International Journal of Applied Exercise Physiology

2322-3537 www.ijaep.com

Vol.9 No.10

Doi:

International Journal of Applied Exercise Physiology (IJAEP)

ISSN: 2322 - 3537

www.ijaep.com
info@ijaep.com

Abstracting/Indexing

ISI Master List

Web of Science Core Collection (Emerging Sources Citation Index) by Thomson Reuters

DOI (form Vol. 6(3) and after)

ProQuest Centeral

NLM (Pubmed)

DOAJ

COPERNICUS Master List 2017

PKP-PN, (LOCKSS & CLOCKSS)

GS

Crossref

WorldCat

Journal TOCs

Experimental Verification of the Effectiveness of Organizational and Pedagogical Conditions for the Education of the Future Teacher in the Health-Preserving Environment of the Institution of Higher Education

Olena Momot[1], Valeriy Zhamardiy[2], Hrynova Valentyna[3], Gorlova Lyudmyla[4] and Natalia Sharlay[5]

[1]Doctor of Pedagogical Sciences, Associate Professor of the Department of Theoretical and Methodological Foundamentals of Teaching Sports Disciplines, Poltava V. G. Korolenko National Pedagogical University, Poltava, Ukraine.

[2]Ph.D. in Pedagogics, Associate Professor of the Department of Physical Education and Health, Physical Therapy, Ergotherapy with Sports Medicine and Physical Rehabilitation, Ukrainian Medical Stomatological Academy, Poltava, Ukraine.

[3, 4] Posdgraduate of the Department of Pedagogical Skills and Management named after I. A. Zjazun, Poltava V. G. Korolenko National Pedagogical University, Poltava, Ukraine.

[5]Lecturer of the Department of Physiology, Ukrainian Medical Stomatological Academy, Poltava, Ukraine.

Abstract

The article experimentally tested the effectiveness of organizational and pedagogical conditions for the education of the future teacher in the health-preserving environment of the institution of higher education. The criteria of upbringing of the individual in the conditions of the health-preserving environment were defined. There were motivational and value; cognitive; procedural and activity; practical conditions. The levels of assessment of the criteria of personal upbringing in a healthy environment were clarified as high, medium, sufficient and low. The positive dynamics of indicators of education of the future teacher's personality contributed to creation of a healthy environment for higher education in students from experimental groups. Which confirmed the effectiveness of the experimental innovations proposed in the article.

Keywords: institution of higher education, health-preserving environment, educational process, pedagogical conditions, students.

1. Introduction

At the present stage of development of society, the need for purposeful activities to preserve and strengthen the health of future professionals has increased. It is necessary to increase their professional competence in the field of health preservation. Future teachers of higher education institutions need to form a dynamic stereotype of activity and behavior, which promotes health, determines the care for their own health and the health of children. We can state, that there is a large number of studies in the field of health preservation in educational institutions and training teachers to engage in health preservation activities. The problem of young people's health preservation was studied by following scientists: G. Apanasenko [1], N. Bashavets [2], L. Vashchenko [3], T. Vorontsova [5], V. Gorashchuk [6; 7], L. Goryana [8], T. Denisovets [9], V. Zhamardiy [10; 21; 22; 23; 24], M. Karpenko [12], D. Lysenko [13], V. Orzhekhovska [16], P. Plakhtiy [18], V. Tevkun [19], V. Tkachenko [20] et al.

2. Materials and Methods

The aim of the study is to experimentally test the effectiveness of organizational and pedagogical conditions for the education of the future teacher's personality in a health preservation environment of higher education.

Research and experimental work was carried out on the basis of following institutions: Poltava National Pedagogical University named after V.G. Korolenko, Higher education institution Ukoop union «Poltava University of Economics and Trade», Poltava Institute of Business, International University of Science and Technology named after Buguy, Poltava State Agrarian Academy, Poltava National Technical University named after Yuri Kondratyuk, Cherkasy National University named after Bohdan Khmelnytsky, Kharkiv National University named after V.N. Karazin, Uman State Pedagogical University named after Paul Ticini and in the educational process of secondary education institutions of Poltava region. A total of 450 students and 37 research and teaching staff took part in the pedagogical experiment.

