

The Influence of the Teacher's Social and Pedagogical Activities on the Health-Promoting Competence of Youth

 Mykola Nosko¹,  Olha Mekhed²,  Svitlana Ryabchenko³,  Oksana Ivantsova⁴,  Iryna Denysovets⁵,  Grygoriy Griban⁶,  Stanislav Prysyazhniuk⁷,  Dmytro Oleniev⁸,  Nataliia Kolesnyk⁹ and  Pavlo Tkachenko¹⁰

¹Doctor of Pedagogical Sciences, Professor, Rector, Professor of the Department of Pedagogy, Psychology and Methodology of Physical Education, Taras Shevchenko National University «Chernihiv Colehium», Chernihiv, Ukraine.

²Ph.D. in Biology, Associate Professor, Head of the Department of Biology, Taras Shevchenko National University «Chernihiv Colehium», Chernihiv, Ukraine.

³Ph.D. in Pedagogy, Associate Professor of the Department of Biology, Taras Shevchenko National University «Chernihiv Colehium», Chernihiv, Ukraine.

⁴Ph.D. in Pedagogy, Associate Professor of the Department of Foreign Languages, Koroliov Zhytomyr Military Institute, Zhytomyr, Ukraine.

⁵Ph.D. in Philology, Associate Professor of Ukrainian Studies, Culture and Documentation Department, National University «Yuri Kondratyuk Poltava Polytechnic», Poltava, Ukraine.

⁶Doctor of Pedagogical Sciences, Professor, Professor of the Department of Physical Education and Sport Improvement, Zhytomyr Ivan Franko State University, Zhytomyr, Ukraine.

⁷Doctor of Pedagogical Sciences, Professor, Professor of the Department of Safety of Life and Physical Education, State University of Telecommunications, Educational and Scientific Institute of Humanities and Natural Sciences, Kyiv, Ukraine.

⁸Ph.D. in Pedagogy, Associate Professor, Lecture of the Department of Theory, Methodology and Organization of Physical Training and Sports, The National Defence University of Ukraine named after Ivan Cherniakhovskyyi, Educational and Scientific Institute of Physical Culture and Sports and Health Technologies, Kyiv, Ukraine.

⁹Ph.D. in Pedagogy, Associate Professor, Associate Professor of the Department of Artistic Disciplines and Teaching Methods, Zhytomyr Ivan Franko State University, Educational and Research Institute of Pedagogics, Zhytomyr, Ukraine.

¹⁰Ph.D. in Pedagogics, Associate Professor, Associate Professor of the Department of Physical Education, Polissia National University University, Zhytomyr, Ukraine.

Abstract

The work presents the results of a pedagogical experiment related to the peculiarities of training future teachers of biology and health basics to carry out social and pedagogical activities in order to form health-promoting competence of students who are future teachers. The integration processes of university education require defining priorities for the formation of health-promoting competence of future professionals. The organization of the educational process at higher education institutions ensures quite an extensive study of the health preservation of young people, in particular, the implementation of relevant programs and projects, the development of textbooks, guidelines, educational and methodical manuals. In addition, the development and widespread use of corresponding educational technologies aimed at positive self-perception, the values-based attitude of the individuals to their own health and the health of others. Therefore, the social order for a teacher, who knows health-preserving technologies of teaching and education, is able to organize the educational process and develop the health-preserving competence of students, becomes a priority. The health-preserving competence is a complex integrated personality formation, the sense of which is a set of interconnected components. The paper describes the results obtained applying the methodology for indicating the formation levels of the health-promoting competence of the future teachers of biology and health basics according to the developed criteria. The quantitative and qualitative analysis of the received results was carried out, the conclusions on the efficiency of introducing health-promoting technologies for the social and pedagogical activity of the teachers of biology and health basics were made. Determining formation the levels of the health-promoting competence of future teachers, the following indicators were taken into account: motivation to maintain health and value-based orientations (motivational value-based criterion), the amount and completeness of knowledge and procedural skills (cognitive criterion), the level of adaptive capabilities and working capacity (personal criterion). The used

classification of the health-preserving competence levels of the future teachers of biology and health basics includes three levels: beginner, normative, and active. On the basis of quantitative and qualitative indicators, the comparative analysis of the received intermediate and final results of the experiment concerning the relevance of introducing the teacher's social and pedagogical activity to form health-preserving competence was carried out. The reliability of the study results was ensured by using statistical methods of processing the results. The analysis of the obtained results of the control and experimental groups proves the efficiency of introducing a scientifically substantiated model, which provides the formation of health-promoting competence, the management of this process, the use of educational and methodical manuals, practical recommendations developed by the authors of the study, into the process of social and pedagogical activity of biology and health basics teachers that will make it possible to efficiently form the students' health-promoting competence in the future.

Keywords: health-promoting competence, higher education institutions, social and pedagogical activity, criteria of competence formation.

