Original Article



The role of elective courses in developing healthy lifestyle skills among primary schoolchildren through extracurricular activities

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ABSTRACT

In the process of teaching primary schoolchildren to the basics of a healthy lifestyle the targeted pedagogical work which covers both academic and extracurricular activity and includes corresponding principles, methods, forms and conditions of training and education plays a role of a key element. This present article is devoted to the analysis of the effectiveness of an elective course in the formation of primary schoolchildren's healthy lifestyle skills in the context of extracurricular activity. The sample consisted of 125 primary school students from school No. 16 and school-lyceum No. 66 of Karaganda city. The experimental group included 67 students, and the control group composed of 58 students. To determine the level of formation of primary schoolchildren's healthy lifestyle skills such self-assessment methods as test, questionnaires and surveys were used. The corresponding levels of healthy lifestyle skills formation were identified: low, intermediate, and high. The criteria for the levels of healthy lifestyle skills formation were as follows: completeness of a healthy lifestyle; depth of understanding of the social and personal significance of a healthy lifestyle; adaptability and sustainability of behavior oriented towards a healthy lifestyle.

The results of the experimental work showed a significant positive dynamic of growth of the levels of healthy lifestyle skills formation according to the criteria "Completeness of knowledge, ideas and concepts about the essence of a healthy lifestyle" and "Depth of understanding of the social and personal significance of a healthy lifestyle" in the experimental group, while the changes in the control group were not so significant. At the same time, the difference in indicators in both groups according to the criterion "Adaptability and sustainability of behavior oriented towards a healthy lifestyle" was not so evident.

Keywords: Primary schoolchildren, Health, Healthy lifestyle skills, Extracurricular activity, Elective course, Pedagogical conditions

Introduction

At the end of the 20th and the beginning of the 21st century, Kazakhstan's system of education achieved significant success in preserving the health of schoolchildren. A legislative foundation was created to facilitate more effective health care for the

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younger generation. However, there are still unresolved issues related to maintaining and strengthening the health of primary school students. These problems have both external aspects, such as study overload, school stress, inadequate physical activity, the absence of hot meals in schools, and insufficient competence of educators and parents in health care, as well as internal aspects, including a lack of knowledge in Valeology (Health study) among pupils, and the spread of harmful habits and dependencies among them. Solving internal problems is the highest priority because it allows children to cope with many external unfavorable factors, which, along with external factors, require urgent attention from both parents and educational institutions, as well as society as a whole. According to study "Behavior of school-aged children regarding their health" by HBSC (2022) several indicators require immediate reaction, such as improving parental skills in raising adolescents, improving the school's psycho-emotional

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climate within the entire school community, the physical environment in schools for healthy eating, physical activity of schoolchildren during the day, and psychological support, increasing children's resilience, special attention to girls' needs and health, limiting time spent on the internet and social networks, strict control over potentially dangerous online content, focusing on good oral hygiene, active prevention of smoking, e-cigarette use, alcohol, cannabis among schoolchildren, education on reproductive health issues, contraception, and the fight and prevention of bullying and cyberbullying" [1].

Issues related to a healthy lifestyle formation and the protection of children's health are reflected in such fundamental documents as the United Nations' Convention on the Rights of the Child [2, 3], the Decree of the Government of the Republic of Kazakhstan "On approval of the national project "High-quality and affordable healthcare for every citizen "Healthy Nation" [4, 5]. These regulatory documents are focused on the formation of a healthy lifestyle and health-saving behavior of the younger generation. Today, the children's health and the formation of a healthy lifestyle culture is the main factor in ensuring the health of the younger generation [6].

The period of primary school appears to be a particularly important stage for the formation of health preserving culture and pupils' personal development. Therefore, the task of finding effective methods for maintaining health and developing a healthy lifestyle among schoolchildren from the beginning of primary school age is urgent and necessary.

Literary review

As part of the research on ensuring the mental well-being of students studied the impact of schools on risky behavior of students, which negatively affects their health [7]. His study showed that a favorable school climate and the availability of health and social services reduce the manifestations of risky behavior among students. This confirms the need to support psychological and social services in schools, as pointed out by some researchers [8].

There are also studies related to physical health state in connection with a healthy diet aimed at preventing modern children's overweight and obesity. In this regard, researchers have identified a link between a sedentary lifestyle and cardiometabolic health, including obesity problems and mental health [9]. The researchers noted possible gender differences in factors affecting sedentary lifestyle among adolescents. It was found that the prevalence of a sedentary lifestyle among adolescents composed about 30%, what is more, factors such as high academic performance, full-time study, consumption of sugary drinks and fast food, substance use, loneliness and suicidal behavior were associated with this lifestyle.

