну модель процесу. Узагальнення результатів дало змогу підготувати методичні рекомендації для професорсько-викладацького складу щодо розвитку соціально-економічної компетентності курсантів і студентів. Перевірку достовірності результатів сформованості соціально-економічної компетентності курсантів і студентів освітнього ступеня «бакалавр» і «магістр» проводили шляхом розрахунку та порівняння F-критерію Фішера. Встановлено, що оптимальний рівень соціально-економічної компетентності офіцерів-прикордонників може бути досягнутий за умови організації СЕП курсантів та магістрантів у процесі безперервної освіти в Академії відповідно до запропонованої структурно-функціональної моделі та педагогічних умов.

Ключові слова: соціально-економічна підготовка, компетентність, безперервна освіта, офіцери- прикордонники, система.

National Academy of the State Border Guard Service of Ukraine (henceforward - NASBGSU), where an essential feature is the promotion of creativity, initiative and amateur activity of cadets in the search for optimal forms and methods of independent knowledge acquisition, which creates the basis for continuing education. In these circumstances, we consider the training of highly qualified specialists of the State Border Guard Service of Ukraine of a new type, ready for the correct, synthesized solution of complex and diverse socio-economic professional problems, to be an important factor in solving this problem. Therefore, in the context of transition of our country from a planned to a market economy, it became necessary to form a new worldview among future specialists, which implies a high level of socio-economic competence of cadets and military students of NASBGSU. Socio-economic education of cadets is aimed at forming a clear and scientifically based idea of the future staff of the State Border Guard Service of Ukraine about the economy, social processes in modern society, and contributing to the formation of a holistic understanding of the system of market and social relations. The solution of this issue actualizes the problem of improving the socio-economic

training (henceforward – SET) of cadets and military students in the process of continuing education at the NASBGSU by developing and implementing special organizational and pedagogical conditions.

The continuity of the SET of cadets (studying at the Bachelor level) and military students, who are already officers (studying at the Master level) at the Higher Military Education Institution (henceforward – HMEI) is implemented due to the possibility of obtaining higher education levels "Bachelor" and "Master", the versatility of professional activities of the SBGSU personnel, as well as due to the need for continuous improvement of socio-economic awareness of border guard officers. Some scientists present research in the direction of developing a conceptual framework for training officers and using innovative pedagogical approaches in higher military education. Certain aspects of socio-economic training of specialists of different categories were reflected in the publications of Ukrainian and foreign authors. The scientists have studied problems of theoretical bases, essence and values socio-economic competence of specialists of civil and military organizations. Chekina (2017) studied development of socio-economic competence of future specialists of education by means of designing pedagogical business projects. The author revealed the role of designing pedagogical business projects for the development of socio-economic competence of future specialists of education. The methodological basis of the research was a competence-based approach in higher education. Sczesny et al., (1998), Müller et al., (2007) studied the students' economic competence level at the secondary schools. Beck & Krumm (1994) researched this level among university entrants. So, the students rarely answer more than 50% of the questions correctly.

In another test, Würth et al., (2001) secondary school pupils reached a rate of right answers between 29% and 59%, depending on school type and curricular settings. Other surveys explored national differences in understanding economic issues. With regard to the studies made in the last 50 years, the influence of general cognitive development seems to be significantly higher than that of experiential involvement (Furnham & Lewis, 1986; Hutchings, Fülöp & Van den dries, 2002). Regarding the future officers' training, Balendr et al. (2018, 2019), Komarnytska et al. (2019) researched designing professionally oriented training courses for border guards. Didenko et al. (2020), Katerynchuk et al. (2021) studied electronic

educational resources for training future officers of border guard units. Soroka et al. (2019) investigated monitoring of corporate culture formation of specialists of social institutions. Stavtyskyi et al. (2019) studied formation of the image of the profession in the minds of future border guard officers in the context of vocational education. Dyiak et al. (2019, 2020) researched the pedagogical conditions of socio-economic training cadets and students in the process of continuous education at the border guard academy. However, there is no comprehensive study of the SET system of border guard officers at different educational levels "Bachelor" and "Master" today: a system of this training has not been developed, as well as theoretical and methodological foundations for ensuring the consistency of continuous SET of the SBGSU personnel.

