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DYNAMICS OF METHODOLOGICAL PREPARATION OF CADETS IN THE OPTIMIZATION OF PHYSICAL TRAINING

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Abstracts

Actuality. A large number of specialists take part in the process of physical training of servicemen, but the leading place in this belongs to the unit commanders. Preparedness of unit commanders for the duties of the leaders of physical training forms begins at the higher military education institutions (HMEI) in the process of physical training. Methodological skills-formation among graduates of the HMEI is a direct contribution to the methodological provision of physical training in troops, a prerequisite for the excellent physical training, which is a component of combat training. In scientific works by O. M. Loyik (2000, 2012), O. M. Olkhovyi (2005–2014), Ye. D. Anokhin (2010), S. V. Romanchuk (2015) and others, it is noted that the process of physical fitness level of cadets in HMEI is reduced to the formation of physical features. **The purpose of the study** – to experimentally verify the effectiveness of the author’s program of the methodological component of the discipline «Physical Education and Special Physical Training» for the cadets of HMEI for the methodological skills-formation among future unit commanders. **Methodology of the study** – organized a four-year pedagogical experiment. Sixty cadets participated in it (experimental group, n=30; control group, n=30). The effectiveness of the experimental concept was determined using changes in the indicators of methodological and theoretical training of cadets. **The Results of the Study.** The results of the pedagogical experiment, which prove the effectiveness of the author’s program of methodological preparation, were considered. It was determined that during the study at HMEI the results of the dynamics of the average level of methodological preparedness of control group cadets improved by 0,3 points (from 3,7 to 4,0 points), while no significant changes occurred ($t=1,28$; $p>0,05$). It was proved that at the end of the experiment, the level of methodological preparation among graduate cadets of the experimental group is 1,0 point, in comparison with the initial level (from 3,6 to 4,6 points), that is statistically significant ($t=4,38$; $p<0,001$). **Conclusions.** The program of improving the methodological preparation in the process of physical training in HMEI is recommended to be used during the training of cadets of HMEI.

Key words: leaders, physical training, methodological preparation, author’s program, cadets.

Андрій Петрук, Сергій Романчук, Орест Лесько, Андрій Демків, Сергій Гоманюк, Олександр Воронцов. Динаміка методичної підготовленості курсантів в процесі оптимізації фізичної підготовки. **Актуальність.** У процесі фізичного вдосконалення військовослужбовців бере участь велика кількість фахівців, але провідне місце в цьому належить командирам підрозділів. Їх підготовка до виконання обов’язків керівників форм фізичної підготовки розпочинається в стінах вищих військових навчальних закладів (ВВНЗ) у процесі фізичної підготовки. Формування методичної майстерності випускників ВВНЗ – це прямий внесок у методичне забезпечення фізичної підготовки у військах, необхідна передумова відмінної фізичної підготовки, яка є складовою частиною бойової. У наукових працях О. М. Лойка (2000, 2012), О. М. Ольхового (2005-2014), Є. Д. Анохіна (2010), С. В. Романчука (2015) та інших відзначено, що процес фізичної підготовки курсантів у ВВНЗ зводиться тільки до формування фізичних якостей. **Завдання роботи** – експериментально перевірити ефективність авторської програми методичної складової навчальної дисципліни «Фізичне виховання та спеціальна фізична підготовка» курсантів ВВНЗ у формуванні методичних умінь та навичок у майбутніх командирів військових підрозділів. **Методологія проведення роботи** – організований чотирирічний формувальний педагогічний експеримент. У ньому брали участь 60 курсантів (експериментальна група, n=30; контрольна група, n=30). Ефективність експериментальної концепції визначили, використовуючи зміни показників методичної та теоретичної підготовленості курсантів. **Результати роботи.** Розглянуто результати педагогічного формувального експерименту, які доводять ефективність авторської програми методичної підготовки. Установлено, що в курсантів контрольної групи протягом навчання у вищому військовому навчальному закладі в процесі дослідження за результатами динаміки середнього рівня методичної підготовленості покращилася на 0,3 бала (від 3,7 до 4,0 бала),

при цьому достовірних змін не відбулось ($t=1,28$; $p>0,05$). Доведено, що по закінченню експерименту в курсантів-випускників експериментальної групи різниця рівня методичної підготовленості складає 1,0 бала, порівняно з вихідним рівнем (від 3,6 до 4,6 бала), що є статистично достовірно ($t=4,38$; $p<0,001$). **Висновки.** Програму вдосконалення методичної підготовленості в процесі фізичної підготовки у ВВНЗ рекомендуємо використовувати під час підготовки курсантів ВВНЗ.