1. Introduction

The humanistic model of the educational process defines a socially significant life strategy for the consistent formation of the teachers' health a culture as a necessary condition for the school and university students' development of the positive motivation for a healthy lifestyle. At the same time, the development of the Ukrainian state, ensured by the humanization and democratization of modern society, involves the formation of a comprehensively developed, socially active, business personality, capable of self-determination and self-realization. A new stage of the historical development of Ukraine requires the implementation of a realistic and effective program for the formation of a modern highly-qualified, morally-prepared personality with a developed creative and responsible attitude to business. The above imposes serious requirements on the graduates of secondary education institutions and, consequently, higher education institutions, which are designed to provide professional training for teachers who would successfully prepare young people for the life under the new conditions of a humane and democratic society. It should be noted that any qualified specialist needs deep knowledge. Professionally significant personal qualities become especially important for the pedagogical activity of a teacher. The character formation of a teacher is first of all the formation of one as a person and only then as a professional with specialized knowledge in a particular field [1, 2, 3].

Under the current conditions of reforming the educational system of Ukraine, one of the urgent needs is the training of highly-qualified specialists, especially teachers. This necessitates the application of a competency-based approach. The graduates of pedagogical higher education institutions (HEI) must be ready for professional activity under specific conditions, including the energetic nature of motor actions and special external conditions of activity, which requires a high level of such qualities as the activity, the ability to adapt in social and professional areas, a high level of physiological and psychological capabilities. The ability of such specialists to perform professional activities not only depends on their vocational training but also requires a high level of physical, mental, social, and spiritual health [4, 5, 6].

At the same time, environmental pollution and socio-economic transformations that have led to lower living standards, has worsened the health of the population of Ukraine in recent years [7, 8, 9]. Therefore, an important task for the pedagogical universities graduates is the formation of health-promoting competence as a component of their professional competence [10, 11, 12]. Besides, the question of assessing the level of its formation and the development of corresponding criteria arises.

Therefore, the social order for a teacher, who knows health-preserving technologies of teaching and education, is able to organize the educational process and develop the health-preserving competence of students, becomes a priority. The higher education institutions hold the responsibility for the modernization of the training of a new generation of educators in terms of students' mastering a set of innovative motives and value-based attitudes, knowledge, skills, and abilities in the field of health promotion.

The successful solution of the national education problems is directly related to the improvement of training future teachers in the field of social and pedagogical activities. Modern society challenges a teacher not only to be a unique person, a bearer of universal human values, deep and diverse knowledge, and high culture but also to strive for embodying the human ideal.

2. Literature Review

Health-promoting competence is a complex integrated personality formation, the sense of which is a set of interconnected components [13, 14, 15]. In particular, the following main provisions of the formation of health-promoting competence of future specialists were developed: ensuring a high level of the students' health and education of health-promoting culture as a set of the students' conscious attitude to human health and life; the formation of health-promoting competence that will enable a student to solve the problems of a healthy lifestyle, safe behavior, the tasks related to providing first aid, psychological and qualification assistance independently and effectively; promoting health culture, developing sustainable motives and behavior [16, 17, 18]. Striving to form the future teacher's healthy life position, an educator should not be limited by the function of an informant, one should become an organizer of the students' health activities, which contribute to the development of health-promoting views, thinking and consciousness necessary to create a health-preserving environment at higher education institutions [19, 20, 21].

Social and pedagogical activity as a kind of the teacher's professional activity is based on general philosophical, psychological, and pedagogical approaches to interpreting its essence and structure, and embodies social aspect (social problems of students; their psychological, medical, and pedagogical study; sociocultural features of an educational professional environment, etc.). One of the priorities of social and pedagogical activities of biology and health basics teachers is the cooperation establishment and efforts coordination of all parts of the social and pedagogical influence on the personality development of in order to motivate one to a healthy lifestyle, promote the formation of young people's health-preserving competence. A teacher of biology and health basics can carry out relevant work better than anyone because health issues are raised in almost every biology lesson [22, 23, 24]. In addition, the work will be of better quality and a positive result will be more possible if the process of forming health-promoting competence involves other participants in the educational process, in particular home form teachers, school authorities, and parents of students. Teaching and education are always more effective when there is a resonance between the efforts of teachers, students, and their parents, i. e. strengthening of the adolescents' actions, aimed at self-education and professional self-improvement, by the adequate actions of parents and teachers. And it is possible provided that the subjects of teaching, educational, and professional interaction are properly prepared to cooperate with families of different types, implementing the functions of social and pedagogical activities. The formation of a physically, intellectually, and spiritually harmonious student's personality depends on the readiness of a teacher [13, 25]. Current programs in biology and such school subject as Health Basics imply the development of the connections between themes, cycles, and subjects. This contributes to the actualization of learned information, but the personal qualities of a teacher-practitioner influence the result of students' work.

Today, the issues of education quality, competition in the market of educational services are actualized, the struggle for leadership in terms of the number of applicants, the prestige of one's diploma is reinforced. All this contributes to the innovative methods of teaching, new educational technologies, and services. In contrast to other sciences, such school subjects as Biology and Health Basics are closely related to life [5, 11]. Therefore, the personal moral qualities of a biology teacher and one's willingness to teach young people to understand the value of human life, the ways of survival in effect are important.