Future teachers were divided into 2 groups: control and experimental. The choice of control and experimental groups was made from full-time and part-time students. Applicants for higher education (18–20 years) were involved in the experiment. Part-time students were involved in the experiment when they themselves expressed a desire to participate in the study and had the opportunity to attend the proposed activities. At the beginning and at the end of the experimental study, empirical data were collected, which were then processed and compared at the generalizing stage of the experimental work. Among the theoretical research methods, the main ones were: conceptual and comparative analysis (study of pedagogical, philosophical and psychological literature, textbooks on the research topic). Among the empirical research methods, the main ones were diagnostic ones like interviews, questionnaires, sociological observations, surveys, testing. Analysis and processing of research results was carried out using the methods of mathematical statistics: We used comparative, quantitative analysis and statistical calculations by Pearson's criterion to confirm the reliability of the results of experimental work.

3. Results and Discussion

Organizational and pedagogical conditions contribute to the effective education of the future teacher's personality in the health-preserving environment of the higher education institution. Especially conditions which allow to focus on cooperation between the subjects of the educational process, on personal potential development, on active health-preserving attitude of the individual to education and upbringing [11; 14; 15].

The first organizational and pedagogical condition is the creation of a health-preserving environment in higher education. It includes the selection of scientific and pedagogical staff of the appropriate level, able to promote the productive activities of the future teacher, and determination of their health skills. Health-preserving environment in higher education also requires the interaction of the high school and the personality of the future teacher in a healthy environment and provision of conditions for independent, health-preserving activities in order to increase the professional level of the future specialist. It is also necessary to stimulate intellectual and creative search, the ability to see the problems and ways to solve health problems. It is necessary to create a synergy of relations of cooperation and co-creation. It is necessary to modernize health-preserving means, forms, methods of education; creating a stimulating, positive, healthy spiritual and moral-psychological atmosphere. To educate future teachers to take a responsible attitude to their own health and environment. For this desire, discipline and dedication are a must. The implementation of these conditions leads to coordinated and meaningful cooperation of higher education institutions, scientific and pedagogical workers, family and personality of the future teacher in the field of maintaining and promoting health. As a result, it leads to the success of health activities.

The second organizational and pedagogical condition is the formation of health competencies of the future teacher of higher education. It is based on the ability to apply knowledge and skills of pedagogical and psychological methods of influencing the teaching staff, team of pupils and the personality of the future teacher. To fulfill this condition, it is necessary to use health-preserving knowledge, skills and abilities in all spheres of life (observance of the daily routine and nutrition, physical activity, alternation of mental and physical activity). It is necessary to have the ability to self-regulate and the ability to characterize the properties aimed at the harmonious development of personality, its self-realization in professional, creative potentials, on preservation of physical, social, mental and spiritual health, both its own and its surroundings. The implementation of this condition improves the quality of mastery of knowledge, skills, experience, values and attitudes, which can be fully implemented in practice, provides growth of the general level of development of the person.

The third organizational and pedagogical condition is the innovative and healthy climate in the team of research and teaching staff and future teachers of higher education. This implies a positive relationship in the team, rational organization of the health-preserving process taking into account the capabilities of the body of each individual and ensuring normal working, learning and leisure conditions for all participants in the process. Such healthy interpersonal relationships are built on mutual understanding and mutual respect. Fulfillment of this condition increases the motivation of the future teacher to improve health, the desire to preserve the environment, the ability to work in a team, forms the skills of interpersonal interaction.

The fourth organizational and pedagogical condition is the introduction into the educational process of higher education institutions of educational and methodological support and methods of its implementation during the education of the future teacher. This condition is realized through the

introduction into the educational process of higher educational institutions of educational and methodological support, which includes educational and methodological complexes of the following disciplines: «Technologies for creating a health-preserving environment in higher education» and «Sports and pedagogical improvement». The implementation of this condition leads to the formation of a holistic system of theoretical knowledge, practical skills and abilities of future teachers and their use in practice.