Ключові слова: керівники, фізична підготовка, методична підготовленість, авторська програма, курсанти.

Андрей Петрук, Сергей Романчук, Орест Леско, Андрей Демкив, Сергей Гоманюк, Александр Воронцов. Динамика методической подготовленности курсантов в процессе оптимизации физической подготовки.

Актуальность. В процессе физического совершенствования военнослужащих принимает участие большое количество специалистов, но ведущее место в этом принадлежит командирам подразделений. Их подготовка к выполнению обязанностей руководителей форм физической подготовки начинается в стенах высших военных учебных заведений (ВВУЗ) в процессе физической подготовки. Формирование методического мастерства выпускников ВВУЗ – это прямой вклад в методическое обеспечение физической подготовки в войсках, необходимая предпосылка отличной физической подготовки, которая является составной боевой подготовки. В научных трудах А. Н. Лойко (2000, 2012), А. Н. Ольхового (2005–2014), Е. Д. Анохина (2010), С. Романчука (2015) и др. отмечается, что процесс физической подготовки курсантов ВВУЗ сводится только к формированию физических качеств. **Задачи работы** – экспериментально проверить эффективность авторской программы методической составляющей учебной дисциплины «Физическое воспитание и специальная физическая подготовка» курсантов ВУЗа на формирование методических умений и навыков у будущих командиров воинских подразделений. **Методология проведения работы** – организован четырехлетний формовочный педагогический эксперимент. В нем принимали участие 60 курсантов (экспериментальная группа, $n = 30$; контрольная группа, $n = 30$). Эффективность экспериментальной концепции была определена, используя изменения показателей методической и теоретической подготовленности курсантов. **Результаты работы.** Рассмотрены результаты педагогического формирующего эксперимента, которые доказывают эффективность авторской программы методической подготовки. Установлено, что у курсантов контрольной группы на протяжении обучения в высшем военном учебном заведении в процессе исследования по результатам динамики среднего уровня методической подготовленности улучшилась на 0,3 балла (от 3,7 до 4,0 баллов), при этом достоверных изменений не произошло ($t = 1,28$, $p > 0,05$). Доказано, что по окончании эксперимента у курсантов-выпускников экспериментальной группы разница уровня методической подготовленности составляет 1,0 балла, по сравнению с исходным уровнем (от 3,6 до 4,6 балла), что является статистически достоверным ($t = 4,38$; $p < 0,001$). **Выводы.** Программу совершенствования методической подготовленности в процессе физической подготовки ВВУЗа рекомендуем использовать при подготовке курсантов ВУЗа.

Ключевые слова: руководители, физическая подготовка, методическая подготовленность, авторская программа, курсанты.

Introduction. Adequate training and warfare under modern conditions depends on physical fitness as well, and a methodological part is one of the core elements and it has been proved by scholars [1, 4, 5, 7, 12]. For almost three decades methodological element of physical training in the Armed Forces of Ukraine (AFU) has remained beyond scholars' attention. Nowadays we lack systematic and combined researches on this topic. At the stage of reforming AFU methodological element of physical training in higher military education establishments in which commanding military professionals undergo training requires significant changes as to its further improvement and development.

The article is a part of scientific programmes of scientific and scientific-technical activities plan of Physical Training HQs of Training and Routine Military Activities Management Central HQs of AFU for 2011–2016 according to the topic: “Model of physical training in the AFU as to 2017 and perspectives of its development”, code – “Perspective-FP” (state license number - 0101U001568), plan of research work for 2011-2016 of the Ministry of Defence of Ukraine in the frame of topics “Condition of criterion and figures of servicemen psychological capabilities during combat actions”, code – “Capabilities” (state license number - 0101U001767).