The results of the analysis of professional training of future officers and students of the Master program in the NASBGSU indicate that the educational process is not sufficiently focused on the formation of skills to analyze the socio-economic and socio-political situation, demographic characteristics of the area of responsibility, to establish interaction in the interests of protecting the state border with officials of enterprises, institutions, organizations and the local population and to know the regional nature of production activities. Also, the results of the analysis of feedback of graduates of the NASBGSU indicate that officers lack knowledge on the application of sociological research methods in order to collect and process information and make managerial decisions, they often underestimate the importance of intellectual skills and critical thinking for professional activities for effective military management in the border service division.

So, insufficient theoretical development and practical significance of solving this problem in the educational environment of the modern higher education institution of the state border service of Ukraine, the need to overcome these contradictions justified to the choice of the *research aim*: to design and experimentally verify the expediency of the system of socio-economic training of cadets and military students in the process of continuing education at the higher military educational institution of the State Border Guard Service of Ukraine.

The objectives of the study:

to determine the key concepts and terms necessary to conduct the scientific research;
 to specify the structure of socio-economic competence of border guards with Bachelor and Master degrees;
 to determine criteria, indicators and levels of socio-economic competence formation of cadets and students at HMEI;
 to justify the pedagogical conditions of SET of officers at the first (Bachelor) and second (Master) levels of higher education in the process of continuous education at the HMEI;
 to develop and substantiate the system of SEP of future border guard officers and students of the Master degree in the process of continuous education at the HMEI and to create its structural-functional model;
 experimentally test the effectiveness of the author's system of SEP of future border guards and students of Master degree in the process of continuous education.

Methodology

The process of studying the socio-economic competence development was carried out on the basis of the National Border Guard Academy in Khmelnytskyi, Ukraine. The Academy offers a wide range of specialties, and the curriculum includes those disciplines that ensure formation of socio-economic competence. The study of the level of socio-economic competence development was carried out according to the following stages:

The I stage was the preparation of a package of mandatory documents (permission to conduct an experiment in each institution of higher education, development of a research program (methodological component: topic, goal, tasks and organizers of the experiment, thesaurus and methods: determining and calculation of the sample, justification of the research method, formulation of conclusions) (September-November 2021).

Stage II – input diagnosis of the level of socio-economic competence formation. Development of methodological support by the teaching staff to conduct classes in such disciplines as: "Sociology. Ethics. Aesthetics. Religious Studies", "Political and Economic Systems", "Philosophy" (December 2021 - February 2022).

Stage III – output diagnosis. Processing of obtained results, formulation of research conclusions.

Formation of the research sample was carried out in compliance with the requirements of the pedagogical research methodology, namely: representativeness of the sample (correspondence of the sample population to the characteristics of the general population); taking into account the specifics of the study. We used random sampling, which provided equal opportunities for all participants of the experimental work.

The experiment involved second-year cadets, because the curricula of the specialties considered included the above mentioned academic disciplines. In the second year of study, according to the data presented, approximately 390 cadets and 100 students studied in one specialty (and in general, specialties in the institutions range from three to five). It was decided to determine the sample size as 203 cadets and 92 students and to use mechanical sampling to select this number. Mechanical sampling involves the application of a selection step, therefore, according to the available lists of cadets and students of study groups, every third person from the list became a participant in the experiment (with consent obtained in advance from each student to participate in the experimental work).

To achieve the set goal, solve the tasks and test the hypothesis, research methods adequate to the author's idea were used: *theoretical* - analysis (problematic-targeted and retrospective) of the research problem in philosophical, sociological, psychological, pedagogical scientific literature to clarify the state of its development, determine the essence of key research concepts; generalization and systematization of scientific provisions in order to develop a concept and system; content analysis of the educational programs for the training of future specialists to systematize the received information; *empirical* - prognostic (expert assessment, generalization of independent characteristics) - to determine promising areas of using innovative technologies to develop socio-economic competence; diagnostic (two types of questionnaires: open (with a total number of 10 questions and closed with limited answer options with a total number of 14 questions), surveys, interviewing cadets and students, testing to check the level of knowledge) and *observational* (observation, self-observation, self-assessment) - to clarify the state of socio-economic competence development, to identify shortcomings in the educational process regarding its formation; pedagogical experiment (input and output diagnosis) - to determine the

effectiveness of pedagogical conditions for the socio-economic competence development.