In recent years, the health of school students is considered an important aspect of a teacher's professional activity and an indicator of professionalism [26, 27, 28]. As a result, there is an urgent need to train teachers not only as professional subjects but also as specialists who are able to form a high level of the students' health culture. Thus, the problem of preparing future biology and health basics teachers to teach students the issues of a safe and healthy lifestyle is obvious. This problem is fully covered in the research of modern scientists [9, 12, 29]. However, the analysis of the cognitive activity organization of the students of pedagogical higher education institutions showed that the introduction of the methods of forming a healthy and safe lifestyle by HEI teachers not only at Biology and Health Basics lessons but also while implementing social and pedagogical activities requires attention.

The research studied the role of implementing the idea of forming a healthy lifestyle at lectures, seminars, practical classes, and pedagogical practice at school, motivating young students to a healthy lifestyle at pedagogical HEI, forming a strong desire to apply the acquired knowledge in the future professional activities in particular during social and activity. The perception of information on a safe and

healthy lifestyle is based on the understanding of causal relationships of various life processes, a critical attitude to the information coming from the media; forms a strong desire to follow a safe and healthy lifestyle; apply the acquired knowledge in practice [17, 20]. Determining the criteria, it was taken into account that health-promoting competence is an integrated characteristic of a specialist, the structural components of which are axiological, gnoseological, and health and fitness. According to these components, the following criteria for the formation of health-promoting competence were distinguished: motivational value-based, cognitive, and personal [6, 10]. These criteria make it possible to assess the formation level of the health-promoting competence of future teachers and determine the efficiency of the preparation for future professional activities at HEI. The indicators characterizing the formation level are determined for each criterion of the health-preserving competence of future teachers [11, 13].

The motivational value-based criterion characterizes the axiological component of health-promoting competence. Its indicators are the formation of students' values-based attitude to their health and the health of others, a consistent interest, and motivation for health promotion. Self-sufficient values are expressed in the purpose of health-preserving activities, which are associated with the development of personality in the process of personal health improvement, forming health-promoting consciousness. Instrumental values include mastering the theory (norms and principles) and technology (methods and techniques) of health-promoting activities, which are the basis of vocational training. The values of health-preserving activities ensure its social significance and prestige, interest in this activity, the ability to maintain health, create a health-improving educational environment at higher education institutions, the possibility of self-affirmation and professional growth.

An important indicator of the health-preserving competence of a future teacher is a positive motivation to maintain health. The motives for health-promoting activities include social motives (relating to public health promotion); health-promoting motives (directly related to health-promoting activities, for example, the student's understanding of the content of health health-promoting activities, the ability to independently formulate and solve health-promoting problems); the motives of personal development (self-possession, the ability to realize creative potential while performing health-promoting activities). Assessing the health-promoting competence of the future teachers of biology and health basics, a conscious attitude to mastering the competence, the professionalism in practical health-promoting activities, and a creative approach to solving health problems were considered to be sustainable motivation.

The cognitive criterion characterizes the gnoseological component of health competence. The indicators of this criterion are the amount and completeness of knowledge about health and the ways to maintain it, the ability to apply the knowledge, skills, and abilities acquired during training in effect to maintain health during professional activities and in everyday life. The knowledge of health is an important prerequisite for the formation of the health-promoting competence of future teachers because it is the basis for the formation of skills and abilities to maintain health, moral beliefs, aesthetic views, and health-promoting worldview. The knowledge and correctly chosen process of its mastering are the prerequisites for the mental development of a future teacher. As a component of a person's health-promoting worldview, knowledge determines one's attitude to reality, moral views, beliefs, volitional traits and is one of the conditions for the abilities and interests' development [30, 31]. The cognitive criterion also reflects the system of health-preserving skills, which are the result of the qualitative development of health-preserving knowledge, interests, beliefs, and motives. Skills are a system of practical and mental actions that are necessary to align health-promoting information with actions and to apply health-preserving knowledge.

The personal criterion characterizes the health and fitness component of health-promoting competence. The indicators of this criterion are individual psychological and motor qualities that are important for a future teacher, in particular, responsibility, emotional and volitional stability, insistence on high standards, discipline, high efficiency, a high level of the organism's adaptive capacity. These qualities of the personality make the effective self-development of a future expert possible; promote the creative approach to health-preserving activity, the achievement of its highest efficiency. The development degree of the indicator is characterized by the level. In scientific research, much attention is paid to the problem of studying the levels determining the degree of knowledge, skills, and competencies development [32, 33, 34].