Currently, the number of studies in different countries of the world aimed at analyzing changes in the school atmosphere is increasing. For example, a study revealed a link between a positive school atmosphere and emotional problems decrease, as well as an improvement of children's mental well-being [6, 10]. Other studies, focus on student nutrition, emphasizing the importance of increasing lunch time [11, 12]. This factor helps to reduce pupils' hunger, improve concentration and behavior in the classroom.

In this regard in a study [13, 14] it is recommended to provide physical exercise programs in the educational process and encourage the participants as one of the effective ways to support learners' mental and emotional well-being. This recommendation is based on the data described in a research which confirm the interrelation between physical activity and the subjective well-being of students, who established a link between feasible and intense physical activity with higher levels of happiness and life satisfaction [15, 16].

The development and creation of approaches to the formation of learners' value orientations towards a healthy lifestyle can significantly reduce the behavioral risks in future that arise during the socialization of each child. At the same time, it is important to solve this problem precisely during primary education since primary school age is the most sensitive for the formation of value orientations towards a healthy lifestyle.

This process becomes possible due to the inclusion of programs implementing health-saving technologies in secondary schools' activity, in the result of which certain experience in this field is gained, while special attention is paid to updating the content, selecting techniques and tools, the specifics of the organization of educational and extracurricular activity dedicated to the formation of schoolchildren's healthy lifestyle, including primary school pupils.

Health-saving technologies are a set of all techniques, methods, and technologies used in the educational process that not only protect the health of learners and teachers from the adverse effects of educational environment factors, but also contribute to the education of a health culture among schoolchildren [13, 17]. In this regard a researcher identifies several groups of healthsaving educational technologies that are based on different approaches to maintaining health and, therefore, use different methods and forms of work. He classifies them into medical hygienic, physical - health-improving, environmental - healthsaving and technologies aimed at ensuring the life safety [14, 18]. During the experimental work, a variable course "Secrets of health" was implemented into extracurricular activity. The results of the experiment showed a significant increase in indicators of the level of formation of primary schoolchildren's healthy lifestyle skills according to three criteria: completeness of knowledge, ideas and concepts about the essence of healthy lifestyle; depth of understanding of the social and personal significance of healthy lifestyle; behavioral habits and attitudes corresponding to a healthy lifestyle.

Materials and Methods

The experimental group included 67 pupils, and the control group included 58 ones. The main purpose of the experimental work was to test the variable course "Secrets of health' within the framework of the model of formation of primary schoolchildren's healthy lifestyle skills in extracurricular activity. Based on this goal, the tasks of the formative experiment were defined: the development and application of a system of measures, the determination of the most effective forms and methods of forming primary schoolchildren's healthy lifestyle skills. At the formative stage of the experimental work within the framework of extracurricular activity, the course "Secrets of health" was implemented and approbated. To determine the level of primary schoolchildren's healthy lifestyle literacy, understanding a healthy lifestyle and the degree of adequacy of their behavior to a healthy lifestyle, self-assessment methods were used, in particular, specially prepared tests. questionnaires, and surveys.

The corresponding levels of formation of primary schoolchildren's healthy lifestyle skills were identified: low, medium, high **(Table 1)**.

Tabl	e 1. Characteristics of the levels of formation of					
pr	primary schoolchildren's healthy lifestyle skills					
Level	Characteristics					
Low	The pupil's knowledge of a healthy lifestyle is haphazard, incomplete, so he does not always practice elements of a healthy lifestyle in everyday life or does it extremely rarely (outdoor walks, games, etc.). The pupil understands the value of actions aimed at forming a healthy lifestyle, for example, observing the principles of a healthy lifestyle, getting rid of bad habits.					
Interm ediate	The pupil's attitude to personal health is undefined, i.e. unstable, motivation for a healthy lifestyle is formed periodically. Only certain factors of a healthy lifestyle remain in his daily life. The pupil generally understands the importance and need for healthcare, although specific practical actions are often performed under the influence of other classmates or adults.					
High	The pupil's attitude to his health is stable and active. The pupil includes all the elements of a healthy lifestyle in his daily lives, hardens or trains, follows hygiene rules, a balanced diet, and he is able to control himself and hisemotions. He has deep knowledge about a healthy lifestyle.					

In order to statistically process the results of the study, the method of mathematical statistics - the Chi-square criterion was used.

Results and Discussion

At the ascertaining stage of the experiment, we analyzed the school experience and creative work of primary schoolchildren. As a result of the analysis, it was found that primary schoolchildren do not understand many aspects of a healthy lifestyle well. Diagnostics of the formation of healthy lifestyle skills of primary school age learners was carried out on the basis of an assessment of dynamic objective changes from the ascertaining to the control stage of the experimental work.

