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Features of implementing health-promoting technologies in the primary school educational environment

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Abstract

Introduction. This article examines the theoretical and practical aspects of implementing health-promoting technologies in the educational environment of elementary schools as an important component of the modern educational process. It analyzes scientific approaches to interpreting the concept of “health-promoting technologies,” clarifies its meaning, and defines its role in the elementary education system.

Aim. The aim of this article is to characterize health-promoting technologies within the primary education system and to identify the specific features of their use in the educational environment of elementary schools. To characterize the age-related features of the physical, mental, and social development of younger elementary school students that must be

taken into account when organizing educational activities and creating a safe, comfortable, and health-promoting educational environment. To summarize the classifications of health-promoting technologies, explain their content, functions, and specific features of their use in the educational process of elementary schools.

A brief description of the current state of knowledge. Based on the results of theoretical analysis and empirical research, the main directions for implementing health-promoting technologies into the practice of elementary school teachers have been identified. It has been demonstrated that the systematic use of physical education and health-promoting, psychological and pedagogical, social and preventive, and health-promoting methods and techniques contributes to strengthening students' physical and psycho-emotional health, increases their motivation to learn, work capacity, and academic performance, and fosters healthy lifestyle habits and a responsible attitude toward their own health.

Particular attention has been paid to the role of elementary school teachers in creating a health-promoting educational environment. It has been determined that the effectiveness of implementing health-promoting strategies depends on the teacher's professional competence, their ability to take into account students' individual and age-related characteristics, apply modern teaching methods, ensure a positive psychological climate in the classroom, and organize interaction among all participants in the educational process. It has been demonstrated that the greatest effectiveness can be achieved through partnership-based collaboration among teachers, parents, school administrators, healthcare professionals, psychologists, and other specialists. Methodological recommendations are proposed for improving the process of implementing health-promoting technologies in elementary school, and their significance for ensuring the harmonious development, preservation, and strengthening of younger students' health is substantiated.

Summary. Health-promoting technologies are a set of methods, techniques, and tools aimed at preserving children's health. All actions of those involved in the educational process should be directed toward creating a health-promoting environment that facilitates children's adaptation to the educational setting of a general secondary school, reduces morbidity, and fosters a positive psychological climate in which students have the opportunity to fully meet their educational and cognitive needs.

Key words: health-promoting technologies; health; educational environment; elementary school; elementary education; students; healthy lifestyle; elementary school teacher.

1. INTRODUCTION

The current stage of educational development is characterized by a reorientation of the educational process toward ensuring the comprehensive development of the child's personality and the preservation and strengthening of their physical, mental, and social health. One of the key tasks of primary education is to create an educational environment that not only ensures high-quality learning but also promotes the formation of learners' responsible attitudes toward their own health and a healthy lifestyle. In this context, the implementation of health-preserving technologies becomes particularly relevant as an essential component of the modern educational process.

The problem of maintaining the health of primary school-aged children is becoming more acute due to a range of factors, including an intensive academic workload, insufficient physical activity, increased use of digital devices, psycho-emotional stress, and unfavorable socio-psychological conditions. This necessitates the search for effective pedagogical approaches aimed at creating a safe, comfortable, and health-preserving educational environment that ensures the harmonious development of the child without harming their health.

The role of the primary school teacher is of particular importance, as they must not only possess modern health-preserving technologies but also be able to integrate them into the learning content, organize the educational process considering the age and individual characteristics of learners, ensure a positive psychological climate, and cooperate with parents and other participants in the educational process. At the same time, the analysis of pedagogical practice shows that the implementation of health-preserving technologies is not always systematic, and certain aspects of their methodological support require further scientific substantiation.

Therefore, the relevance of this study is determined by the need to identify the features of implementing health-preserving technologies in the educational environment of primary school, to substantiate effective approaches to their use, and to develop practical recommendations for creating conditions that ensure the preservation and strengthening of the health of younger schoolchildren in the learning process.

2. DESCRIPTION OF THE STATE OF KNOWLEDGE

2.1. Review methodology and data sources

The research employed a set of general scientific and empirical methods, including analysis, generalization, and systematization of scientific and methodological literature on the implementation of health-preserving technologies in the educational environment of primary school. This made it possible to determine the theoretical foundations of the studied phenomenon, clarify key concepts, and identify the main approaches to its implementation in contemporary pedagogical practice.