Analysis of recent researches and publications. The issue of enhancing level of servicemen's methodological readiness on stages of professional growth was raised by scholars in their publications, namely: S.V. Romanchuk, O.M. Olkhovyi, O.M. Loiko, Y.D. Anokhin, A.I. Yavorskyi and others [5, 8, 9, 10, 12]. From scholars' perspective one of the main approach which could be taken into consideration in

solving questions of intense cadets` physical training is improvement of basics of physical training process.

Professor O. M. Olkhovyi and others have worked out recommendations on improvement level of methodological readiness of future officers under module-rating conditions. [5, 11]. Professor A.V. Mahliovanyi and others researched various aspects of training organization of those who are responsible for physical training in foreign armies [2]. Analysis of foreign experience showed that much more attention has been paid to obtaining theoretical knowledge, shaping methodological skills and capabilities for self-study. Other scholars took into consideration some aspects of commanders training but this seems to be not enough due to changes in structure and contents of combat training, due to new approaches for utilization methods and means of troops training. Analysis of scientific literature proved that there are lacks of works aimed at research of influence of various authors` programmes on cadets` methodological readiness in the process of physical training under conditions of AFU reformation and establishment ways of its improvement.

Goal of investigation: to check effectiveness of authors` programme as a methodological part of academic major “Physical education and special physical training” of cadets from higher military education establishments as to future commanding officers` possessing methodological skills.

Material and methods of investigation: theoretical analysis of scientific-methodological literature and global informational network Internet; forming pedagogical experiment; mathematical-statistic processing of data which was being researched. The research was conducted in the National Army Academy (Lviv). 60 cadets were involved in the research (experimental group n=30; control group, n=30). We have established a 4 year forming pedagogical experiment. Changes of methodological and theoretical preparedness of cadets were the basics for defining experimental concept effectiveness.

Results of the research. Discussion. During the analysis of doctrines on physical training it has been identified that the core elements of training for chiefs of physical training are the process of obtaining theoretical knowledge and methodological skills on planning and delivery of lessons, morning PT, sports events, physical training during combat activities and self-training. This process is delivered in all high military education establishments as well as individual training. [3]. Professor O. M. Olkhovyi made investigations which showed that main disadvantages of present system of training commander are disregard of entry physical fitness level of those who are trained; absence of differentiation between academic majors depending on professional tasks, contents and skills for their fulfillment; absence of grade system on how the information was assimilated. [5]. Methodological training – is one of the competences being formed in cadets. This chapter of curriculum implies acquiring skills and knowledge in planning and delivery various forms of servicemen physical training and development of main psychological skill by cadets. During physical training commanders act as planners, instructors and trainers for subordinates. The need of training personnel and provide knowledge on physical exercises, techniques and actions, developing and enhancing moral characteristics makes the commander know modern methods of physical training management, methodological skills on planning and delivery of physical training. Without all these aspects it is impossible to fulfill the designated tasks efficiently as to servicemen physical fitness to accomplish combat missions.

Formation of methodological skills of cadets – is a direct contribution to methodological support of physical training in units, and necessary preliminary aspect in effective process of improving physical capabilities of servicemen of military units and formations of the AFU and due to this meeting the necessary level of readiness.

Author`s programme of methodological training of cadets` despite the actual programme cadets have in higher military education establishments of Land Forces implies instructors` training in accordance with skills and knowledge that cadets gain during subject-matter specialties [6].

Defining the level of methodological fitness of cadets from experimental group (EG) and control group (CG) takes place during examinations on discipline “Physical education, special physical training” at the end of I, II, III and IV academic years.

Content of methodological task met the skills and knowledge capacities that were acquired during the academic year. New peculiarities of cadets' methodological fitness during physical training are described in author's programme what differs it from the classical approach. New components of methodological expertise, requirements and evaluation of Chief of physical training, methodological asks for cadets of different academic years and specialties who take into consideration peculiarities of planning physical training in military units which cadets will be posted in as those responsible for physical training. A handbook has been worked out on planning individual physical training as a tool for young officers.

Based on the results of examinations on physical education and special physical training in control group (CG n-30) and in experimental group (EG n-30) during 2013–2017 the dynamics of methodological preparedness (fitness) was identified.