During the observation, the following indicators were emphasized:

- the specifics of behavior corresponding to a healthy lifestyle (the activity of responding to the education of a healthy lifestyle, the desire to perceive material about a healthy lifestyle, passionate attention to it, the absence of distractions, arbitrary and involuntary attention, the occurrence of problems in the process of extracurricular activity, etc.);
- adaptability and the nature of behavior to lead a healthy lifestyle (independent judgment on a topic of interest about a healthy lifestyle, voluntary and willing homework, reading additional literature that expands the level of healthy lifestyle).
- features of the student's lifestyle, which are changing under the influence of increased interest in a healthy lifestyle and activities in this direction.

The diagnosis was carried out according to three criteria characterizing the level of formation of healthy lifestyle skills:

- awareness of primary schoolchildren about the main factors contributing to a healthy lifestyle (reflects the completeness of knowledge, ideas and concepts about the essence of healthy lifestyle);
- understanding the main factors contributing to a healthy lifestyle (reflects the depth of understanding of the social and personal significance of healthy lifestyle);
- behavior consistent with a healthy lifestyle (reflects behavioral habits and attitudes consistent with a healthy lifestyle).

The results of the ascertaining stage showed that the level of formation of healthy lifestyle skills in primary school students of the experimental and control groups is approximately the same. The diagnostic work carried out has shown that primary schoolchildren believe that good health is a good physical condition of the body, while they do not show a stable interest to their own health, do not know how to strengthen and enrich it, do not regulate activities to preserve it. The results obtained during the survey and testing of participants of the experimental work determine the need for a purposeful and organized pedagogical influence on the process of forming primary schoolchildren's healthy lifestyle skills.

Based on the above set of conditions, a model for the formation of primary schoolchildren healthy lifestyle skills was developed **(Figure 1)**.

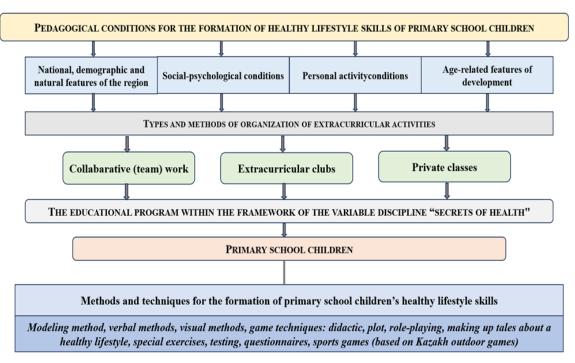


Figure 1. The model of formation of primary schoolchildren healthy lifestyle skills

The course content included 7 sections, the content of each is consistently disclosed in the corresponding topics of the section **(Figure 2)**.

	CONTENTS OF THE COURSE "SECRETS OF HEALTH"					
№	UNITS	Topics				
1	Get to know yourself and your surrounding	1.1 The inner beauty of a person. 1.2 We are all alike and different. 1.3 My class is my team. 1.4 Communication culture. 1.5 Know yourself-know life. 1.6 Behavior is a mirror of a person.				
2	Daily routine	2.1 Well – being is the basis of life. 2.2 My daily routine. 2.3 Sleep. Sleep and wakefulness behavior 2.4 Work as the constituent of life. 2.5 The importance of maintaining a routine.				
3	Proper nutrition	3.1 Proper nutrition is the key to health. 3.2 Nutrition rules and etiquette. 3.3 The structure and importance of the digestive system for the proper development of the body. 3.4 Eat right. 3.5 Food rations. 3.6 Production, storage and distribution of food products.				
4	Body hygiene	4.1 Hygiene is our friend. 4.2 Why wash your hands, rinse your mouth and brush your teeth? 4.3 Hygiene and us. 4.4 We love cleanliness, we brush our teeth. 4.5 How to preserve vision. 4.6 Prevention of infectious diseases.				
5	Unhealthy activities	5.1 Smoking is destroy yourself. 5.2 Damage of harmful substances. 5.3 Avoid bad habits! 5.4 Competition of Proverbs "Beware of harmful habits".				
6	Body's physical development and formation	6.1 How does a person grow up? 6.2 Sun, air and water are our good friends. 6.3 The importance of sports for physical development. 6.4 Bathing rules. 6.5 Avoid the sun. 6.6 National active games.				
7	Conclusion	7.1 Our favorite friend is healthy lifestyle7.2 Travel to the country of healthy lifestyle				

Figure 2. The thematic plan of the course "Secrets of health"

The course program pays special attention to folk games as one of the most effective ways to develop and enrich schoolchildren's language and thinking. The action in each game is accompanied by an oral statement of the child. For example, during the extracurricular activity "Gert to know yourself and the others", we used the game "Sanamak" (counting game), which introduces a primary school pupil to the Kazakh life, creates a vision of the environment, helps to remember the names of the organs of the human body. For the reason the game involves all auditory, visual, motor-motor, sensory analyzers are involved, during the game they most effectively memorize new ideas about a healthy lifestyle, acquire a healthy lifestyle skills.