The empirical part of the study was conducted in the form of a survey of teaching staff in general secondary education institutions and parents of primary school learners. Within the study, 149 teachers of general secondary education institutions were surveyed, which made it possible to identify their level of awareness of health-preserving technologies, the specifics of their practical application, and existing difficulties in implementing relevant approaches in the educational process.

Additionally, a survey of 350 parents of primary school students was conducted, which allowed for assessing their attitudes toward the organization of a health-preserving educational environment, their level of involvement in cooperation with the school, and their awareness of the importance of maintaining children's health during the learning process.

The obtained data made it possible to conduct a comprehensive analysis of the problem from different perspectives — the pedagogical and parental communities — which increased the objectivity of the research results. The synthesis of the empirical data served as a basis for formulating conclusions and developing practical recommendations for improving the implementation of health-preserving technologies in primary education.

2.2. SELECTION CRITERIA

The selection of participants for the empirical study was carried out in accordance with the principles of representativeness, voluntariness, and informed consent. The sample of teaching staff included teachers of general secondary education institutions who are directly involved in the educational process in primary school or have experience working with younger school-aged children and are engaged in implementing health-preserving approaches in pedagogical practice.

The main inclusion criteria for teachers were: teaching experience in the general secondary education system, involvement in the primary school educational process, and willingness to participate in the survey. Individuals who had no direct relation to the primary school educational process or did not engage in teaching activities were not included in the study.

Regarding the sample of parents of primary school learners, the selection criteria included: having a child enrolled in primary school, awareness of the conditions of the child's education and upbringing, and voluntary consent to participate in the survey. Additionally, parents' willingness to provide open responses regarding the organization of the educational environment and their own involvement in the development of children's health-preserving skills was taken into account.

Such an approach to sample formation ensured the collection of reliable and representative data necessary for a comprehensive analysis of the features of implementing health-preserving technologies in primary school.

2.3. Characteristics of the term “health-preserving technologies”

The issue of implementing and using health-preserving technologies has been reflected in the works of many scholars and researchers, including O. Vashchenko, M. Honcharenko, O. Dubohai, S. Luparenko, T. Osadchuk, L. Rybalko, S. Svyrydenko, and V. Sukhomlynskyi, among others. In these studies, researchers reveal the essence of the concept of “health-preserving technologies,” their types, classifications, and the role of the teacher in the educational process. Based on their works and relevant regulatory documents [4, 6, 9, 10], it can be concluded that the implementation and use of health-preserving technologies in primary education is highly appropriate, as they improve the educational process and contribute to the preservation of the health of the younger generation.

Children's health is one of the most important contemporary issues. It is multifaceted and requires efforts for its resolution from both medical and psycho-pedagogical perspectives. Nowadays, education is no longer merely a tool for acquiring knowledge that is not always applicable in real life. Educational reforms are currently being implemented, which not only change educational content but also transform the understanding of the goals of modern education.

With the introduction of the New Ukrainian School reform on October 27, 2016, significant changes have been initiated that substantially improve education. The main task of the school is no longer only to provide knowledge but to prepare learners for real life, to develop key competencies, and to help students form skills for maintaining a healthy lifestyle, preserving a high level of health, and fostering a responsible attitude toward their own health and the health of others. These competencies will enable children to adapt more easily to independent life. To achieve these goals, systematic and well-planned cooperation among all participants of the educational process is required.

Health preservation is a highly relevant issue, as children's health deteriorates during the educational process, the body becomes exhausted, and academic performance declines. Scientific research has made it possible to identify factors that negatively affect students' health during learning: improperly selected pedagogical methods; failure to take age-related characteristics into account in the educational process; insufficient medical supervision at school; excessive academic workload; shortcomings in the system of physical education; violation of sanitary and hygienic requirements in the organization of learning; problems in the formation of a healthy lifestyle culture; neglect of psycho-pedagogical conditions of learning; and insufficient awareness of teachers and parents regarding the preservation and strengthening of children's health.