During the experiment, the highest level of knowledge was found to understand the following concepts: «health-preserving environment» – 63,5 % of respondents, «comfortable atmosphere of the educational process» – 57,3 %, «health-preserving competencies» – 50 %, «healthy lifestyle» – 50 %. This knowledge is necessary, according to the scientific and pedagogical team, to educate the personality of the future teacher in a healthy environment of higher education. In the answers to the survey, this knowledge has a high degree of repetition – 65,7 %, which indicates the correctness of the theoretical conclusions in the study. Conversations and surveys in general confirm the opinion that in the process of educating the personality of the future teacher in a higher education institution not enough attention is paid to interactive methods of working with students. Future specialists are insufficiently involved in health care activities, research work organized and conducted by research and teaching staff.

Experimental verification of the effectiveness of organizational and pedagogical conditions was carried out using the criteria of education of the individual in a healthy environment, namely: motivational and value; cognitive; procedural and activity; practical criterion. Each of the criteria was evaluated by levels: high, medium, sufficient and low. Our surveys showed that future teachers and research and teaching staff (450 people boys and girls, as well as 37 teachers who helped to systematize the data) consider care for their health as the main motive and value of education of the future teacher in a healthy environment of higher education institution physical activity (Tab. 1).

Table 1. *Determining the motives that guided future teachers*

	Answers of future teachers	**Number of answers, %**
1.	Physical activity	32,1
2.	Health care	19,2
3.	Balance your daily routine	13,4
4.	Improving health	14,5
5.	Emaciation	9,7
6.	Learning about health	8,1
7.	Other answer options	3

Among the motives that would encourage health-preservation activities, 40,7 % of respondents mentioned the desire to improve and enhance their health, and 32,1 % of respondents mentioned their own physical development. The study revealed that the main motive for future teachers to maintain health is good health and determination of how interesting and meaningful their student life is in terms of health.

To question «*What would you like to change in educational process in higher education institution on the specified subject?*» 63 % of respondents answered: «to increase the number of measures to preserve and promote health», 29 % of respondents answered: «to increase the number of sports activities», only 8 % of respondents remained indifferent. Analysis of the results of the poll showed that the main reason is not in objective but in subjective factors. The latter include: insufficient level of organization of health, physical culture and sports events at the level of higher education institutions, faculties, and especially the lack of them in academic groups.

To question «*What means / forms / methods of organizing health care activities will suit you?*» the following answers were received: physical education classes in higher education institutions as compulsory – 52 %, training in sports sections – 32,3 %, conducting educational and methodical classes on health – 12,5 %, remained indifferent – 3,2 %.

Future teachers' understanding of the importance of health care, generates interest in them, the need that turns into a motive for health care. Motivation of the future teacher's personality is conditioned by his interests, ideals, value orientations. The study of motives made it possible to determine their significance and understand the level of motivation at the initial stage of the study according to the motivational-value criterion. This, in our opinion, will ensure the effectiveness of the education of the future teacher in terms of

creating a healthy environment for higher education. Thus, we discovered, that the level of motivation of future professionals was at an average level.

In order to determine the level of knowledge in health-preservation by cognitive criteria at the initial stage of the study, we have generalized test questions of the proposed educational and methodological support. We used following questions: «What do you mean by «health-preservation»? What should a physical education program include?, What are the main components of nutrients that should be included in a person's daily menu?, How long should a person's usual meal take?, What food belongs to the category of «fast food»?, What foods should be used for a snack?, In what areas is there a need for health care?».

Thus, only 16,3 % of future teachers were able to define the essence of the concept and 57,3 % of future professionals understood its significance. Only 18,9 % of respondents gave a partially correct answer to the question: «*What does the exercise program include?*». Only 12,3 % of respondents gave a partially correct answer to the question: «*What are the main components of nutrients should be included in a person's daily menu*?». Only 12,1 % of respondents gave a correct answer to the question: «*How long should a person's normal diet take?*». Only 12,4 % of respondents gave the full meaning of the concept: «*What food belongs to the category of «fast food»?*». Only 14,5 % of respondents gave a correct answer to the question: «*What foods should be used for a snack?*». Assessment of the level of knowledge of future teachers about the essence, the meaning of the concept of «health preservation» allowed us to understand that most students have a low level of cognitive criteria. This level of knowledge can be quite understandable, because the category of respondents are individuals who want to gain knowledge related to the future specialty.

