



2528-9705



DEVELOPMENT OF EQUILIBRIUM IN DYNAMIC AND STATIC CONDITIONS IN CHILDREN AGED 8-9 YEARS USING STANDARD CLASSICS

Georgiy Georgievich POLEVOY ^{1,2*}, Andrew Borisovich SABLIN ², Stanislav Vladimirovich CHERNISHEV ²

^{1*} Department of Physical Education, Moscow Polytechnic University, Moscow, Russia.

² Department of Physical Education, Moscow Technical University of Communications and Informatics, Moscow, Russia.

***Corresponding Author**

E-mail: g.g.polevoy@gmail.com

ABSTRACT

The problem of insufficient development of motor abilities of younger schoolchildren can be solved with the help of the exercise standard classics. To determine the effect of the standard classics exercise on the development of balance indicators in dynamic and static conditions in children aged 8-9 years. Schoolchildren were engaged in physical education 2 times a week for 40 minutes, a total of 72 physical education lessons were conducted in each class during the period of the pedagogical experiment. The ability to balance in dynamic and static conditions was determined using the "Turns on the gymnastic bench" test. The Student's T-test was used in statistical processing. After the end of the pedagogical experiment, the indicators of children in the control group improved by 10.6% ($p>0.05$). In the experimental group, the indicators were 37% higher ($p<0.05$). This probably happened after the introduction of Classics in the process of physical education of children. The balance indicators in dynamic and static conditions will significantly improve if children aged 8-9 years at physical education lessons at school will additionally perform a set of exercises standard classics.

Keywords: Lesson, Development of abilities, Physical education, Schoolchildren, Motor abilities

INTRODUCTION

Physical education is a school pedagogical process that is aimed at forming a healthy lifestyle for children (Vohra *et al.*, 2011; Hirschler *et al.*, 2021).

At school, when students master physical exercises, health is strengthened, physical qualities are improved, and it is also not unimportant - thinking and independence are actively developing. Physical education forms a system of value orientations of a person for a healthy lifestyle and provides motivational, functional, and motor readiness for it. It is carried out following general and specific laws, principles, and rules of the pedagogical process. This affects the intellectual, mental, moral-volitional, and other qualities of a person (Jung Ha Park *et al.*, 2020; Park *et al.*, 2020) (Polevoy, G. G. (2022).

Despite the great importance of physical education for a person, several problems exist in the process of physical education at school. One of these problems is the lack or absence of gyms or other facilities for physical education lessons since during the school year severe weather conditions in Russia do not allow you to constantly exercise outside. One of the solutions to this

Geliş tarihi/Received: 14.05.2022 – Kabul tarihi/Accepted: 26.09.2022 – Yayın tarihi/Published: 30.09.2022

© 2022 Journal of Organizational Behavior Research. **Open Access** - This article is under the CC BY license (<https://creativecommons.org/licenses/by/4.0/>)



problem may be the development and implementation of innovative methods and techniques in working with children in physical education classes at school. It is necessary to use such equipment or a set of exercises that would help develop physical abilities and not take up much space.

The world-famous exercise is the standard classic. Children play them not only at school but also in courtyards. But what is the benefit of such physical exercise?

At the same time, a playful and competitive approach must be used in the classroom at school, which has proven its effectiveness in working with primary school children (Kainov & Kuryerova, 2019) (Shahzan, S., 2022). A study demonstrated that the number of schoolchildren who consumed healthy food was higher in the healthy school than it was in the normal school. The sensitive period of the development of physical abilities is of crucial importance in the development of physical qualities. That is, it is necessary to purposefully develop those abilities at the time when it is most relevant. For example, some authors suggest that a favorable period for the development of motor abilities is primary school age (Fuentes-Barría *et al.*, 2021).

A good level of development of motor abilities is the basis for other physical qualities. To date, there are quite a lot of motor abilities and there are several classifications. One of the most important for children aged 8-9 years is the ability to balance in dynamic and static conditions (Sitovskiy *et al.*, 2019; Ivashchenko, 2020; Moseichuk *et al.*, 2020; Polevoy, 2021; Kalugina *et al.*, 2021). Likewise, if you perform a set of exercises aimed at developing speed and strength abilities in children aged 13-14 at each physical education lesson at school, then the indicators of attention span will improve.