Taking into account all educational changes, it can be observed that the school is increasingly concerned with whether a child will be able to develop healthy lifestyle skills and adapt safely to real life while applying acquired knowledge. Health-preserving competence, students' health, and a healthy lifestyle are becoming increasingly important. In order to develop this competence, health-preserving technologies are of particular relevance.

Table 1 presents scholars' interpretations of this concept. The main distinguishing feature of health-preserving technologies compared to other approaches is that the primary focus is on health care and the creation of a health-preserving educational environment, where all activities are aimed at maintaining and strengthening health. All participants of the educational process are responsible for this.

Table 1. Interpretations of the concept of "health-preserving technologies"

Author	Content of the concept
O. Vashchenko	...those that create safe conditions for being, learning, and working at school, as well as those that address the tasks of rational organization of the educational process and ensure the correspondence of academic and physical workload to the child's capabilities [1, p. 7].
M. Honcharenko, S. Luparenko	...a consistent set of pedagogical and didactic techniques, forms, tools, and methods aimed at creating a psychologically comfortable educational environment that promotes the formation of a healthy and competent personality [3, p. 32].

Author	Content of the concept
A. Deryabina	...a system of measures that includes the interconnection and interaction of all factors of the educational environment aimed at preserving the child's health at all stages of their learning and development [5, p. 7].

Health-preserving technologies are a necessity of today, as they include a system of methods and techniques that help both teachers in the learning process and students themselves to strengthen, preserve, and improve health. It should be remembered that “the basis of life success for every person is their health; a teacher can not only teach a child actions that lead to the formation of a healthy lifestyle but also indirectly influence the family, which serves as a model for the child” [8, p. 36].

Health preservation is an extremely important condition for a safe educational process in primary school. Scholars argue that “primary school age is an important period of physical education for children, when posture is formed, basic physical qualities (strength, agility, flexibility) develop, and motor skills and abilities are formed and improved” [2, p. 55].

2.4. Conditions for the implementation of health-preserving technologies

In order to properly organize the educational process using health-preserving technologies, it is necessary to take into account the age-related characteristics of learners. This not only helps to preserve children's health but also minimizes learning difficulties and improves their academic achievements. Scholar O. M. Kotina states that “knowledge is formed as follows: 80% in primary and lower secondary school; 10% in upper secondary school; 5% in higher education institutions; and the rest through practice in independent life. This information should be known and understood by every student” [7, pp. 20–28].

Primary school learners are children aged 6–7 to 10–11 years. According to physiologists, during this period a number of physiological, cognitive, and emotional changes occur. The cerebral cortex is already quite developed; however, the regulatory function of the cerebral cortex may still be immature. This affects the emotional sphere of children and influences the organization of their learning and cognitive activities.

It is also important to note that “with age, the leading orientation of the student may change. Thus, in younger schoolchildren, the importance of learning activity gradually

increases, and by the 4th grade, the significance of interpersonal relationships becomes more pronounced” [11, p. 74].

During the period of primary school education, the child’s body undergoes active growth and development. At this stage, there is a high risk of spinal curvature and hand disorders, as pupils begin to lead a sedentary lifestyle that is unfamiliar to them before starting school. At the beginning of schooling, children of this age group experience certain difficulties in coordinating fine motor movements. As noted by L. Yashchenko, “it is difficult for a first-grader to write within the lines, to direct hand movements without making unnecessary actions, which quickly leads to fatigue. Therefore, in the first grade, physical activity breaks should be conducted to develop the fine muscles of the fingers and hands” [12, p. 40].

In her scientific work *“Health-preserving technologies: essential characteristics,”* O. Vashchenko identified the following classification of health-preserving technologies [1]:

- health-preserving technologies – creation of safe conditions;
- health-improving technologies – physical training, gymnastics, massage, hardening procedures;
- health education technologies – formation of knowledge, skills, and abilities that can be applied in real life;
- health culture education – activation, development, and upbringing of health-preserving qualities in learners.

M. S. Honcharenko classified health-preserving technologies as follows [3]:

- medical-hygienic technologies – compliance with sanitary and hygienic norms and provision of medical assistance to primary school learners;
- physical culture and health technologies – development of children’s physical qualities such as strength, flexibility, speed, endurance, and hardening;
- environmental technologies – formation and development of students’ ecological awareness;
- life safety technologies – creation of conditions in which rules ensuring students’ safety are observed both at school and beyond it;
- medical-rehabilitation technologies – therapeutic physical education and pedagogy (if needed);
- social-adaptive and personality-developing technologies – use of social and family pedagogy knowledge for teachers, parents, and students through socio-psychological training;

- health-preserving educational technologies – psycho-pedagogical methods and techniques aimed at preserving students' health.