Summarizing different approaches to determining the formation levels of training results, there are three formation levels of the health-preserving competence of the future teachers of biology and basics health: beginner, normative, and active [35, 36]. The beginner formation level of health-promoting

competence is characterized by unformed value-based attitude to one's own health and the health of other people; the lack of stable motivation to master health-preserving competence and the norms and rules of health preservation; limited knowledge about health and the ways to preserve it, the lack of their imaginative interpretation and inability to use them in effect, the lack of knowledge about the methods of cognition and activity, the realization of only available information; the lack of skills and abilities to maintain health, the passive application of health-promoting knowledge, the ability to act only on instructions; the lack of desire to master new ways of working, the prevalence of insecurity, indifference, and doubts; the lack of individual psychological and motor qualities that are important for a future specialist, the lack of awareness of their importance for professional activities; the inability to self-education and self-improvement; underdeveloped reflexive thinking, the inability to self-control and inadequate self-assessment of one's own activity. The normative formation level of health-promoting competence is characterized by the acceptance of the values of health promotion only in certain situations; situational interest in health-promoting competence and situational motivation to master it; the knowledge about health and the ways to preserve it, the ability to apply them; skills and abilities to maintain health that are applied in typical situations, tasks performance, mainly according to the instructions or algorithm; adequate orientation in the situations related to maintaining health, the lack of desire to master new ways and methods of activity, the lack of original solutions; poorly formed awareness of the importance of personal qualities for professional activities. The active formation level of health-promoting competence is characterized by the awareness of the importance of health promotion, values-based attitude to one's own health and the health of others; consistent interest and motivation for the formation of health-promoting competence and its further improvement; a system of knowledge about health and the ways to preserve it, the completeness of knowledge, the confidence in their validity, the effective application of knowledge; solid skills and abilities to maintain health during professional activities and in everyday life, the ability to apply the methods of activity under new conditions; the ability to analyze and generalize the experience of maintaining health, the desire to master new ways and methods of activity, the prevalence of creative tasks; such personal qualities as responsibility, insistence on high standards, discipline, the awareness of their importance for professional activity; the ability to self-education and constant desire for self-improvement.

The aim of the study is to determine the formation levels of the health-promoting competence of young people during the social and pedagogical activities of a teacher, aimed at motivating them to follow a healthy lifestyle.

3. Method

Training future teachers of biology and health basics to carry out social and pedagogical activities in order to form health-preserving competence of young people, traditional teaching methods and innovative technologies that involve the use of innovations not only in educational process but also for professional growth and motor improvement were combined; the newest forms of the organizing and carrying out classes applying interactive forms of the educational process organization and individualized educational trajectories for students are widely used; modern technologies and means of control were involved; the sets of exercises to increase motor activity and appropriate methodological support were created. Defining the formation levels of the health-promoting competence of future teachers, the following indicators were taken into account: motivation to maintain health and value-based orientations (motivational value-based criterion), the amount and completeness of knowledge and procedural skills (cognitive criterion), the level of adaptive capabilities and working capacity (personal criterion). The used classification of the health-preserving competence levels of the future teachers of biology and health basics includes three levels: beginner, normative, and active.

The experimental work was carried out in two stages. The first stage of the pedagogical experiment was carried out in 2018-2019 on the basis of Taras Shevchenko National University «Chernihiv Collegium». The interaction of the components of the formation model of the health-preserving competence of future biology and health basics teachers in the process of professional training was studied to prove its efficiency. The control groups (CG) included 114 students who were taught in the traditional way. The experimental group (EG) included 118 students, whose education was carried out according to the original model. The formation of control and experimental groups was carried out on the basis of the results of previous sections in such a way to ensure statistical correspondence of the health-promoting competence formation level of the

students of both groups. The method of statistical processing of the pedagogical experiment results on the indicator «Motivation to maintain health» (MM) included the organization of questionnaires concerning such topics as «Your attitude to health» and «Your attitude to health-promoting activities». The respondents were asked 20 questions; the answer to each was evaluated from 1 to 3 points, with the maximum score for a fully affirmative answer. This testing was conducted twice – at the beginning and at the end of the experiment. On this basis, the conclusions on the efficiency of the proposed approaches to the formation of the axiological component of the health-promoting competence of future teachers in the training process were drawn.

The following research methods were used to solve the objectives: theoretical (the analysis and generalization of scientific and educational literature, the methods of conceptual comparative and system and structural analysis), which made it possible to determine the level of health-promoting competence of students, systematize and summarize information about the studied object; empirical (pedagogical observation, testing, questionnaires); statistical data processing methods, which included the average statistical analysis of research results, were used for qualitative and quantitative processing of experimental data. During the examinations, the authenticity of the difference between the students' indicators at the beginning and at the end of the investigation was determined due to the Student's t-test. The significance for all statistical tests was set at $p < 0.05$.

4. Results and Discussion

Determining the levels of the health-promoting competence of future teachers, the following indicators were taken into account: motivation to maintain health and value-based orientations (motivational value-based criterion), the amount and completeness of knowledge and procedural skills (cognitive criterion), the level of adaptive capabilities and working capacity (personal criterion). The introduction of the original model, which implied the training of future professionals for social and pedagogical activities as a kind of the teachers' professional activity, in the educational process in order to form health-preserving competence of the respondents of experimental groups significantly affected the general level of motivation and value-based criterion. The indicators improved significantly, in comparison with the students of the control groups who studied according to the traditional curriculum (Table 1).