Results and Discussion

The results of the analysis of scientific sources, regulatory legal acts and publications on the research problem allowed us to determine the essence of scientific definitions "Socio-Economic Training of Cadets" and "Socio-Economic Competence of Cadets". In particular, "SET of cadets" is defined as a purposeful, organized process of forming their socio-economic competence, which provides for ensuring a value attitude as for establishment and maintenance of social norms and tolerant relations while performing tasks for the protection of the state border in the area of responsibility, mastering knowledge about the essence of socio-economic processes in the operational and service activity of the border guard unit, skills and abilities to collect, process, systematize and use socio-economic information.

Based on the theoretical analysis of scientific literature, the essence of the concept of "Socio-Economic Competence" in relation to border guard officers with Bachelor and Master levels of higher education was generalized. Socio-economic competence of *cadets* is defined as an integrative professional and personal characteristic that reflects the readiness of future tactical-level officers to competently solve socio-economic problems in accordance with the positions that can be held by graduates of the NASBGSU with a Bachelor degree. Interpretation of socio-economic competence of *Master degree military students* takes into account the content of official requirements for officers of the operational and tactical level. This personal phenomenon is interpreted as a professional and personal characteristic that covers the ability and willingness to design and effectively perform professional and social activities in modern economic conditions, its structure and content (the ability to analyze socio-political situations in the area of responsibility; conducting information, propaganda and explanatory work to perform certain tasks using various means of information dissemination; readiness to organize military economy in the border service department; perfect knowledge of the nature of production activities of the local population and the capabilities of the border service department, etc.).

Based on the above, the structure and content of socio-economic competence of cadets and military students of the HMEI of the SBGSU was clarified; the components, criteria, indicators were specified and the levels of socio-economic competence of officers of the tactical and operational-tactical levels of the SBGSU were characterized; the state of formation of socio-economic competence of cadets and military students of the SBGSU was analyzed.

Based on the theoretical analysis of scientific approaches to the structure of SET and taking into account the specifics of operational and service activities of officers with Bachelor and Master levels of higher education, the component structure of socio-economic competence of cadets and students of the NASBGSU was clarified, which covers motivational-ideological, informational-content, conative-deontological, personal-reflexive components.

In order to analyze the state of SET, an Ascertaining Stage of the experiment was conducted, which involved 176 Bachelors who completed their studies in the 2012/2013 academic year, and 60 Masters who completed their studies in the 2011/2012 (25 people) and in the 2012/2013 (35 people). To establish the state of formation of the motivational and ideological component of socio-economic competence of cadets and military students, questionnaires adapted by the author were used, which provided for the diagnosis of motivation of cadets and military students to expand socio-economic knowledge, skills and abilities. To diagnose the level of formation of the information and content component of socio-economic competence of cadets and military students, knowledge tests were conducted using specially elaborated tasks, the main purpose of which was to identify the level of knowledge of the SBGSU personnel regarding basic socio-economic concepts. In order to diagnose the formation of the conative-deontological component of socio-economic competence of cadets and military students, the method of solving problems in simulated socio-economic situations of the professional context was applied. To establish the levels of formation of the personal-reflexive component of socio-economic competence of cadets and military students, the method of reflection of activity adapted by the author was used.

The results of the analysis of diagnostics of the formation of socio-economic competence showed that 20.45% of cadets and 25% of military students have an optimal level of its formation, 48.3% of cadets and 53.33% of

military students have a sufficient level, and 31.25% and 21.67% have a satisfactory level, respectively. The presented results showed insufficient satisfaction of the of cadets' and military students' need regarding socio-economic knowledge and skills, the inability of cadets and students to competently solve professional social and economic problems, which indicates the underdevelopment of socio-economic thinking of the SBGSU personnel, imperfect possession of special skills and skills of organizing expedient socio-economic activities and its introspection. The results obtained indicate the need to improve the SET of the SBGSU personnel in the process of continuing education.