During the course, in order to consolidate the material and control the dynamics in the formation of healthy lifestyle skills,

special practical work of a generalizing nature was applied. For example, after studying the sections "Daily routine", "Proper nutrition", primary schoolchildren were asked to independently create an individual daily routine list, prepare elementary healthy dishes, easy to cook taking into account the rules of hygiene and technical safety.

The most effective for forming the ability to lead a healthy lifestyle were the organization of extracurricular activities dedicated to celebrating Nauryz Meyrami, Health Day, sports holidays (based on national outdoor games), and the extracurricular educational lesson "Journey to the Land of Healthy Lifestyle". These allowed primary schoolchildren to test their specialized knowledge in playful and practical classes, thereby strengthening their healthy lifestyle skills. Such summarizing extracurricular hours were usually conducted after studying each section. Notably, the proverb and saying contest "Beware of Bad Habits" was held, where young learners solved riddles, read poems, and told proverbs about health. At the end of the summarizing class hours, primary schoolchildren were offered to answer survey questions, conduct a self-analysis of their health and lifestyle.

The activities implemented during the formative stage were aimed at acquiring the skills of primary schoolchildren to control their health, regulate activities, realize their own role in strengthening and maintaining their health and responsibility for it in order to form a clear and informed position towards a healthy lifestyle.

The control stage of the experimental work

At the control stage of the experimental work, we carried out a repeated diagnosis of the formation of primary schoolchildren healthy lifestyle in the experimental and control groups. The evaluation of the results was carried out according to the previous parameters. The results of the performed diagnostics on identifying the level of healthy lifestyle skills formation are presented in **Tables 2 and 3**.

Table 2. Comparative analysis of the level of formation of primary schoolchildren's healthy lifestyle skills according to the criteria "Awareness of primary schoolchildren of the main factors contributing to a healthy lifestyle" (the completeness of knowledge, ideas and concepts about the essence of healthy lifestyle) in the control and experimental groups (control stage)

		Primary schoolchildren's awareness of the main factors contributing to a healthy lifestyle, in %						
№	Factors	Experimental group (n = 67)			Control group (n = 67)			
		high	intermediate	low	high	intermediate	low	
1	Physical activity	13,4	62,7	23,9	8,6	43,1	48,3	
2	Tempering	11,9	47,1	41,0	5,2	48,3	46,5	
3	Observance of the daily routine	17,9	73,2	8,9	15,5	41,4	43,1	
4	Balanced diet	16,4	64,2	19,4	12,1	43,1	44,8	
5	Personal hygiene	20,9	70,2	8,9	15,5	46,4	46,5	
6	Preventing and avoiding bad habits	11,9	61,2	26,9	5,2	46,5	48,3	
7	The ability to hold yourself, your emotions	7,5	56,7	35,8	5,2	44,8	50	

As the results of the control stage showed, in the experimental group, the percentage of primary schoolchildren with high level of awareness of the main factors contributing to a healthy lifestyle increased noticeably: physical activity (outdoor games, sports activities, physical education classes) - from 7.5% to 13.4%, tempering - from 6% to 11%, observance of the daily routine from 10,4% to 17,9%, balanced diet - from 9% to 16,4%, preventing and avoiding bad habits - from 4,5% to 11,9%, the ability to hold yourself, your emotions - from 4,5% to 7,5%. At the same time, the proportion of primary schoolchildren with the intermediate level of awareness of healthy lifestyle issues also grew up significantly according to these factors: physical activity rose from 34,3% to 62,7%, tempering - 38, 8% to 47,1%, daily routine observance - from 46,3% to 73,2%, balanced diet - from 37,3% to 64,2%, personal hygiene keeping - from 47, 8% to 70,2%, preventing and avoiding bad habits - from 41,8% to 61,2%, the ability to hold yourself, your emotions - from 40,3%to 56,7%. The low level of awareness among primary schoolchildren also decreased considerably: the share of participants with low awareness of physical activity lessened from 58,2% to 23,9%,