Table 1. The formation levels of the health-promoting competence of future biology and health basics teachers (on the motivational and value-based criterion) during the implementation of social and pedagogical activities ($n=232$)

Gender	Group	The formation levels of competence					
		Beginner		Normative		Active	
		Number	%	Number	%	Number	%
Males	EG	4	8.5	31	66.0	12	25.5
	CG	12	29.3	28	68.3	1	2.4
Females	EG	7	9.9	49	69.0	15	21.1
	CG	28	38.4	43	58.9	2	2.7

Thus, the active level of health-promoting competence in the experimental groups of future teachers accounted for 25.5% for males and 21.1% for females; the normative level of the competence of males – 66.0%, females – 66.0%; the beginner level of males – 8.5%, females – 9.9%. In the control groups, which were engaged in training according to the traditional curriculum, only 2.4% of male students and 2.7% of female students were observed to have the active formation level of the health-preserving competence, 68.3% of males and 58.9% of females – the normative formation level, and 29.3% and 38.4% – the beginner level respectively. The obtained data showed a significant difference in the competence formation between the students of control and experimental groups, which confirmed the efficiency of the implementation of social and pedagogical developments in the educational process.

The assessment of competencies acquired by students in terms of cognitive criteria during the implementation of the original model, which implied social and pedagogical activities, and during the traditional teaching methods implementation revealed a positive dynamics of acquired knowledge and skills necessary for organizing and conducting health-improving activities implementing health-promoting technologies only in experimental groups. The formation level of competencies on the cognitive component

was assessed concerning the knowledge and skills of students, the methodological techniques, organizational skills, the ability to conduct health-improving activities, etc. In the experimental groups, 19.2% of males and 16.9% of females were found to have an active formation level of competence on the cognitive criterion. In the control groups, no male students and only one female student, which accounted for 1.4%, with a high level of competence were found (Table 2).

Table 2. The formation levels of the health-promoting competence of future biology and health basics teachers (on the cognitive criterion) during the implementation of social and pedagogical activities (n=232)

Gender	Group	The formation levels of competence					
		Beginner		Normative		Active	
		Number	%	Number	%	Number	%
Males	EG	6	12.8	32	68.0	9	19.2
	CG	16	39.0	24	61.0	-	-
Females	EG	9	12.8	50	69.3	12	16.9
	CG	31	42.5	41	55.1	1	1.4

A similar trend was observed in the analysis of the students' competence of the normative level, in particular, in experimental groups 68.0% males and 69.3% females; in control groups 61.0% and 55.1% respectively, which indicated different preparation levels of the students of the experimental and control groups. The number of students with the normative level of competence increases owing to the beginner level in the experimental groups and the active level in the control groups. A significant difference is observed in the low-level indicators: 12.8% - males, 12.8% - females in the experimental groups, 39.0% and 42.5% in the control groups respectively.

One of the formation indicators of the health-promoting competence of future teachers according to the cognitive criterion is the knowledge measure, which was checked by testing. The check of knowledge was carried out by testing with the use of the questions and answers of various formats. The respondents were asked 100 questions of a theoretical nature, each of which was evaluated at 1 point. The test results were divided into levels in the following way: beginner (0-32 points), normative (33-66 points), and active (67-100 points). To characterize the completeness of knowledge, students of all groups used the coefficient of knowledge completeness, which is the ratio of the sum of correct answers to the total number of questions. The coefficient value of less than 50% indicated unsatisfactory knowledge completeness and a low level of their formation. The coefficient value from 50% to 75% indicated sufficient knowledge completeness and the middle level of their acquisition. The coefficient value of more than 75% indicated that the knowledge is complete and this indicator corresponds to a high level of their mastery. After conducting experimental training, positive dynamics were observed in both groups (Table 3).

Table 3. The results of the knowledge measure testing of future biology and health basics teachers (on the cognitive criterion) during the implementation of social and pedagogical activities (n=232)

Gender	Group	The completeness of knowledge/formation level					
		Unsatisfactory/beginner		Sufficient/middle		Complete/high	
		Number	%	Number	%	Number	%
Males	EG	6	10.6	33	70.2	8	17.0
	CG	12	29.3	29	70.7	-	-
Females	EG	9	12.7	53	74.6	9	12.7
	CG	29	39.7	44	60.3	-	-

The general level of competence formation of the students of experimental groups on the cognitive criterion during the implementation of the system, which implied social and pedagogical activities and traditional teaching system, had a positive dynamics and affected the worldview and general cultural level of students positively.

The control assessment of the corresponding competence formation after the introduction of the methods of social and pedagogical activities aimed at maintaining a healthy lifestyle by young people

showed an improvement in the results on the personal criterion, which characterizes the health and fitness component (Table 4).