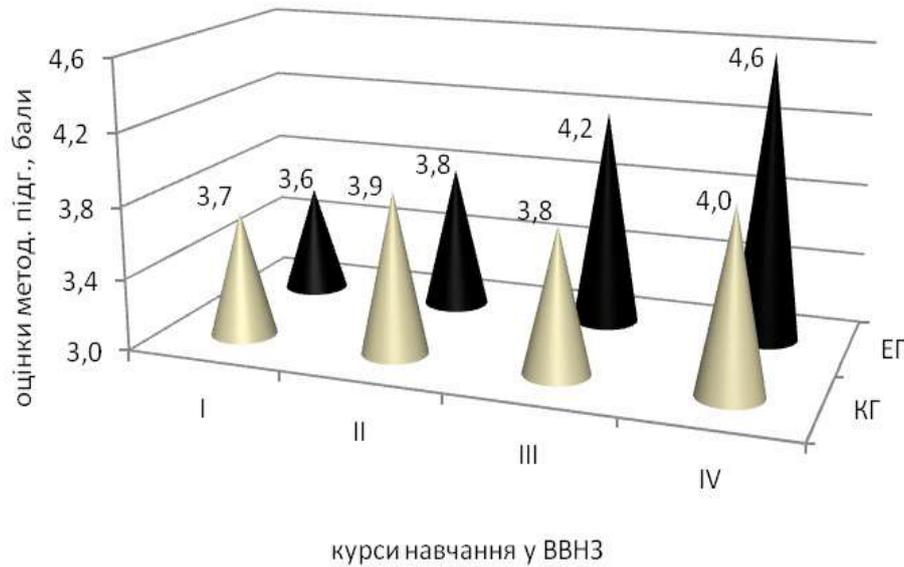
Results we got at the end of the first academic year are thought to be the initial level of methodological training. Statistics processing of received information does not show discrepancies between figures of cadets from EG ($3,6 \pm 0,2$ grade) and from CG ($3,7 \pm 0,2$ grade) ($t=0,45$; $p>0,05$). Those cadets who underwent classical programme of training on polishing methodological training level while studying in high military education establishment appeared to be of positive result (waving result). Thus while being on the second academic year GPA improved to $3,9 \pm 0,2$ in comparison with 1 year when it was $3,7 \pm 0,2$ but accurate difference in figures are not identified ($t=0,61$; $p>0,05$). At the end of the third academic year figures of cadets' methodological training of CG deteriorated to 0,1 grade, so GPA was 3,8, in comparison with 4semester during one year period there were no changes ($t=0,37$; $p>0,05$). At the end of the experiment the discrepancy of level of methodological training of cadets-graduates was 0,2 grade in comparison with cadets of the third academic year ($4,0 \pm 0,2$ бали) ($t=1,01$; $p>0,05$). During the research it has been identified that cadets from CG improved their level of methodological training while being in high military education establishment for 0,3 grade, but to be accurate – no changes ($t=1,28$; $p>0,05$; table. 1).

Those cadets who underwent author's programme of improvement methodological efficiency while studying in a higher military education establishment showed positive changes. So during training GPA of cadets' of EG at the second academic year improved to $3,8 \pm 0,2$ in comparison with the first academic year when it was $3,6 \pm 0,2$ grade, but accurate discrepancy in the figures has not been identified ($t=0,76$; $p>0,05$). At the end of the third academic year figures of cadets' methodological efficiency of EG improved for 0,4 grade, so the GPA is 4,2 grades, in comparison with the results got during the 4th semester no changes were seen for that one year ($t=1,32$; $p>0,05$). At the end of the 4th academic year figures of cadets' methodological efficiency of EG improved for 0,4 grade, so the GPA is 4,6 бала, in comparison with the results got during the 4th semester no changes were seen for that one year ($t=1,80$; $p>0,05$). At the end of the experiment the difference of methodological training level of cadets-graduates is 1,0 grade, in comparison with methodological training level of the same cadets at the end of the first academic year ($3,6 \pm 0,2$ grade, $4,6 \pm 0,2$ grade) that is accurate IAW statistics ($t=4,38$; $p<0,001$) (Pic. 1).