The survey showed that respondents propose to introduce new areas in the educational process, such as: health preservation knowledge – 76,7 %, health preservation forms, means, technologies – 57,9 %, educational and methodological support of health-preserving character – 31,2 %, development of health-preserving methods of education of the person and collective – 15,7 %, development of diagnostics of the level of education – 11,7 %.

The study confirms the rationality of the second organizational and pedagogical condition, namely: formation of health-preserving competencies of the personality of the future teacher of higher education institution, which involves the application of knowledge and skills in pedagogical and psychological methods of influencing the teaching staff, the team of students and the personality of the future teacher. It also provides the ability to use health knowledge, skills and abilities in all areas of life (observance of a mode of day and a food, performance of motor activity, alternation of mental and physical activity), ability to self-regulation, the ability to characterize the properties aimed at the harmonious development of personality. This requires self-realization in professional, creative potentials, preservation of physical, social, mental and spiritual health (one's own and one's environment).

To objectively assess the statements that affect the determination of the level of education of the indicators of procedural criteria at the initial stage of the study, we took into account the views of future teachers. Information was collected through surveys. We received the following answers to the questions: to question «*Do you think a person's mood depends on the style of behavior?*», response «Yes» was 49 %, «No» – 18 %, «Indifferently» – 14 %; to question «*Do you follow the rules of nutrition?*», response «Yes» was 40 %, «No» – 13 %, «Indifferently» – 10 %; to question «*Are you familiar with the term «food ignorance?*», response «Yes» was 37 %, «No» – 32 %, «Indifferently» – 5 %; to question «*Do you think «overeating» is a style of eating?*», response «Yes» was 29 %, «No» – 41 %, «Indifferently» – 11 %; to question «*Are you happy with your life?*», response «Yes» was 29 %, «No» – 39 %, «Indifferently» – 8 %; to question «*Do you follow the rules of a healthy lifestyle?*», response «Yes» was 30 %, «No» – 21 %, «Indifferently» – 11 %.

Assessment of the level of mastery by future teachers of technologies, methods and means of health preservation has made it possible to understand that most students have an average level according to procedural and action criteria.

The survey provided the grounds for the need to implement the third organizational and pedagogical condition: formation of innovation and health climate, both in the team of research and teaching staff and future teachers. Which in turn contributes to positive relationships, the rational organization of the health preservation process, taking into account the capabilities of the body of each individual. It allows to provide normal conditions of work, training and rest of all participants of process and to create healthy interpersonal relationships, built on mutual understanding and mutual respect. This is considered by us as the third organizational and pedagogical condition.

The fourth organizational and pedagogical condition is the introduction into the educational process of higher education institution of educational and methodological support and methods of its implementation during the education of the future teacher. This, according to 31,2 % of the participants of the experiment, is reflected in the need of introduction of educational and methodological support of a health-preserving nature into the educational space and development of health-preserving methods of education of individuals and staff (15,7 %).

The analysis of the generalized results after the end of the experiment showed that there were significant changes in the quantitative distribution of students by levels. According to the results of the formative experiment obtained in the process of studying the level of education of the future teacher's personality, in the conditions of creation of the health-preserving environment of the institution of higher education according to the motivational and value criterion we had following distribution: in the experimental group significantly decreased the number of students who have a low and sufficient level, and the number of students who have a medium and high level increased. In the control group 24 % of students and 56,1 % of the experimental group showed a high level, 42,7 % and 33,3 % of students, respectively, showed sufficient level. The average level was observed in 24,9 % of students from the control group and 10,6 % from the experimental group, while 8,4 % of students in the control group have a low level (Fig. 1).