A review of the literature showed that so far no studies have been found that would determine the influence of standard classics on the physical and mental performance of schoolchildren.

The study aimed to determine the effect of the standard classics exercise on balance indicators in dynamic and static conditions in children aged 8-9 years.

MATERIALS AND METHODS

Participants

In the process of pedagogical research, students aged 8-9 years took part. Children from the 2nd grade who studied at secondary school No. 60 in the Russian Federation. Out of the total number of schoolchildren (118 children), 104 students took part in the study. These children were admitted by the doctor to physical education lessons at school, these children had no contraindications for health reasons. At the same time, consent to the study was obtained from each parent (56 girls and 48 boys).

Research Procedure

The pedagogical experiment was conducted from September 1 to May 30, 2021. All students were engaged in physical education lessons 2 times a week, each lesson lasted 40 minutes. During the study period of 9 months, a total of 72 lessons in the discipline were conducted.

Children from the control group (classes 2A and 2B) – 30 girls and 22 boys were engaged in the standard (regular) school program in physical culture for schoolchildren (Kainov & Kuryerova, 2019).

In physical education, there are two specific sides, or parts: the training of movements (motor actions) and the education of physical qualities (abilities).



The essence of the education of physical qualities is to manage their development. The immediate object and at the same time the controlling factor is the process of motor activity.

Physical education forms a system of value orientations of a person for a healthy lifestyle and provides motivational, functional, and motor readiness for it. It is carried out following general and specific laws, principles, and rules of the pedagogical process. This affects the intellectual, mental, moral, volitional, and other qualities of a person.

The general purpose of teaching the subject "Physical Culture" in primary school is the formation of the physical culture of the student's personality by mastering the basics of the content of physical activity with a general developmental orientation. The course of the subject "Physical culture" in primary school implements cognitive and socio-cultural goals.

1. The cognitive goal involves the formation of students' ideas about physical culture as a component of a holistic scientific picture of the world and the familiarization of students with the basic provisions of the science of physical culture.
2. The socio-cultural goal implies the formation of children's competence in the field of performing basic motor actions as an indicator of human physical culture.

In accordance with the purpose of the educational subject "Physical Culture", the tasks of the educational subject are formulated:

1. Formation of knowledge about physical culture activity, reflecting its cultural-historical, psychological-pedagogical, and medical-biological foundations;
2. Improving skills in basic motor actions, their variable use in play activities and independent training sessions;
3. Expansion of motor experience by complicating previously mastered movements and mastering new motor actions, with increased coordination complexity;
4. Formation of skills and abilities in performing physical exercises of various pedagogical orientations related to health prevention, physique correction, correct posture, and movement culture;
5. Expanding the functional capabilities of different body systems, increasing their adaptive properties due to the directed development of basic physical qualities and abilities;
6. Formation of practical skills necessary in the organization of independent physical exercises in their recreational and recreational forms, group interaction, outdoor games, and elements of competition.

In order to achieve the planned results and achieve the set goals, the following practical tasks are being solved:

Forming

1. Students' interest in physical culture, awareness of the beauty and aesthetic value of physical culture, pride, and respect for the systems of national physical culture;
2. The ability to choose the means of physical culture in accordance with various goals, objectives, and conditions; correctly basic motor actions; independently engage in physical culture; make elementary complexes for small-volume physical exercises.



Education

Positive emotional and value attitude to physical education; the need to use all the possibilities of physical culture.

The children who were placed in the experimental group (2B and 2G) – 26 girls and 26 boys were engaged in the same standard program, but at the same time, they additionally performed the standard classics exercise for 5-6 minutes during the lesson (Figure 1).