The results of the analysis of scientific literature concerning the problem of research, study of educational practice and the state of formation and development of socio-economic competence of border guard officers with Bachelor and Master levels of higher education allowed to develop the Concept of SET of future border guard officers and Master's degree military students in the process of continuing education in the HMEI of the SBGSU, which provides that for the effective formation of socio-economic knowledge and skills of the SBGSU personnel, professional training of cadets and students in the NASBGSU should be organized based on the principles of continuing education, taking into account the features and requirements for SET of border guards, using technologies of modular and project-based training to enrich the experience of making optimal decisions by cadets and military students in simulated socio-economic situations of the professional context.

In order to improve the SET of cadets and military students of the NASBGSU, formation and further development of their socio-economic competence, an optimal educational environment has been created by introducing six effective pedagogical conditions, two of which are characterized by a cross-cutting impact, that is, they are applied throughout all stages of the experimental study of officers at the first (Bachelor) and second (Master) levels of higher education in the process of continuing education in the HMEI, the other four - a specific direction of SET implementation (two for cadets and, accordingly, two for military students). The justification of these pedagogical conditions was based on an expert assessment, and the reliability of the results of the experts' work was proved using variance factor analysis. The components of socio-economic competence were chosen as an effective feature, and pedagogical conditions were chosen as gradations of a certain factor. As

for the quantitative characteristics of the method, such indicators were grades given by experts. The use of mathematical statistics methods confirmed the significant influence of the proposed pedagogical conditions on the formation of components of socio-economic competence of cadets and military students at the level of statistical significance $p \leq 0,05$.

So, the first pedagogical condition is the orientation of the educational process at the National Academy of the State Border Service of Ukraine named after Bohdan Khmelnytskyi to the active program-motivated mastery of the socio-economic competence by cadets and military students.

The organization of socio-economic training of cadets and military students in the process of continuous education at the National Academy involves a close relationship between the higher military educational institution and the State Border Guard Service of Ukraine. Modern requirements for the implementation of such interaction provide for the creation of an integrated educational space based on the network interaction of the National Academy of the State Border Guard Service of Ukraine and the Border Guard Agency of Ukraine, which we define as the second pedagogical condition. It is in such educational space that the cadets will be able to realize the importance of socio-economic training during their studies in higher military educational institution, which will motivate them to more conscientiously study the disciplines of socio-economic content. At the same time, the creation of an integrated educational space will enable Master's degree military students to access modern scientific developments and research in the socio-economic sphere, which will motivate them to continue their education at a higher military educational institution. This approach testifies to the connection of the first and second pedagogical conditions.

Since the professional training of border guards involves not only the assimilation of theoretical material, but also the acquisition of practical abilities and skills, an important pedagogical condition is the use of modular and project-based learning technologies to enrich the experience of making optimal decisions by cadets and military students in simulated socio-economic situations of the professional context. Graduates of the National Academy can test the acquired experience in practice at the state border protection units. And in the conditions of continuous education, they will be able to increase the level of their own socio-economic

competence, based on practical experience and scientific argumentation, as students of the Master's degree.

Since the modern dynamic changes in society lead to the rapid "aging" of scientific socio-economic information, its systematic renewal, addition, and expansion become all the more relevant. This approach will enable cadets and military students to realize their own level of socio-economic competence, to make them interested in modern trends in the economy and social sphere. If cadets and military students of the National Academy are able to optimize their own self-educational activities, the productivity of their studies will increase. There is a need to organize pedagogical support for continuous self-education activities of cadets and military students to acquire socio-economic competence, which we define as the fourth pedagogical condition. It was assumed that the implementation of the outlined pedagogical conditions would ensure the creation of an optimal environment for the formation of socio-economic competence of cadets and military students in the process of continuing education at the National Border Guard Academy.