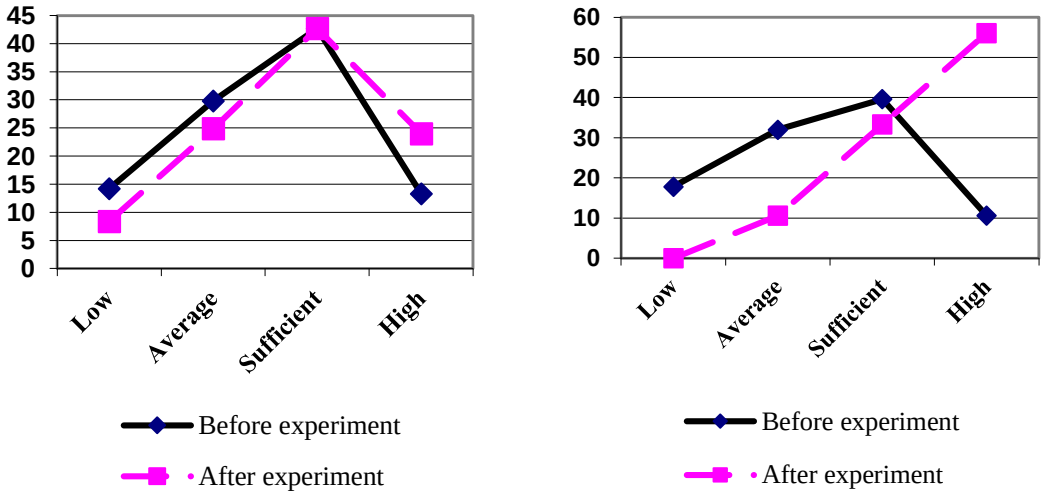

Fig. 1. *Dynamics of personality upbringing of future teachers by motivational and value criteria: a) control groups; b) experimental groups*

The results of education by cognitive criteria showed that in the control group 6,7 % of students had a high level, in experimental group 26,2 % had a high level, 22,7 % of students had sufficient level in control group and 57,4 % of students had sufficient level in the experimental group. Medium and low levels are observed in this number of students: in the control group medium – 36 %, low – 34,6 %; in the experimental group medium – 15,1 %, low – 1,3 % (Fig. 2).

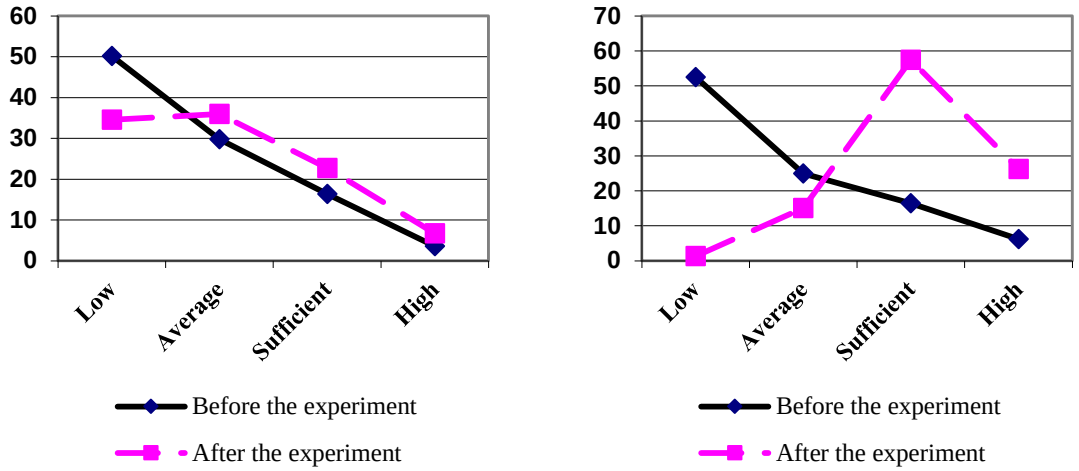

Fig. 2. *Dynamics of education of personalities of future teachers by cognitive criterion: a) control group; b) experimental group*

Analysis of the dynamics of the levels of education of students according to the procedural and activity criterion of control groups shows a slight positive increase in a high and sufficient level and reducing the number of middle- and low-level students. In the course of the research in the experimental group the percentage of students with high (24,5 %) and sufficient level (57,4 %) significantly increased, and the percentage with average and low level decreased significantly and is 15,1 % and 3,1 %, respectively (Fig. 3).

