

## INNOVATIONS IN THE PHYSICAL EDUCATION OF SCHOOLCHILDREN

Sofiya Vlasova<sup>1</sup>

<sup>1</sup> Postgraduate student at SHSI «Gtygoryi Scovoroda Pereiaslav-Khmelnytskyi State Pedagogical University», Pereiaslav-Khmelnytskyi, Ukraine, svchamp@mail.ru

### Abstract

The article is devoted to the problems of application of the innovative technologies in the system of physical education. Innovation in the education is the process of creating, dissemination and application of the new means (novelties) for the solving those pedagogical problems which have been solving before in a different way. Leading scientists suggested innovative technologies like Nordic walk, fit ball aerobic, healthy movably thematic games for solving the problems of educational valeological aiming of the physical education of the primary school children and other. Practical demonstration of the sports and health improvement technologies in physical education is fitness programs. Application of the innovative sports and health improvement fitness technologies in the physical education process of the children of secondary school age will favor to increase of efficiency of both in school and after school work. Aerobic training is the most justified among the health building technologies. Therefore development of the programs aimed at sport and health improvement of this kind gain exceptional sense. Role skating is an effective means of improvement of health which involves a big number of muscles, without getting out aerobic regime of energy supply.

**Key words:** physical education, innovation technologies, fitness programs, role skates.

**Софія Власова. Інновації в системі фізичного виховання школярів.** У статті досліджено проблему впровадження інноваційних технологій у систему фізичного виховання. Інновація в освіті – це процес створення, поширення й використання нових засобів (нововведень) для розв’язання тих педагогічних проблем, які досі розв’язувалися по-іншому. Провідні вчені запропонували такі види інноваційних технологій, як скандинавська ходьба, фітбол-аеробіка, оздоровчі рухливо-пізнавальні ігри для вирішення питань освітньо-валеологічної спрямованості фізичного виховання учнів та ін. Практичним проявом фізкультурно-оздоровчих технологій у фізичному вихованні є фітнес-програми. Упровадження інноваційних фізкультурно-оздоровчих фітнес-технологій у процес фізичного виховання учнів основної школи сприятиме підвищенню ефективності як урочних, так і позаурочних форм занять. Аеробне тренування найбільш виправдане в побудові здоров’яформувальних технологій. Тому розробка програм фізкультурно-оздоровчої спрямованості за таким типом набуває виняткового значення. Катання на роликових ковзанах – ефективний засіб оздоровлення, що задіює велику кількість м’язів, не виходячи при цьому за межі аеробного режиму енергозабезпечення.

**Ключові слова:** фізичне виховання, інноваційні технології, фітнес-програми, роликові ковзани.

**София Власова. Инновации в системе физического воспитания школьников.** В статье исследуется проблема внедрения инновационных технологий в систему физического воспитания. Инновация в образовании – это процесс создания, распространения и использования новых средств (нововведений) для тех педагогических проблем, которые до сих пор решались по-другому. Ведущие ученые предложили такие виды инновационных технологий, как скандинавская ходьба, фитбол-аэробика, оздоровительные подвижно-познавательные игры для решения образовательно-валеологического направленности физического воспитания учащихся и др. Практическим проявлением физкультурно-оздоровительных технологий в физическом воспитании являются фитнес-программы. Внедрение инновационных физкультурно-оздоровительных фитнес-технологий в процесс физического воспитания учащихся основной школы будет способствовать повышению эффективности как урочных, так и внеурочных форм занятий. Аэробная тренировка является наиболее оправданной в построении здоровьесформирующих технологий. Поэтому разработка программ физкультурно-оздоровительной направленности по такому типу приобретает исключительное значение. Катание на роликовых коньках является эффективным средством оздоровления, задействует большое количество мышц, не выходя при этом за пределы аэробной режима энергообеспечения.

**Ключевые слова:** физическое воспитание, инновационные технологии, фитнес-программы, роликовые коньки.

**Introduction.** In the terms of development of the national system of the secondary education innovation activity of the secondary schools which is characterized by experimentations, approbations and application of innovations (novelties) in the process of education gains importance.

At the present stage of development of the comprehensive secondary education system in Ukraine the number of the experimental schools which develop or approbate pedagogical innovation for the last three

years increased in 18 percent. At the all-Ukrainian level of experiments there were registered 47 pedagogical innovations which involved in their realization 134 secondary educational institutions; at the regional level – 103 innovation which work in the 340 educational institution [2].

Experts turn attention to the necessity of cardinal reorganization of the educational process of the comprehensive secondary schools, application of the innovative approaches in the educational system considering psychophysiological patterns of child development.

The issues of application of innovative technologies in the sphere physical education were the subject of researches of many scientists (N. V. Moskalenko, 2009; V. A. Savchenko, 2012; N. E. Pangelova, 2013; O. M. Sayinchuk, 2014; T. G. Kozhedub, 2014; T. Y. Krucevych etc., 2014 and etc.).