The system of SET of cadets and military students in the process of continuing education in NASBGSU combines the content and structural relationships and interdependencies of five components, which are presented in the form of a structural and functional model: *purpose component* contains a goal that is determined by the social order of the society for training border guards in the areas of our research (cultural, professional, methodological, subject-personal); *theoretical-methodological* - covers the theoretical and scientific-methodological foundations of the research (features and requirements for socio-economic competence; methodological approaches to SET of cadets and military students in the process of continuing education in the academy; a set of principles of SET of cadets and military students), relaying four levels of methodological knowledge about the process under study; *content-practical component* contains pedagogical conditions of SET of cadets and military students in the process of continuing education in the academy; *evaluation-analytical* - specifies the component structure of socio-economic competence of border guard officers with Bachelor and Master levels of higher education; *result component* demonstrates criterion-level diagnostics and the predicted result - developed socio-economic competence of border guards.

The formative stage of the experiment lasted during 2014-2018 and was conducted at the Border Guard Academy. At this stage, 203 cadets, 92 military students, and 16 teachers took part in the experiment.

Before the start of the formative stage, participants were divided into Control (hereinafter referred to as CG) and Experimental (hereinafter referred to as EG) groups. Control groups were trained according to the traditional approaches, and others – according to an experimental methodology, in accordance with the proposed system of formation of SET of future border guard officers and Master degree students in the process of continuing education in the HMEI, which provided for the implementation of certain pedagogical conditions.

In particular we carried out *selection, structuring and construction of the content of educational material of the disciplines* "Political and Economic Systems", "Sociology, Ethics, Aesthetics and Religious Studies", "Philosophy", "Pedagogy and Psychology" (at the Bachelor level) and "Professional Pedagogy and Moral and Psychological Support", "Problems of the Economy of Operation of Vehicles and Special equipment", "Scientific Foundations of Management" and the special course "Military-political and Socio-economic Problems of Military and Public Administration" (at the Master level) taking into account the need for purposeful influence on the formation of each component of socio-economic competence of border guard officers with a Bachelor and Master levels of higher education.

It was important to *conduct optimization of the use of modular and project-based training technologies* with the help of pedagogical practical tools, in particular, the appropriate forms and methods of organizing educational activities of cadets and students. In the EG, in addition to traditional teaching methods, methods of stimulating and motivating educational and cognitive activities were widely applied (role-playing game using simulated professional situations, the "barter" method, positioning method, case study method, debate, discussion, brainstorming method, round table method, trainings, expression method, working with aphorisms and parables, collage method, dramatization method, solving psychological problems, project method, methodological techniques "stickers", "deaf phone", "terminological warm-up", etc.).

Method for analyzing specific quasi-professional socio-economic situations in the SET system helped develop the ability of border guards to analyze the situation, work with information, and defend their views, which, in turn, allowed them to properly navigate the specific socio-economic conditions of their professional activity. Conducting practical classes using the method of analyzing specific situations differed from traditional training sessions. In this case teachers chose problems that did not have an unambiguous solution as the basis for such a situation.

Using a variety of *methods of monitoring the achievements of border guards* provided an

opportunity to monitor and correct the proposed SET system for future border guard officers and Master degree students in the process of continuing education at various stages. Cadets and military students tested their knowledge, skills, and abilities in real-world professional conditions during various types of internships at the state border protection units.

Based on the results of the experimental study, a comparison was made of the formation of all components and in general the socio-economic competence of cadets (Table 1) and students (Table 2) of the NASBGSU at the stages of input and final control by four levels (optimal, sufficient, satisfactory, and initial).

Table 1.

Distribution of cadets of the control and experimental groups by the levels of formation of socio-economic competence at the entry and final stages of the experiment CG=105, EG=98, (number, %), (authors' development)

Levels of SEC formation of the Academy cadets (Bachelor Level)	Groups, number of participants	Control Stage			
		Entry		Final	
		Q-ty	%	Q-ty	%
Optimal	CG	18	17,14	21	20,00
	EG	16	16,33	27	27,55
Sufficient	CG	46	43,81	21	20,00
	EG	44	44,90	53	54,08
Satisfactory	CG	36	34,29	34	32,38
	EG	34	34,69	18	18,37
Initial	CG	5	4,76	34	32,38
	EG	4	4,08	0	0
Averaged values	CG	3,7		3,9	
	EG	3,7		4,1	

Table 2.