Qualitative analysis of the level of methodological efficiency that graduates of higher military education establishment possess and who took part in the experiment showed that at the end of training there is credible discrepancy between EG and CG ($t=3,94$; $p<0,001$). It should be pointed out that most of cadets of EG showed excellent results in methodological efficiency level (63,3%), 36,7% cadets have grade "good". Most cadets in CG have good level of methodological efficiency (66,6%), 16,7 % of personnel has grade "satisfactory" and the same percentage of cadets of CG (16,7%) possess excellent level of methodological efficiency (Pic. 2).

While implementing author's programme of formation methodological efficiency of cadets of higher military education establishments during the physical training process it has been identified that the accurate task statement and understanding of methodological lessons contents, cadets' understanding of necessity to learn teaching methods have bigger effect in comparison with classical programme, namely organization of methodological training. Thus it has been proved that author's programme of establishing

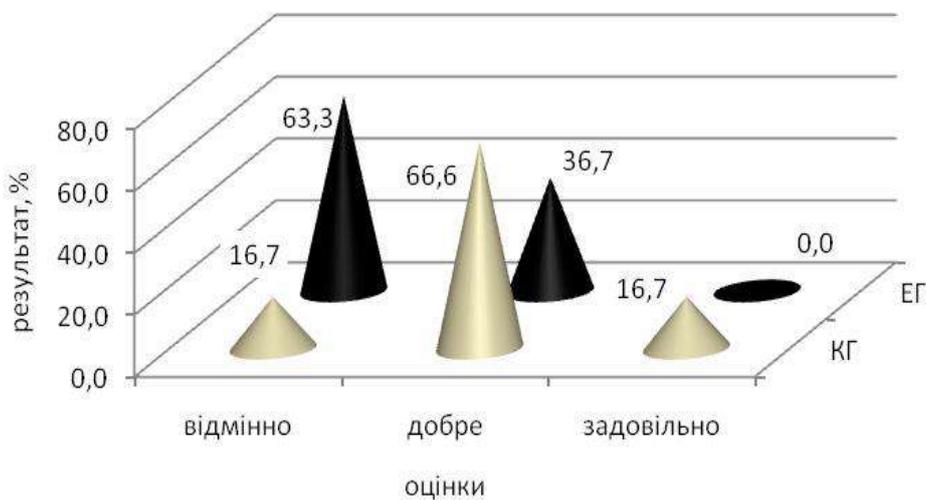
methodological efficiency allows to train graduates – future commanders of military units more effective to plan and deliver various forms of physical training for subordinates.



Pic. 1. Dynamics of cadets' methodological efficiency - EG (n=30) and CG (n=30) during the experimental period, grade

Remarks:

- cadets' GPA (CG)
- cadets' GPA (EG)



Pic. 2. Characteristics of cadets' methodological preparedness (fitness), EG (n=30) and CG (n=30) at the end of experiment, %

Remarks:

- cadets' GPA (CG);
- cadets' GPA (EG);

Conclusion. The process of cadets' training of commanding higher military education establishments of AFU depends on instructors and leaderships' methodological efficiency, their theoretical knowledge

together with employment of modern pedagogical methods, forms, approaches and activities. Most scholars think that present methodological system of physical training is not sufficient enough and requires changes based on modern tendencies of military education development taking into account practical experience in ATO in the East of Ukraine and scientific-methodological experience of leading foreign countries. The results of pedagogical experiment prove that author's programme of methodological training is of great effectiveness. Cadets from CG while studying in higher military education establishment improved the average level of methodological efficiency to 0,3 grades (from 3,7 to 4,0 grades), but no accurate changes happened ($t=1,28$; $p>0,05$). Cadets of EG who underwent author's programme of improvement methodological efficiency during physical training in higher military education establishment displayed some positive changes. At the end of the experiment the difference of cadets-graduates level of methodological efficiency in comparison with the initial figures was 1,0 grade, (from 3,6 to 4,6 grades), that is statistically accurate ($t=4,38$; $p<0,001$). We recommend to utilize this very programme of improving methodological efficiency in the process of physical training in higher military education establishment in cadets' training process.

Perspective of further research is a comprehensive approach to design and improvement of scientifically proved programmes and methodological recommendations on planning various activities for servicemen during physical training process.

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