Table 4. The formation levels of the health-promoting competence of future biology and health basics teachers (on the personal criterion) during the implementation of social and pedagogical activities (n=232)

Gender	Group	The formation levels of competence					
		Beginner		Normative		Active	
		Number	%	Number	%	Number	%
Males	EG	5	10.6	32	68.1	10	21.3
	CG	12	29.3	27	66.7	2	4.9
Females	EG	8	11.3	50	70.4	13	18.3
	CG	29	39.7	43	58.9	1	1.4

The results obtained by the personal criterion of competence formation showed an improvement in the indicators of formation levels in experimental groups: 21.3% males and 18.3% females with an active level of competence; 68.1% males and 70.4% females with the normative level; 10.6% and 11.3% with the beginner level respectively. In the control groups, the indicators were much lower: 4.9% males and 1.4% females with an active level of competence; 66.7% and 58.9% with the normative level respectively; 29.3% and 39.7% with a low level respectively.

The students of experimental groups had significantly better indicators in terms of the level of acquisition of special knowledge, skills, and abilities to control their motor readiness, health state, the ability to apply health-preserving technologies, means, and methods of motor skills development. Accordingly, the implemented social and pedagogical activities helped to increase the level of students' preparedness in the experimental groups according to the criteria of organizational, communicative, perceptual, speech abilities, general cultural level, social activity, and involvement in a healthy lifestyle.

The comparison of the formation level of the health-promoting competence of future teachers in the process of training in two student groups was carried out using the Student's t-test. According to the results of the experiment presented in Tables 1-4, positive dynamics after the experiment was observed in both groups, but more intensely in the experimental group. According to Student's test, it was found that the average score was higher at the significance level of 0.05 in the experimental groups. This means that the positive changes in the experimental group, which was involved in training according to the experimental method, turned out to be more significant.

In general, the results of the experiment conducted, supported by conversations with the students of both groups, suggest that the introduction of teaching methods with the use of social and pedagogical practices aimed at maintaining a healthy lifestyle in the educational process, contributes to the activation of students' learning activities, increases motor activity, the level of motor development, the formation of motivation for regular classes in modern innovative health technologies and for a healthy lifestyle. The experimental check of the efficiency of this methodology has significantly improved all the studied parameters, which gives grounds to recommend it for introduction into the educational process of students at pedagogical higher education institutions of Ukraine.

The study of the formation peculiarities of the health-promoting competence of future biology and health basics teachers made it possible to determine the criteria and indicators of the formation levels of the health-promoting competence of future teachers: motivational value-based, cognitive, and personal. In general, it allows substantiating a set of pedagogical conditions that ensure the optimal functioning of the process, provide an opportunity to determine the starting point, the formation level of health-promoting competence, to develop a methodology for its formation.

5. Conclusions

The formation of health-promoting competence is a multifunctional system; multifaceted medical and hygienic means; a set of forms, tools, and methods that are aimed at achieving optimal results focused on health preservation. The work on the health-preserving competence formation should be aimed at health indicators, the level of motor readiness, and data on individual psychological and pedagogical characteristics of students. Thus, it is necessary to study modern methods of improving and preserving the

health of young people. The activity of educational institutions to preserve and improve the health of young students is considered full-fledged and effective only when the formation of health-preserving competence is implemented in a single system professionally and efficiently.

The use of the methodology for forming the health-promoting competence of future biology and health basics teachers required an experiment of the introduction of the teachers' social and pedagogical activities that involved comparing the achievements of the future teachers of control and experimental groups. The research used the criteria study base, identified three criteria for the formation level of health-promoting competence: motivational value-based, cognitive, and personal. The indicators included motivation to preserve health, value-based attitudes, measure, and completeness of knowledge. The pedagogical experiment showed the efficiency of the proposed model of forming the health-preserving competence of future teachers, which was confirmed by statistical methods at the significance level of 0.05. The analysis of the experiment results in control and experimental groups showed the effectiveness of the introduction of the scientifically sound model of managing this process through the use of the teachers' social and pedagogical activities in the process of training biology and health basics teachers that makes it possible to effectively form health-promoting competence in the future.

The directions for future research are aimed at the scientific search for the new areas of the health-promoting competence formation of the students of pedagogical HEI.

Disclosure statement. No author has any financial interest or received any financial benefit from this research.

Conflict of interest. The authors state no conflict of interest.