Distribution of Master degree military students of the control and experimental groups by the levels of formation of socio-economic competence at the entry and final stages of the experiment, CG=47, EG=45 (number, %)

Levels of SEC formation of the Academy military students (Master Level)	Groups, number of participants	Control Stage			
		Entry		Final	
		Q-ty	%	Q-ty	%
Optimal	CG	9	19,15	13	27,66
	EG	9	20,00	16	35,56
Sufficient	CG	22	46,81	24	51,06
	EG	21	46,67	24	53,33
Satisfactory	CG	14	29,79	10	21,28
	EG	13	28,89	5	11,11
Initial	CG	2	4,25	0	0
	EG	2	4,44	0	0
Averaged values	CG	3,8		4,1	
	EG	3,8		4,2	

According to the results of the analysis of the values presented above, we can say that there is a positive dynamic in the CG (the values for the optimal level of SEC formation increased - from 17.14% to 20.00%, for sufficient level - from 43.81% to 47.62%, also a decrease is observed at the satisfactory level - from 34.29% to 32.38%; as for the EG, at the optimal level - an increase is observed in values from 16.33% to 27.55%, at a sufficient level - from 44.90% to 54.08%, and according to the satisfactory level - there is a decrease from 34.69% to 18.37%.

The significance of the presented results in the formation of the SEC of cadets of CG and EG was proven using mathematical statistics - the Fisher test, the calculations of which are as follows: CG $F_{emp} = 1.25$, which exceeds the limits of F_{kryt} (1.3–1.7), and in EG $F_{emp} = 1.34$.

Similar calculations were made in relation to military students (Master Degree). According to the optimal level in CG, there is positive dynamics - from 19.15% to 27.66%, according to

the sufficient level - from 46.81% to 51.06%, as for the satisfactory level, a decrease was observed from 29.79% to 21.28%. In the EG, the military students showed the following: the optimal level increased from 20.00% to 35.56%, the adequate level increased from 46.67% to 53.33%, and the satisfactory level decreased from 4.25% to 0.

The statistical significance of the results of the development of the SEC of military students of the Master's level of education in CG and EG was also proven using the Fisher test, namely: EG $F_{emp} = 1.56$, which indicates the reliability of the results obtained, and in CG $F_{emp} = 1.28$, which goes beyond the limits of F_{kryt} index (1.4–1.8).

Positive dynamic changes presented in the distribution of the levels of formation of SEC of the cadets at the final stage of the formative stage of the experiment are shown in Figure 2, in relation to the military students - the level of development of their SEC is shown in Figure 3.

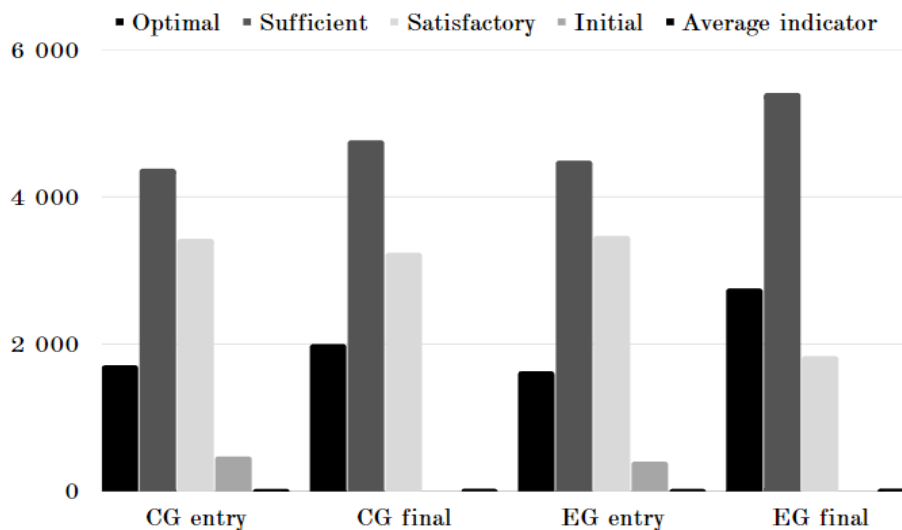


Figure 1. Dynamics of socio-economic competence formation of cadets of Control and Experimental Groups.