The indicators of the practical criterion after the experiment were as follows: 10,2 % students from control and 20,9 % from experimental group had a high level, 29,3 % of students from control group and 53,8 % from experimental had a sufficient level, 33,8 % of students from control group and 19,1 % from experimental had an average level, 26,7 % of students from control group and 6,2 % from experimental had a low level.

The indicators of the practical criterion after the experiment were as follows: 10,2 % students from control and 20,9 % from experimental group had a high level, 29,3 % of students from control group and 53,8 % from experimental had a sufficient level, 33,8 % of students from control group and 19,1 % from experimental had an average level, 26,7 % of students from control group and 6,2 % from experimental had a low level.

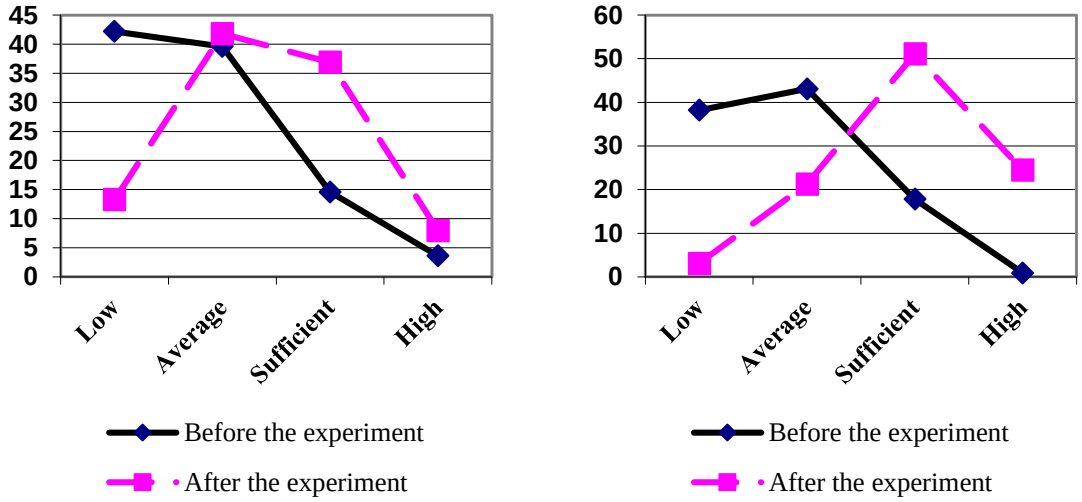

Fig. 3. *Dynamics of education of future teachers according to the procedural and activity criterion: a) control group; b) experimental group*

Summarizing the data, we can state that the high level of education of the future teacher's personality increased in the control group by 4,7 % and in the experimental group by 25,6 %. The sufficient level of education of the future teacher's personality increased in the control group by 10,9 % and in the experimental group by 23,5 %. The average level of education of the future teacher's personality decreased in the control group by 2,3 % and in the experimental group by 18,7 %. The low level of education of the future teacher's personality decreased in the control group by 13,2 % and in the experimental group by 30 4 % (Fig. 4).