As can be seen, there are numerous classifications and types of health-preserving technologies. Some of them are similar, while others differ significantly; however, their effectiveness and efficiency are achieved only through a comprehensive combination, taking into account the needs and conditions of their application.

Any reforms and innovations will not be effective if the teacher is not ready and motivated to implement them in the educational process. First of all, the teacher must know and understand the direction of work, methods, and approaches to ensure the health preservation of children. The main goal of the teacher in educational activity is to develop and properly form the key components of students' health: physical, spiritual, social, and mental. However, the teacher's active work should be directed not only at the learner but also at their family, as this should be a comprehensive approach both at school and at home. Primary school teachers, in particular, must apply health-preserving technologies, as they lay the foundation for students' future learning. It is necessary to understand age-related, individual, psycho-physiological characteristics and capabilities of learners in order to ensure a successful educational and upbringing process. For this purpose, teachers need to cooperate with other school staff and work together to create a health-preserving educational environment.

It is necessary to implement the following conditions:

- introduce new health-preserving elements into the educational process of the educational institution;
- monitor the proper alternation of work and rest regimes;
- create conditions that enhance learners' self-esteem;
- implement partnership pedagogy, which involves cooperation between the educational institution, students, and their parents;
- improve the educational, material, and technical base of the educational institution in accordance with new educational trends;
- develop and implement new methods and techniques of health-preserving technologies in the educational process;
- involve all staff members of the educational institution in cooperation aimed at preserving students' health.

2.5. Discussion of empirical research results

The use of practical tasks in the educational process contributes to the formation of automatic health-improving actions in everyday life. Their essence lies in the gradual increase in the complexity of tasks and conditions for their performance in order to improve students' health-preserving behavior.

An empirical study was conducted on the awareness of teachers and parents of primary school students regarding the use of health-preserving technologies to improve children's health.

As a result of this study, 149 teachers of general secondary education institutions were surveyed. In addition to the questionnaire administered to teaching staff, a survey of 350 parents of primary school learners was also conducted. One of the objectives of the questionnaire was to identify the variety of exercises used by teachers in their professional activities. The obtained results are presented in Figure 1.

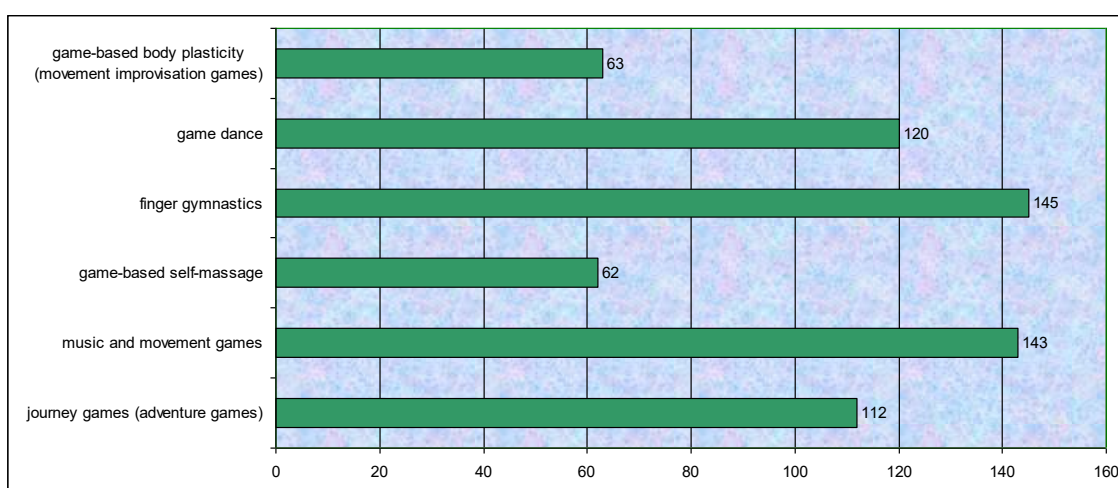


Figure 1. Use of health-preserving exercises in the educational process of general secondary schools

Based on the obtained data, it can be concluded that the most popular types are finger gymnastics, which is used by 145 surveyed teachers, and music and movement games, which are used by 143 teachers.