The analysis of the results of the experimental testing of the designed SET system of future and current officers of the Border Guard Agency during their continuous education in a higher

military education institution is a confirmation of its effectiveness and success in the educational activities of this institution.

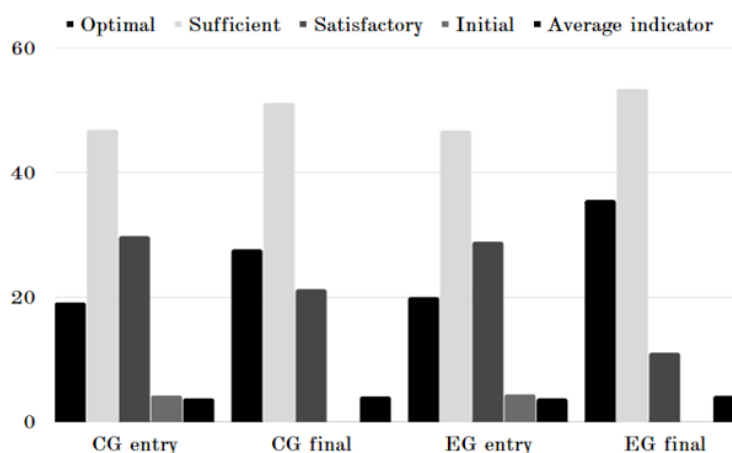


Figure 2. Dynamics of socio-economic competence development of Master degree military students in control and experimental groups.

Conclusions

The results of the analysis of literature sources made it possible to determine the essence of key concepts used in the context of scientific research. Taking into account the official requirements for officers of the operational-tactical level, the SEC of military students is defined as a professional and personal characteristic that reflects the ability and readiness to design and implement effective professional and social activities in modern economic conditions, its structure and content (ability to analyze the socio-political situation in the area of responsibility; conducting information, propaganda and explanatory work using various means of information dissemination; readiness to organize military economy in the border guard division; knowledge of the nature of production activities of the local population and capabilities of the border guard division, etc.).

The structure of socio-economic competence of border guard officers with Bachelor and Master degrees is formed by motivational-ideological, informational-content, conative-deontological, personal-reflexive components. The formation of socio-economic competence of cadets and military students is diagnosed according to the following criteria: motivational (serves to assess the motivational-ideological component), cognitive (to assess the information-content component), activity (corresponds to the conative-deontological component), developing (reveals the personal-reflexive component).

To implement the SET system for cadets and students in the process of continuing education, academy created an optimal educational environment built in compliance with a number

of effective organizational and pedagogical factors that contributed to optimizing the continuing education of border guards. These factors include six pedagogical conditions of SET of officers at the first (Bachelor) and second (Master) levels of higher education in the process of continuing education in HMEI, implementation of which helped to solve the problems of forming socio-economic competence.

In compliance with the requirements of the principles of integrity, openness and nonlinearity, that are applied to pedagogical systems, and taking into account the conceptual foundations of SET of cadets and military students in the process of continuing education in HMEI, a system of SET has been developed and theoretically justified, each element of which demonstrates its dynamism, integral properties of the whole and is characterized by stable, repeated cause-and-effect relationships. A structural-functional model of the process was created.

Verification of the reliability of the authors' SET system, which provides for the formation of socio-economic competence of future border guard officers and Master degree students in the process of continuing education, is confirmed using statistical methods of processing data from a pedagogical experiment, comparing average indicators, variances and determining the Fischer criterion (F-criterion) for control and experimental groups of cadets and students of the National Academy of the SBGSU, which proved the reliability of the results obtained.

Bibliographic references

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