tempering - from 55,2. % to 17.9%, daily routine observance from 43,3% to 8,9%, keeping balanced diet - from 53,7% to 19,4%, personal hygiene observance - from 38,8% to 8,9%, preventing and avoiding bad habits - from 53,7% to 26,9%, the ability to hold yourself, your emotions - from 55,2% to 35,8%. In the control group, there was only a slight trend towards positive changes according to the criterion of awareness of primary school students about the main factors contributing to a healthy lifestyle. The share of schoolchildren with high level grew up according to the awareness of the factors: physical activity (outdoor games, sports activities, physical education classes) - from 7% to 8,6%, tempering from - 4,2% to 5.2, observance of the daily routine from 10,2% to 15,5%, balanced diet - from 10.2% to 12,1%, preventing and avoiding bad habits - from 4,5% to 11,9%, the ability to hold yourself, your emotions - from 4,2% to 5,2%. At the same time, the percentage of participants with the intermediate level of awareness of healthy lifestyle issues also rose insignificantly: according to the awareness of the factor of physical activity it grew up from 32,3% to 43,1%, tempering from 40% to 48,3%, observance of the daily routine - from 40,3% to 41,4%, balanced diet - from 38% to 43,1%, personal hygiene - from 44,3% to 46, 4%, preventing and avoiding bad habits - from 40,9% to 46,5%, the ability to hold yourself, your emotions 40,9% to 44,8%.

In the experimental group, we can also note the evident positive changes in increase of the levels of formation of primary schoolchildren's healthy lifestyle skills according to the criteria "Understanding the main factors contributing to a healthy lifestyle". The percentage of students with the high level of understanding of the factors contributing to a healthy lifestyle of elementary school students increased as follows: physical activity (outdoor games, sports activities, physical education classes) - from 6% to 11,9%, tempering - from 4,5% to 39%, observance of the daily routine - from 9% to 16,4%, balanced diet - from 7,5% to 11.9%, personal hygiene - from 3% to 10,4%, the ability to hold yourself, your emotions- from 3% to 7,5%. The

intermediate level of understanding of healthy lifestyle factors among primary schoolchildren of the experimental group also increased significantly: physical activity - from 29,8% to 58,2%, tempering – 34,3% from to 29,7%, observance of the daily routine - from 41,8% to 65,7%, balanced diet - from 32,8% to 61,2%, personal hygiene – from 43,3% to 67,2%, preventing and avoiding bad habits - from 37,3% to 68,7%, the ability to hold yourself, your emotions from 35,8% to 44,8%. There was also *a significant decrease in the low level* of understanding of healthy lifestyle factors: physical activity - from 64,2% to 29,9%, tempering - from 61,2% to 31,3%, observance of the daily routine - from 49,2% to 17,9%, balanced diet - from 59,7% to 26,9%, personal hygiene - from 46,3% to 13,4%, preventing and avoiding bad habits - from 59,7% to 20,9%, the ability to hold yourself, your emotions - from 61,2% to 47,7%.

Table 3. Comparative analysis of the level of formation of primary schoolchildren's healthy lifestyle skills according to the criteria "Behavior consistent with a healthy lifestyle (behavioral habits and attitudes consistent with a healthy lifestyle)" in the control and experimental groups (control stage)

Nº		Behavior consistent with a healthy lifestyle, in %						
	Factors	Experimental group (n = 67)			Control group (n = 67)			
		high	intermediate	low	high	intermediate	low	
1	Physical activity	7,5	37,3	55,2	6,9	39,7	53,4	
2	Tempering	4,5	41,8	53,7	3,4	41,4	55,2	
3	Observance of the daily routine	40,5	23,7	35,8	8,6	48,3	43,1	
4	Balanced diet	7,5	38,8	53,7	6,9	43,1	50	
5	Personal hygiene	16,4	58,2	25,4	13,8	39,7	46,5	
6	Preventing and avoiding bad habits	95,5	3	1,5	94,8	3,4	1,8	
7	The ability to hold yourself, your emotions	4,5	40,3	55,2	6,9	39,7	53,4	

Changes in behavior corresponding to a healthy lifestyle of primary schoolchildren in the experimental group showed significant positive dynamics: the percentage of participants with the high level of behavior consistent with a healthy lifestyle in terms of physical activity increased from 4,5% to 7,5%, tempering - from 3% to 4,5%, observance of the daily routine - from 7,5% to 40,5%, balanced diet -from 6% to 7,5%, personal hygiene - from 9% to 16,4%, preventing and avoiding bad habits - from 91 to 95,5%, the ability to control yourself and your emotions from 3% to 4,5%. In the control group, changes in behavior corresponding to a healthy lifestyle were also fixed down. There was an increase in the percentage of schoolchildren with the high and intermediate levels of behavior corresponding to a healthy lifestyle, while the overall dynamics of a decrease in the percentage of participants with the low level of appropriate behavior. The percentage of students with the high level of behavior corresponding to a healthy lifestyle in terms of physical activity increased from 4,9% to 6,9%, tempering - from 2,8% to 3,4%, observance of the daily routine - from 7,6% to 8,6%, balanced diet - from 5,7% to 6,9%, personal hygiene - from

8,8% to 13,8%, preventing and avoiding bad habits - from 91,8% to 94,8%, the ability to hold yourself, your emotions - from 3,4% to 6,9%. The dynamic of changes of the studied qulity and level indicators of primary schoolchildren who have developed healthy lifestyle skills (the development of ideas about the importance of a healthy lifestyle, the degree of awareness of the social and personal importance of a healthy lifestyle) are presented in **Figure 3**.