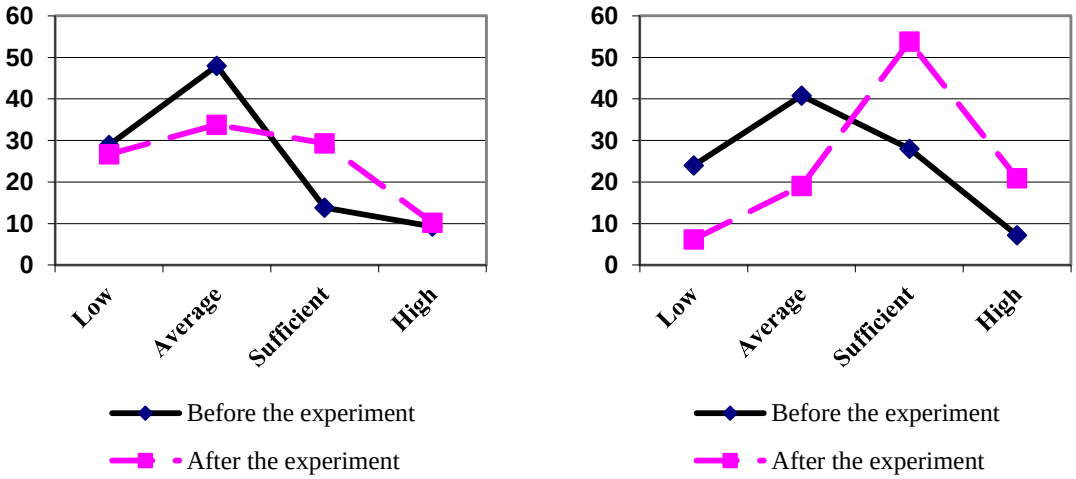

Fig. 4. *Dynamics of education of personalities of future teachers according to practical criterion: a) control group; b) experimental group*

After the experiment, a high level, according to practical criterion, was obtained by 12,2 % of students in the control and 31,9 % of the experimental groups. A sufficient level was obtained by 32,9 % of students in the control and 48,9 % of the experimental group. An average level was obtained by 34,1 % of students in the control and 16,5 % of the experimental group. A low level was obtained by 20,8 % of students in the control and 2,7 % of the experimental group.

4. Conclusions

The effect of changes is due to the use of experimental organizational and pedagogical conditions, for example: creating a health-preserving environment in higher education; formation of health-preserving competencies of the future teacher of higher education institution; innovation and health-preserving climate in the team of research and teaching staff and future teachers of higher education; introduction into the educational process of higher education institution of educational and methodological support and methods of its implementation during the education of the future teacher. The results of the study show the positive dynamics of indicators of education of the future teacher's personality in terms of creating a health-preserving environment in institution of higher education for students from experimental group, which confirms the effectiveness of the proposed experimental innovations. Prospects for further research we see in the expansion of the practical orientation of health care activities of future teachers in higher education institutions.

References

1. Apanasenko G. L. Individual health: essence, mechanisms, manifestations. Physical education in prevention, treatment and rehabilitation. 2006. № 1(16). P. 66–69. [in Russian].
2. Bashavets N. A. Theoretical foundations of the formation of a culture of health preservation as a worldview of future economists : monograph. Odessa : Phoenix, 2011. 417 p. [in Ukrainian].
3. Vashchenko L. S., Boychenko T. E. Basics of Health : A Teacher's Book. Kyiv : Genesa UNICEF, 2005. 240 p. [in Ukrainian].