References

1. Antonova, O. E. (2007). Teoretichni i metodichni zasadi navchannya pedagogichno obdarovanih studentiv [*Theoretical and methodological principles of teaching pedagogically gifted students*]. Zhitomir: ZhDU im. I. Franka. [in Ukrainian].
2. Dubasenyuk, O. A. (2005). Teoriya i praktika profesiynoyi vihovnoyi diyalnosti pedagoga [*The theory and practice of professional educational activity of the teacher*]. Zhitomir: ZhDU im. I. Franka. [in Ukrainian].
3. Nichkalo, N. G. (2003). Suchasni problemi rozvitku sistemi neperervnoyi profesiynoyi osviti: vitchiznyaniy i zarubizhniy dosvid [*Modern problems of development of the system of continuous vocational education: domestic and foreign experience*]. Kyiv: Naukova dumka. [in Ukrainian].
4. Warburton, D., Nicol, C. W., & Bredin, S. S. D. (2006). Health benefits of physical activity: the evidence. *Canadian Medical Association Journal*, 174, 801-809.
5. Dobrotina, N. A. (1999). Biologiya cheloveka, ekologiya i zdorove (antropologicheskaya valeologiya) [*Human biology, ecology and health (anthropological valeology)*]. Nizhniy Novgorod. [in Russian].
6. Shukatka, O. V. (2014). Komponenti ta rivni zdorov'yazberezhuvalnoyi kompetentnosti maybutnih ekonomistiv v konteksti modeli yiyi formuvannya na zasadah aksiologiyi [*Components and levels of health competence of future economists in the context of the model of its formation on the basis of axiology*]. Naukovi zapiski Ternopilskogo natsionalnogo pedagogichnogo universitetu imeni Volodimira Gnatyuka. Seriya: Pedagogika, 4, 25-32. [in Ukrainian].
7. Muntjan, V. S. (2010). Analiz faktorov, opredeljajushhykh zdorov'je cheloveka y okazyvajushhykh na negho vlyjanyja [*Analysis of factors that determine human health and influence it*]. *Physical Education of Students*, 6, 44-47. [in Russian].
8. Prontenko, K., Griban, G., Dovgan, N., Loiko, O., Andreychuk, V., Tkachenko, P., et al (2019). Students' health and its interrelation with physical fitness level. *Sport Mont.* 2019. 17 (3). pp. 41-46. doi 10.26773/smj.191018.
9. Gruzieva, T, Galiienko, L, & Pelo, I. (2018). Health and lifestyle of students' youth: status, problems and ways of solution. *Wiadomosci Lekarskie*, 71(9), 1753-1758.
10. Zhelan, A., & Efremova, Yu. (2016). Formuvannya zdorov'yazberezhuvalnoyi kompetentnosti molodshih shkolyariv [*Formation of health competence of junior schoolchildren*]. *Naukoviy visnik MNU Imeni V. O. Suhomlinskogo. Pedagogichni nauki*, 2, 69-73. [in Ukrainian].
11. Nosko, M. O., Grischenko, S. V., & Nosko, Yu. M. (2013). Formuvannya zdorovogo sposobu zhittya [*Formation of a healthy lifestyle*]. Kyiv: Lesya. [in Ukrainian].
12. Prysiazhniuk, S., Oleniev, D., Tiazhyzna, A., Popov, M., Hunchenko, M., Parczevskyy, Yu., et al. (2019).

Formation of health preserving competence of students of higher educational institutions of information technologies specialties.

13. Mehed, O. B. (2019). Formuvannya zdorovogo sposobu zhittya yak vazhliva chastina vihovannya ta sotsializatsiyi pidrostayuchogo pokolinnya [Formation of a healthy lifestyle as an important part of education and socialization of the younger generation]. *Visnik Natsionalnogo universitetu «Chernigivskiy kolegium» Imeni T. G. Shevchenka*, 4 (160), 84-88. [in Ukrainian].
14. Nosko, M. O., Garkusha, S. V., & VoEdIllova, O. M. (2014). Zdorov'yazberezhuvalni tehnologiyi u fizichnomu vihovanni [Healthcare technologies in physical education]. Kiyv: SPD Chalchinska N.V. [in Ukrainian].
15. Gladoshchuk, O. G. (2017). Formuvannja fizychnoji reabilitacijnoji kompetentnosti u studentiv vyshhykh tekhnichnykh navchalnykh zakladiv [Formation of physical rehabilitation competence in students of higher technical educational institutions]. *Scientific journal of Dragomanov National Pedagogical University*, 3K (84) 12, 132-135. [in Ukrainian].
16. Tymoshenko, O., Arefiev, V., Griban, G., Domina, Zh., Bublei, T., Bondar, T., et al. (2019). Characteristics of the motivational value-based attitude of students towards physical education. *Revista Dilemas Contemporáneos: Educación, Política y Valores*. Año: VII, Número: Edición Especial, Artículo no.: 11, Período: Octubre, 2019.
17. Bolotin, A., & Bakayev, V. (2015). Structure and content of the educational technology of managing students' healthy lifestyle. *Journal of Physical Education and Sport*, 15(3), 362-364. doi: 10.7752/jpes.2015.03054.
18. Azhyppo, O., Pavlenko, V., Mulyk, V., Mulyk, K., Karpets, L., Grynova, T., & Sannikova, M. (2018). Direction of teaching the subject of physical education by taking into account opportunities of institution of higher education and interests of student youth. *Journal of Physical Education and Sport*, 18(1), 222-229. doi: 10.7752/jpes.2018.01029.
19. Mehed, O. B., Ryabchenko, S. V., & Zhara, G. I. (2019). Analiz faktoriv, scho vplivayut na formuvannya zdorovogo sposobu zhittya molodi [Analysis of factors influencing the formation of a healthy lifestyle of young people]. *Visnik Natsionalnogo universitetu «Chernigivskiy kolegium» Imeni T. G. Shevchenka*, 3 (159), 260-268. [in Ukrainian].
20. Griban, G., Tymoshenko, O., Arefiev, V., Sushchenko, L., Domina, Zh., Malechko, T., et al. (2020). The role of physical education in improving the health status of students of special medical groups. *Wiadomości Lekarskie*, 73(3), 534-540. doi: 10.36740/WLEk202003125.
21. Parandeh, A., Khaghanizade, M., Mohammadi, E., & Nouri, J. M. (2015). Factors influencing development of professional values among nursing students and instructors: a systematic review. *Global Journal of Health Science*, 7(2), 284-293. doi: 10.5539/gjhs.v7n2p284.
22. Harchenko, S. (2018). Analiz rezultativ pedagogichnogo eksperimentu z formuvannya zdorov'yazberezhuvalnouyi kompetentnosti maybutnih fahivtsiv agrarnogo profilyu u protsesi profeslyno-prikladnoyi fizichnoyi pidgotovki [Analysis of the results of the pedagogical experiment on the formation of health-preserving competence of future agricultural specialists in the process of professional and applied physical training]. *Gumanizatsiya navchalno-vihovnogo protsesu*, 1 (87), 198-215. [in Ukrainian].
23. Zhamardiy, V., Shkola, O., Ulianova, V., Bilostotska, O., Okhrimenko, I., Okhrimenko, S., et al. (2019). Influence of fitness technologies on the student youth's physical qualities development. *Revista Dilemas Contemporáneos: Educación, Política y Valores*. Año: VII, Número: Edición Especial, Artículo no.: 49, Período: Octubre, 2019.
24. Bosenco, A. I., Samokih, I. I., Strashko, S. V., Orlik, N. A., & Petrovsky, E. P. (2013). Evaluation of junior courses students' level of mobilization of functional backlogs at the dosed physical activities at the pedagogical university. *Pedagogics, Psychology, Medical-biological Problems of Physical Training and Sports*, 11, 3-8. doi:10.6084/m9.figshare.815867.
25. Kachan, O. A. (2017). Uprovadzhennja innovacijnykh tekhnologhij u fizkulturno-ozdorovchu ta sportyvnu dijajnistj zakladiv osvity [Implementation of innovative technologies in physical culture and sports activities of educational institutions]. *Slov'jansjk: Vytoky*. [in Ukrainian].
26. Kuznetsova, O. T. (2018). Ozdorovchi tekhnologhiji u fizychnomu vykhovanni studentiv: teorija, metodyka, praktyka [Wellness technologies in physical education of students: theory, methodology, practice]. Rivne: Oberehu. [in Ukrainian].