The number of children in the experimental group who demonstrated the high level of adaptability and sustainability of behavior oriented towards a healthy lifestyle was 25,2%, while in the control one this number composed 20,2%; the intermediate level in the experimental group reached 34,7%, and in the control one this level gained 36,5%; the proportion of the low level in the experimental group composed 40,1%, and in the control one it made up 43,3%. As can be seen from the above data, the difference in both groups according to the criterion of "Adaptability and sustainability of behavior oriented towards a healthy lifestyle" was not so evident and significant.

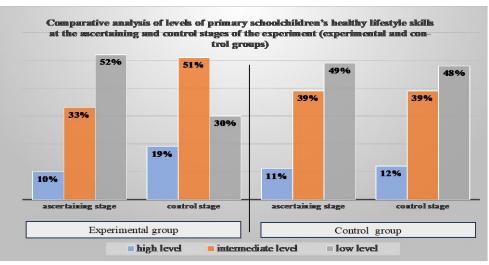


Figure 3. Comparative analysis of levels of primary schoolchildren's healthy lifestyle skills at the ascertaining and control stages of the experiment (experimental and control groups)

Thus, the effectiveness of extracurricular activity organized on the basis of the extracurricular activity program for primary schoolchildren "The Secret of Health", was experimentally confirmed, and proved to contribute to formation of primary schoolchildren's healthy lifestyle.

The implemented elective course "Secrets of health" considers the age-related basic needs of schoolchildren while forming their healthy lifestyle literacy and skills. During the course, a variety of ways were provided to realize primary schoolchildren's needs in games and creative activities. As the school experience shows, the didactic, story, role-playing, illustrative games were more suitable for the category of schoolchildren of the given age, allowing them to master the knowledge about a healthy lifestyle faster and better, and form certain behavioral skills consistent with a healthy lifestyle [19, 20].

The experimental data gained indicated the effectiveness of extracurricular activity in in the formation of primary schoolchildren's healthy lifestyle [21].

The analysis of the results of the experimental work was based on the selected criteria for the level of formation of primary schoolchildren's healthy lifestyle skills: 1) completeness of knowledge, ideas and concepts about the essence of healthy lifestyle; 2) depth of understanding of the social and personal significance of healthy lifestyle; 3) adaptability and stability of behavior to a healthy lifestyle [22, 23].

According to the results of the experimental work, it can be noted that the percentage of children with the high level of completeness of knowledge, ideas and concepts about the essence of healthy lifestyle in the experimental group increased by 5,5%, whereas in the control group this indicator increased by 1,2%; the percentage of children with intermediate level of completeness of knowledge in the experimental group increased by 21,8% while in the control group, the intermediate level rose up to 2,2%. The number of primary schoolchildren with low level decreased by 27,3% in the experimental group and by 3,4% in the control group [24, 25].

According to the criterion "Depth of understanding of the social and personal significance of healthy lifestyle" in the experimental group the percentage of high level primary schoolchildren increased by 10,4%, those with the intermediate level rose up to 20,1%; the number of low level primary schoolchildren decreased by 30,5%. The number of schoolchildren with the low level of understanding of the social and personal significance of healthy lifestyle in the control group decreased by 3,5%, while the number of participants with the high level of understanding of the social and personal significance of healthy lifestyle increased by 2%, and with the intermediate level by 1,5% [26]. The number of children in the experimental group who demonstrated the high level of adaptability and stability of behavior to a healthy lifestyle increased by 7,5%, with the intermediate level - by 5.3%, and the number of schoolchildren with the low level decreased by 12,8%. In the control group, the proportion of children with the high level increased by 1,5%, with the intermediate level by 2%, and the number of children with the low level decreased by 4%. As can be seen from the above data, the difference in both groups according to the criterion of "Adaptability and stability of behavior to a healthy lifestyle" was not so significant.

The course program considered the regional and national cultural characteristics of Kazakhstan to ensure the maintenance of interest and motivation of schoolchildren to form their healthy lifestyle, as well as to express young learners' identity. This aspect was implemented by including elements of culture and customs of the Kazakh people, national outdoor games, celebrations of national holidays, game and sports competitions attached to them in the program. These provisions have already been partially disclosed and implemented in the study by A.A. Ganichev, devoted to the study of schoolchildren's ideas about various aspects of health and a healthy lifestyle to justify the expediency of organizing extracurricular activities to form a healthy lifestyle [27]. The author notes that for successful extracurricular work, it is necessary to maintain a high level of schoolchildren's interest and create an optimal emotional

atmosphere for learning the material. To achieve this, schoolchildren should be involved in excursions, creative activities, sports events, where they can learn new knowledge and skills, be open to expressing their thoughts, learn to make decisions and help others, as well as formulate their interests and realize their capabilities.