There are several approaches in the definition of the notion «Innovation». Thus contemporary domestic scientists consider innovation in the education as the process of creating, dissemination and application of the new means (novelties) for the solving those pedagogical problems which have been solving before in a different way [3].

Educational innovation which are applied at the present stage of development of the national comprehensive secondary education system must be considered in their content, forms, methods and technologies of teaching and educating of pupils; content, forms and methods of educational institution management [6].

Innovative pedagogical technologies have the following features:

- they are the results of creative finding of the original, non-standard solution of various pedagogical problems;

- they are actual, significant and systematic new formations, which emerge on the ground of diverse initiatives and novelties, which become perspective for the evolution of education and have positive influence on its development;

- they are the product of the innovative educational activity which are characterized by processes of creation, dissemination and application of new means (novelty) in the field of education and scientific researches;

- they are the new forms of work organization and management, new types of technologies which embrace not only separate institution and organization but various spheres of activity;

- they are the process renewal and improvement of theory and practice of education, which optimize achievement of its goals; process of realization of targeted changes, oriented on transformation of any components in the structure or functioning of the organization;

- they are the new ideas, actions, or adapted ideas, or those ideas which are in time to be realized;

- they are the novelties in the field of technic, technologies, work organization and management, which are based on exploitation of the achievements of the science and progressive experience and on use of those novelties in various fields and spheres of activity [12].

Recently studies directed on improvement of the organizational and methodological principles of the physical education process of the pupils, especially by providing innovative technologies have been conducted.

O. M. Saiynchuk [10] suggested introducing in the system of physical education innovative type of motor activity – Nordic Walking. The author grounded, developed and experimentally verified the effectiveness of the program of the Nordic walk exercises after school for the physical condition of the primary school children.

T. G. Kozhedub [3] suggested innovative technology of the theoretical training of the schoolchildren. This allows improving physical activity performance, level of physical preparedness, physical growth and state of health of the pupils and determines the appropriateness of its use in the physical education system of the children of secondary school age.

T. G. Omelchenko grounded the model of donozological state of the primary school children (taking in consideration anthropometric, physiological (cardiovascular), psychophysiological indicators, rate of physical development and psychical state of organism) and on its base she developed technology of management and correction of the donozological state of the organism using the example of the exercises with the elements of fit ball aerobic [7].

Y. V. Vaskov is confident that with the help of non-traditional lessons the problem of differentiation of the education, organization of the independent learning and practice of pupils may be solved and ability to exercise self-control by training activities may be formed. However as Y. V. Vaskov state among the

selected types of innovative works at the physical training lessons practicing teachers suggest to use around six type of work: lessons–competitions, lessons–games, lessons–stories (fairy tales), lessons–travels, lessons circle training, binary and integrated lessons. This affirms that both the scientists in the sphere of school physical education and practicing teachers have not yet developed system of projecting, preparing and conducting of non-traditional lessons [1].

I. Makushchenko and V. Prystynskyi proposed to use healthy movably thematic games for solving the problems of educational valeological aiming of the physical education of the primary school children [5].

But application of innovative technologies in the school education process rests limited, which makes relevant the scientific research in this direction.

**The Aim of the Study** is analysis, generalization and systematization of data of the scientific and methodological literature concerning realization of the contemporary healthy technologies in physical education process of the of the primary school children.

**Results of the Study. Discussion.** Innovation is the result of the systematic activity which is directed at realization of the achievements of the scientific and technical progress which favors to quantitative and qualitative changes in the internal environment of the enterprise and secures the increase of efficiency and receiving of competitive advantages.

Translated from Greek «Innovation’ means “renewed, novelty, change». The most common is definition of American scientist K. Rogers [9] who states that novelty is an idea which is new for the particular person, and no matter if the idea is objectively new or not, we determine it in the time, which is passed from the moment of its discovery or first use.

Modernization of the education system is linked first of all with the application of innovative concepts in educational environment, in the basis of which the complete models of educational process will be put in, which are set up on unity of methodology and means of their realization, i.e. those which exist not only at the level of ideas but those which embody at the level of technologies the idea of humanization in the system of education in general and in specific aspects of educational process.

Learning with the use of innovative technologies qualitatively surpasses classical education. It integrates the processes which may not be united in the framework of classical education, employment, career, continual education.

But technologies are introducing slowly in the educational process. The main reason of delay is appetite or habit of a teacher to be in the center of the studies: to be senior and initiator. If a teacher goes to the background, leading the lesson the way that the schoolchildren are initiators, implementers, that is full value actors, the lessons’ quality vary. Interactive methods of teaching are the best stepping stone for carrying out this task.

Solving of the problem of the efficiency increasing of physical education lessons stipulate the realization of the contemporary innovative pedagogical technologies aimed at formation of schoolchildren’s knowledges in the field of physical education that favors to increasing schoolchildren’s interest to physical exercises. Search for the new effective means and their scientific argumentation have their logical place in the improvement of the school physical education system.

Principle of healthy orientation of the physical education concretize in physical and healthy technologies, which are developing now. Notion «physical and healthy technologies» unites a process of using physical education means for the recovery goals and scientific discipline, which develops and improves the basis of methodic of physical and health process building.