27. Usachov, Yu. O. (2006). Osoblyvosti formuvannja ozdorovchykh fitness-system [*Features of forming sanative fitness systems*]. *Theory and Methods of Physical Education and Sport*, 2, 66-70. [in Ukrainian].
28. Griban, G. P. (2009). Zhyttyediyalnist ta rukhova aktyvnist studentiv [*Life activity and physical activity of students*]. Zhitomir: Ruta. [in Ukrainian].
29. Kosiba, G., Gacek, M., Wojtowicz, A., & Majer, M. (2019). Level of knowledge regarding health as well as health education and pro-health behaviours among students of physical education and other teaching specializations. *Baltic Journal of Health and Physical Activity*, 11(1), 83-95. doi: 10.29359/BJHPA.11.1.09.
30. Shkola, O., Griban, G., Prontenko, K., Fomenko, O., Zhamardiy, V., Bondarenko, V., et al. (2019). Formation of valuable orientations in youth during physical training
31. Prontenko, K., Griban, G., Medvedeva, I., Alosyna, A., Bloschynskyi, I., Bezpaliy, S. et al. (2019). Interrelation of students' motivation for physical education and their physical fitness level.
32. Nosko, M. O., Deikun, M. P., Arkhypov, O. A., Maslov, V. M., & Hryshko, L. H. (2014). Rozvytok ta udoskonalennia rukhovoї funktsii u protsesi navchannia [*Development and improvement of motor function in the learning process*]. *Visnyk Chernihivskoho natsionalnoho pedahohichnoho universytetu*, 118(3), 199-204. [in Ukrainian].
33. Griban, G., Prontenko, K., Yavorska, T., Bezpaliy, S., Bublei, T., Marushchak, M., et al. (2019). Non-traditional means of physical training in middle school physical education classes.
34. Zhamardiy, V., Shkola, O., Ulianova, V., Bilostotska, O., Okhrimenko, I., Okhrimenko, S., et al. (2019). Influence of fitness technologies on the student youth's physical qualities development. *Revista Dilemas Contemporáneos: Educación, Política y Valores*. Año: VII, Número: Edición Especial, Artículo no.: 49, Período: Octubre, 2019.
35. Nosko, M., Arkhypov, O., Khudolii, O., Filatova, Z., & Yevtushok, M. (2019). Pedagogical conditions for swimming skills development in students of pedagogical educational institutions. *Revista Românească pentru Educație Multidimensională*, 2(11), 240-255. doi:10.18662/rrem/127.
36. Zelenskyi, B., & Zelenskyi, R. (2018). Motivation: attitude of students of higher education institutions of the I-II accreditation levels toward physical education classes. *Theory and Methods of Physical Education*, 18(3), 114-125. doi:10.17309/tmfv.2018.3.02.