Thus, the results of the study showed that extracurricular activity aimed at forming a healthy lifestyle can positively affect the level of formation of primary schoolchildren's healthy lifestyle.

The conducted research shows that there is a constant need for activities aimed at maintaining a healthy lifestyle and proves that extracurricular activity plays an important role in the process of forming primary schoolchildren's healthy lifestyle skills as an important component of general educational work at school.

Conclusion

The study hypothesized that the process of pedagogical orientation of primary schoolchildren towards a healthy lifestyle through the elective course "Secrets of Health" will be effective if this process is based on a model for the formation of primary schoolchildren's healthy lifestyle skills in extracurricular activity, designed considering account system-activity, axiological and personality-oriented approaches and implemented taking into account the highlighted intellectual and psychological, socialpsychological conditions; conditions conducive to schoolchildren's purposeful choice of their interests and identity, considering the ethnic, demographic and natural characteristics of the region, as well as the age characteristics of younger learners' development.

As a result of the experimental work carried out, primary schoolchildren demonstrated an increase in the level of formation of healthy lifestyle skills according to three selected criteria: completeness of knowledge, ideas and concepts about the essence of a healthy lifestyle; depth of understanding of the social and personal significance of a healthy lifestyle; adaptability and sustainability of behavior oriented towards a healthy lifestyle. At the same time, it should be emphasized that the level of behavior corresponding to a healthy lifestyle is somewhat lower in comparison with the level of literacy in relation to a healthy lifestyle and understanding of factors reflecting a healthy lifestyle, since behavior aimed at maintaining a healthy lifestyle is just beginning to be formed and yet not sustainable. However, in order to expand the understanding of the phenomenon under study in the context of a healthy lifestyle formation, it will also be advisable to conduct comparative studies on the formation of healthy lifestyle skills within the school curriculum, as well as among middle and senior secondary school students.

The experimental data obtained as a result of the formative experiment confirm *the special practical significance* of the developed holistic system for the formation of healthy lifestyle skills of primary schoolchildren in the process of extracurricular activity. The proposed program can be used in the pedagogical process in primary school on a permanent and systematic basis within the framework of organized extracurricular activity. *The data presented in the study reveal the prospects* for the formation of schoolchildren healthy lifestyle through the organization of extracurricular activity in primary school.

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References

- Kalmakova JA, Abdrakhmanova SZ, Adaeva AA, Slazhneva TI, Nazarova SA, Raisova KA, et al. Lifestyle factors of schoolchildren of Kazakhstan, their physical, mental health and well-being: National report. Astana – Almaty: National Public Health Center of the Ministry of Health of the Republic of Kazakhstan; 2023. 121 p. [In Russian]
- Convention on the Rights of the Child. Adopted and opened for signature, ratification and accession by General Assembly resolution 44/25 of 20 November 1989 [Internet]. Available from: A/RES/44/25: Convention on the Rights of the Child (un.org)
- López-García JA, Madrigal-López M, Gyves-Cordova MGD, Albores-Flores V, Grajales-Conesa J. Evaluation of in vivo Encapsulated Biopolymers of Moringa Leaves (Moringa oleifera) in Ruminal Overrun. World J Environ Biosci. 2024;13(1):15-21. doi:10.51847/9hXocKy42F
- Enwa S, Ogisi OD, Ewuzie PO. Gender role and effects on climate change adaptation practices among vegetable farmers in Delta central zone. World J Environ Biosci. 2024;13(1):22-9. doi:10.51847/hJorfK74GJ
- 5. Resolution of the Government of the Republic of Kazakhstan dated October 12, 2021 No. 725. On approval of the national project "High-quality and affordable healthcare for every citizen "Healthy Nation". [In Russian] Available from: https://adilet.zan.kz/rus/docs/P2100000725
- Holachi H, Sathyanarayanaroa HT, Achar RR, Tulasidas VK. A sustainable way for integrated farming system: a case study on Bellary district of Karnataka, India. World J Environ Biosci. 2023;12(1):10-5. doi:10.51847/Ucdm0q75V8
- Tleuzhanova GK, Sarzhanova GB, Joldanova DK, Eskzinova ZA, Assanova DN. The role of it technologies in the formation of students leadership. J Adv Pharm Educ Res. 2019;9(2):89-94.
- 8. Tsatsybin SA. Health-saving technologies in the educational process. Volgograd: Uchitel; 2009. 172 p. [In Russian]