4. Voronin D. E. Formation of health-preserving competence of students of higher educational institutions by means of physical education : dissertation for the degree of candidate of sciences, specialization : 13.00.07. «Theory and methods of education». Kherson, 2006. 221 p. [in Ukrainian].
5. Vorontsova T. V., Ponomarenko V. S. Basics of health : a textbook. Kyiv : Alaton, 2008. 160 p. [in Ukrainian].
6. Gorashchuk V. P. Theoretical and methodological principles of forming a culture of school health : abstract of dissertation for the degree of doctor of sciences, specialization 13.00.01 «General pedagogy and history of pedagogy». Kharkiv, 2004. 40 p. [in Ukrainian].
7. Horashchuk V. Theoretical approaches to the formation of a culture of school health. Life Safety. 2005. № 5. P. 58–61. [in Ukrainian].
8. Goryana L. I. Pedagogical conditions for the organization of the educational process of the course «Fundamentals of Health». Fundamentals of Life Safety. 2005. № 1. P. 61–63. [in Ukrainian].
9. Denisovets T. M. Educating a healthy lifestyle of students as an urgent task of higher education. Scientific treasury of education of Donetsk region. 2011. № 2. P. 32–35. [in Ukrainian].
10. Donchenko V. I., Zhamardiy V. O., Shkola O. M., Kabatska O. V., Fomenko V. H. Health-saving Competencies in Physical Education of Students // Wiadomości Lekarskie. 2020. Tom LXXIII, nr 1. P. 145–150.
11. Dragnev Y. V. Components of forming a culture of student health in the context of computerization of education. Pedagogy, psychology and medical and biological problems of physical education and sports : scientific monograph / edited by S. S. Yermakov. Kharkiv, 2007. № 1. 176 p. [in Ukrainian].
12. Karpenko M. I. Forms and methods of educating the culture of health of junior schoolchildren in the pedagogical heritage of V. O. Sukhomlinsky. Bulletin of Luhansk National University named after Taras Shevchenko. Series «Pedagogical Sciences». 2014. № 2. P. 143–151. [in Ukrainian].
13. Lysenko D. A., Popova G. V, Goncharenko M. S. The use of individual health programs in the training of the visually impaired. Bulletin of Kharkiv National University named after V. N. Karazin. 2010. № 907, Issue 7. P. 49–51. (Series «Valeology : present and future»). [in Ukrainian].
14. Lubysheva L. I. Innovative technology for the formation of a culture of high school girls' health in the system of physical education. Physical culture (upbringing, education and training). 2007. № 5. P. 5–12. [in Russian].
15. Momot O. Theory and practice of education of the future teacher in the conditions of creation of the health-preserving environment of higher educational institution : dissertation for the degree of doctor of sciences, specialization : 13.00.07 «Theory and methods of education». Poltava, 2020. 552 p. [in Ukrainian].
16. Orzhekhovskaya V. M. Spirituality and health : textbook, 2nd edition. Cherkasy : Chabanenko Yu A., 2007. 216 p. [in Ukrainian].
17. Palichuk Y. I. Pedagogical health technologies in the system of training economic specialists: dissertation for the degree of candidate of sciences, specialization : 13.00.04 «Theory and methods of vocational education». Ternopil, 2011. 215 p. [in Ukrainian].
18. Plakhtiy P. D., Shakhnenko V. I. The system of preparation of students of the Faculty of Natural Sciences for a healthy lifestyle and teaching the basics of health in secondary schools of Ukraine (from work experience). Bulletin of Kharkiv National University named after V. N. Karazin. Series «Valeology : present and future». 2009. Issue 6, № 862. P. 119–122. [in Ukrainian].
19. Tevkun V. V. Health-preserving competencies are the basis of professional training of future physical education teachers. Bulletin of Chernihiv National Pedagogical University. 2014. Issue 115. P. 227–230.
20. Tkachenko V. Semantic and structural aspects of the concept of «health-preserving technologies». The origins of pedagogical mastery. 2013. Issue 12. P. 315–319. [in Ukrainian].
21. Zhamardiy V. O., Donchenko V. I., Yemets A. V., Skrinnik Y. O. Physical Development by Means of Fitness Technologies as One of General Aspects of Student's Health // Wiadomości Lekarskie. 2019. Tom LXXII, nr 5 cz II. P. 1074–1078.
22. Zhamardiy V., Griban G., Shkola O., Fomenko O., Khrystenko D., Dikhtiarenko Z., Yeromenko E., Lytvynenko A., Terentieva N., Otravenko O., Samokish I., Husarevych O. and Bloshchynskyi I. Methodical System of Using Fitness Technologies in Physical Education of Students //

23. Zhamardiy V. O., Shkola O. M., Okhrimenko I. M., Strelchenko O. G., Aloshyna A. I., Opanasiuk F. H., Griban G. P., Yahodzinskyi V. P., Mozolev O. M., Prontenko K. V. Checking of the Methodical System Efficiency of Fitness Technologies Application in Students' Physical Education // Wiadomości Lekarskie. 2020. Tom LXXIII, nr 2. P. 332–341.
24. Zhamardiy V., Shkola O., Tolchieva H., Saienko V. Fitness Technologies in the System of Physical Qualities Development by Young Students // Journal of Physical Education and Sport. 2020. Vol 20 (1), Art 19. pp. 142–149.