Practical manifestation of the physical and healthy technologies in physical education is different fitness programs, which form the main content of fitness groups’ activity, which are functioning on the basis of sport and athletic societies and school and after school physical education work.

Fitness programs as a form of motor activity, especially organized in the frame of group or individual (personal) work, may have both health condition direction (reduction of diseases progress, reaching and keeping of certain physical condition) and pursue the goals linked with development of ability to solve efferent and athletic tasks at the rather high level.

In the first case fitness program is oriented at the goals of healthy fitness, in second one at athletic or efferent level.

The classification of fitness programs is based at [11]:

- a) One type of motor activity (e.g. aerobic, jogging, swimming etc.);
- b) Combination of several types of motor activity (e.g. aerobic and body building, aerobic and stretching, swimming and jogging etc.);

c) Combination of one or several types of motor activity and different factors of healthy mode of life (e.g. aerobic and conditioning to the cold, body building and massage, swimming and hydrostatic recovery procedures etc.).

In their turn fitness programs based on the one type of motor activity may be divided in programs based on:

- types of motor activity of aerobic orientation;
- healthy types of gymnastic;
- types of motor activity of power orientation;
- types of motor activity in the water;
- psycho-emotional regulation means.

Besides that integrational generalized fitness programs oriented at special groups of population: for children; for the elderly people; for women in prenatal and postpartum periods; for the persons with high risk disease and ill person; body correction programs may be distinguished. Computer fitness programs are developing intensively.

This diversity of the fitness programs is determined by aspiration to satisfy different athletic and health interests. Considering that the notion «fitness» comprises multifactorial components (planning of life career, hygiene of body, physical preparedness, rational nutrition, disease prevention, social activity, psycho-emotional regulation, including stress prevention and other factors of healthy mode of life), the number of fitness program which are created is limitless.

One of the fitness program set up on the types of motor activity of the aerobic orientation is role skating.

High emotionality, effective development of aerobic abilities lead role skating to the number of the most popular types of motor activity. Around 15 millions of people are practicing role skating all around world.

Physiological value of this type of motor activity lies in the positive influence on cardiovascular, musculoskeletal and muscle systems. As a result of fulfilment of specific motions which require constant control of equilibrium and balancing the work of the vestibular system is improved and as well as coordination skills. Simultaneously hormone endorphin (hormone of «happiness») is secreted and this conduces elation.

Role skating is especially topical for the people who are overweight. Thus during one hour uniform medium intensity skating 400 kcal may be burned, intensive skating with speeding up burns 900 kcal. Besides that these exercises set in norm metabolism.

The main elements of role skating for the beginners are:

- skating on one leg;
- skating backward;
- simple jumps;
- basic elements of slalom, so called «serpent»;
- breaking.

Simple skating may be diversified with active games. For games on roles any outdoor games may be adapted. The most attractive among them which suit to the specific of movements on the role skates are the dynamic and mobile games which do not require the big size of the skating ground. Unlike sport games, games on roles do not require specially equipped play ground or sport equipment.

Biomechanical peculiarity of role skating allow including in work those groups of muscles which may not be developed with the other types of exercises. Efficiency of the work is largely determined by technical equipment: role skates, special clothes, helmet, knee-guards and elbow-guards.

World sport equipment manufacturers suggest four types of role skates: for pleasure trips, for fitness, for extremal (acrobatic) skating, and universal.

Role skates which used in the fitness programs for the improving the functional state of the organism have specific technical characteristics (ventilation, buckles, peculiarities of the roles, availability of break, etc.), that allows to secure comfortable condition during durable exercises [5].

To customize physical exercises with primary schoolchildren both on land and in water teachers are trying to select and borrow verity of recreation and wellness, fitness technologies, elements of sports for development both motor capacity and recreation in general, choreography, conditioning to the cold procedures etc.

Peculiarities of pedagogical leading of the game activity of the children do not stay out of scientific attention. Compositions of usual and folk active games with transferring them into touristic and local history

work with the aim to influence both on physical and moral and spiritual development of the schoolchildren are experimentally tested as independent training and educational elements at school and after school time. Traditional physical exercises of the Ukrainian people which are used to educate patriotism become increasingly popular in the practices of improvement of health and involvement of primary schoolchildren to the motor activity [4].

**Conclusions.** Application of innovative physical and health fitness technologies into the process of the physical education of the schoolchildren will enhance the effectiveness both school and after school forms of work. Data synthesis of scientific and methodological literature indicates that aerobic training is the most justified in the health building technologies. It is established that age of 10–12 years is favorable for fulfilment of aerobic opportunities, therefore development of physical and health oriented programs of this kind acquires exceptional importance. Role skating is the effective means of health improvement which involves a big number of muscles, without getting out aerobic regime of energy supply.

The prospect of further research. Grounding and development of the program of physical and health lessons with the priority use of means of role skating for the schoolchildren of 5–6 grade of secondary school.

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