According to the survey results, there were no parents who were completely dissatisfied with their child's lifestyle, as no ratings of 1 or 2 were recorded. Most parents were satisfied, with ratings of 4 and 5 predominating, which were given by 124 (60%) and 210 (35%) parents, respectively. Within the framework of this study, parents assessed the

extent to which they were satisfied with the lifestyle their child leads. The results are presented in Figure 2.

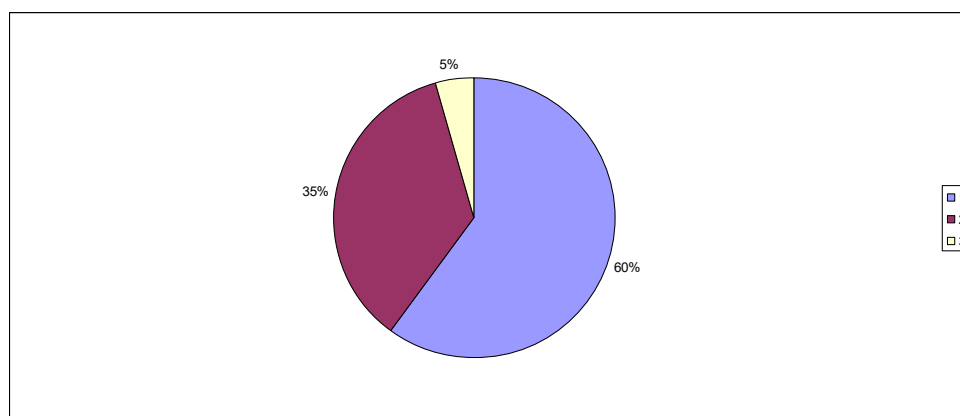


Figure 2. Assessment of the child's lifestyle

These results are encouraging; however, it is important that parents assess the situation objectively rather than perceive it through wishful thinking.

3. CONCLUSIONS

Health-preserving technologies are a set of methods, techniques, and tools aimed at maintaining and strengthening children's health. All actions undertaken by participants in the educational process should be directed toward creating a health-preserving educational environment that facilitates children's adaptation to the educational setting of general secondary education institutions, reduces morbidity, and fosters a positive psychological climate in which learners can fully satisfy their educational and cognitive needs. It should be remembered that primary school lays the foundation of the knowledge system, which is further developed in subsequent years. It is precisely during this period that children should acquire the knowledge, skills, and practical competencies that will be essential for their future lives.

The study theoretically substantiated and empirically confirmed the significance of implementing health-preserving technologies in the primary school educational environment as one of the key factors in preserving and strengthening the health of younger schoolchildren. The essence of the concept of *health-preserving technologies* was clarified, their role in the modern educational process was determined, and the main approaches to their classification were analyzed.

It was established that the effectiveness of health-preserving technologies largely depends on teachers' professional competence, their readiness to integrate appropriate methods into the educational process, their ability to consider learners' age-related and

individual characteristics, and their capacity to ensure a positive psychological climate in the classroom. Another important factor is systematic cooperation among teachers, parents, school administration, and other participants in the educational process.

The empirical study demonstrated generally positive attitudes among teachers and parents toward the implementation of health-preserving technologies; however, it also revealed an insufficient level of methodological awareness and practical preparedness among some respondents. This indicates the need to strengthen methodological support, provide systematic professional development for teachers, and enhance cooperation with students' families.

The findings justify the feasibility of a comprehensive approach to implementing health-preserving technologies in primary schools. Such an approach involves creating a safe and supportive educational environment aimed at the harmonious development of the child, the preservation of health, and the formation of a culture of a healthy lifestyle.

DECLARATION OF THE USE OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES IN THE WRITING PROCESS:

During the preparation of this work, the author used Gemini 3 (Google) for the purpose of language polishing, and stylistic refinement. After using this tool, the author reviewed and edited the content as needed and take full responsibility for the substantive content of the publication.

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