- Joerger C, Hoffmann AM. FRESH: a comprehensive school health approach to achieve EFA. UNESCO, UNICEF, WHO, World Bank and Education International Interagency flagship programme in EFA; 2002. 32 p.
- Fedorov VA, Tretyakova NV. Conceptual framework for health-preserving activities in educational organisations within the context of quality management. Educ Sci J. 2023;25(2):15-45. [In Russian] doi:10.17853/1994-5639-2023-2-15-45
- Babiuk T. Methods of ensuring continuity in the healthy lifestyle development of senior preschoolers and primary school children. InATEE 2020-Winter Conference. Teacher Education for Promoting Well-Being in School. Suceava, 2020 2021 Sep 6 (pp. 27-38). Editura Lumen, Asociatia Lumen. doi:10.18662/lumproc/atee2020/0
- Dirican S. Wetland of local importance in Sivas province (Turkey): Kaz Lake. World J Environ Biosci. 2023;12(1):16-9. doi:10.51847/SAIXockclg
- Sarzhanova G, Otynshiyeva M, Tleuzhanova G, Assanova D, Sadvakassova A. Organizational, technological, and pedagogical conditions for differentiated instruction of teaching English as a foreign language. Int J Educ Math Sci Technol. 2023;11(1):74-95. doi:10.46328/ijemst.2809
- 14. Pyechka L. Organization of educational work on the formation of valuable attitude to own health of children aged 6-7 years of life in interaction of pre-school education institution and primary school. J Vasyl Stefanyk Precarpath Nat Univ. 2019;6(1):133-41. doi:10.15330/jpnu.6.1.133-141
- Clipa O, Campan E. Social-emotional competences of preschoolers: the impact of outdoor educational activities. Bruxelles: Peter Lang GmbH; 2020. 148 p.
- Tilahun L, Jenber AJ, Degu A, wondmeneh TA, Tizazu TY. Effects of preservative solutions on shelf life and quality of cut gypsophila flowers, Ethiopia. World J Environ Biosci. 2024;13(1):8-14. doi:10.51847/c7ttgO6DD9
- Adiga R, Biswas T, Shyam P. Applications of deep learning and machine learning in computational medicine. J Biochem Technol. 2023;14(1):1-6. doi:10.51847/iW1DfVoXVw
- Osadchuk MA, Osadchuk AM, Vasilieva IN, Trushin MV. The state biology museum named after Kliment

Arkadyevich Timiryazev as a scientific and educational center. J Biochem Technol. 2023;14(1):7-12. doi:10.51847/OLKERwxo55

- An TB, Linh DHT, Anh NP, An TTT, Tri N. Immobilization and performance of cellulase on recyclable magnetic Hydrotalcites. J Biochem Technol. 2022;13(1):13-9. doi:10.51847/APmQMAcejg
- Nguyen BTN, Nguyen TT, Le UTT. Nomophobia and stress among vietnamese high school students in Covid-19 pandemic: a mediation model of loneliness. J Biochem Technol. 2022;13(1):34-40. doi:10.51847/zN5yXlP0nK
- Bubunets EV, Zhigin AV, Esavkin YI, Panov VP, Grikshas SA, Salikhov AA, et al. Temperature factor in the cultivation of juvenile Anadromous sturgeons in warmwater farms. J Biochem Technol. 2022;13(1):45-9. doi:10.51847/qdJ62fxPsq
- 22. Hansani WADI, Karunarathne EACP. Consumers' intention to adopt mobile taxi booking apps: an application of the theory of planned behavior. J Organ Behav Res. 2021;6(1):34-45. doi:10.51847/pcXKfeNsC9
- Makhdoom TR, Shaikh MA, Baloch MN. Traditional leadership styles influencing employee work behaviors in Islamic banks of Sindh, Pakistan. J Organ Behav Res. 2021;6(1):46-58. doi:10.51847/NH5EUh6dNq
- 24. Mai CN, Mai AN, Nguyen HNT, Nguyen HT. Factors Affecting endogenous income of informal laborers suffering economically social exclusion in Vietnam's northern mountainous area. J Organ Behav Res. 2021;6(1):59-70. doi:10.51847/zqgvCD9ayk
- Saltykova YA. Organizational behavior of steel market players in the context of a pandemic. J Organ Behav Res. 2021;6(1):71-9. doi:10.51847/fAXKZcf51A
- 26. Al-Jameel OS, Salhi B. Factors affecting the employees' loyalty in the mobily telecom company, Saudi Arabia. J Organ Behav Res. 2021;6(1):135-47. doi:10.51847/AwYKqLNzuU
- Ganichev AA. Consideration of students' ideas about a healthy lifestyle in planning extracurricular activities. Yaroslavl Pedagog Bull. 2013;2(1):27-31. [In Russian]