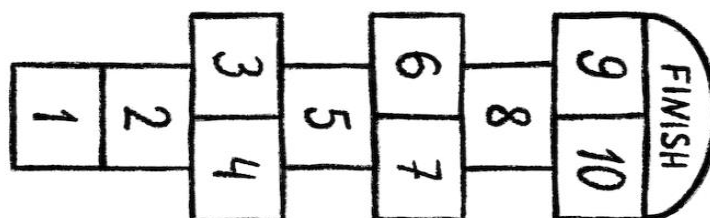


Figure 1. Standard classical exercises

In the school concert hall, you need to draw several drawings with simple chalk. The main requirements are jumping and alternating exercises of the right and left legs. After the first student performed jumps on the right leg, he returned to the starting position and performed jumps on the left leg. For 5-6 minutes, there were 5-6 students in each drawing (no more), so the motor load on each student was maximum.

During the study period, children passed a control standard at the beginning and at the end of the pedagogical experiment, which shows the level of development of balance in dynamic and static conditions "Turn on the gymnastic bench". Students should be on a gymnastic bench with a narrow surface of 8 cm. Within 20 seconds, students should make as many 360° revolutions around themselves as possible. At the same time, one 360-degree turn should be in one direction, then in the other. If the student has fallen, he can get up and continue the exercise. Only two attempts. The result of the test is the number of revolutions in 20 seconds, the accuracy is 0.5 revolutions (Kainov & Kuryerova, 2019) (Hassan, H. H. F. (2021).

Statistical Analysis

All the indicators of the children who participated in the study were entered into an Excel spreadsheet, the arithmetic mean and standard completion were determined, and the Student's T-criterion was also used, with a significance level of $p < 0.05$.

RESULTS AND DISCUSSION

Before the beginning of the pedagogical experiment, no significant statistical differences were found between the control and experimental groups ($p > 0.05$). Table 1 shows the results of the application of standards at the beginning and the end of the study.

Table 1. Results of the "Turn on the gymnastic bench" test

| Indicators | Before | After | % | p |
|---------------------------|---------|----------|------|------------|
| Control group (n=52) | 8.5±1.4 | 9.4±1.2 | 10.6 | $p > 0.05$ |
| Experimental group (n=52) | 8.1±1.1 | 11.1±0.9 | 37 | $p < 0.05$ |



Children from the control group who studied according to the usual method improved their performance by 10.6%. However, despite the positive dynamics of the results in this group, the reliability of the results was insignificant ($p>0.05$). At the same time, in the experimental group, the indicators of schoolchildren improved significantly ($p<0.05$). Children who, in addition to the main program, additionally performed exercises according to standard classical exercises in physical education classes, were able to improve their performance by 37%.

The topic of children's health and physical development is relevant and important at all times. Great importance is given to the physical activity of each child at school, this is done by physical education teachers. It is important to note that they make a great contribution to solving the general problem of obesity, a sedentary lifestyle, and other diseases (Vohra *et al.*, 2011; Jung Ha Park *et al.*, 2020; Park *et al.*, 2020; Hirschler *et al.*, 2021). Teachers in schools work according to the standard physical education program, which is quite versatile and has a lot of advantages in working with children of different ages.

The program displays not only a set of exercises but also a period in which certain physical qualities should be developed. This is a sensitive (favorable) period for the development of physical qualities. If you purposefully develop certain abilities during the *sensitive* period, then the increase in indicators will be higher, and if you skip this period, then it will be impossible to catch up or get the maximum result (Fuentes-Barría *et al.*, 2021).

The results of our study on children in the control group showed that the usual physical education program is composed quite well. The children improved their performance, albeit slightly. This may indicate a favorable period of development of motor abilities at the age of 8-9 years and their natural growth during the study period.

The results in the experimental group showed a significant improvement in motor abilities, as a purposeful influence on these abilities helped to increase the final result. It took only 5-6 minutes of the total duration of the lesson.

It is also of great importance that standard classics do not require the purchase of expensive equipment, such a sign can be drawn with chalk on asphalt or with sticky tape in the gym. Children will be happy to perform physical exercise.

At the same time, an individual-differentiated approach is used, that is, each child chooses for himself the speed of performing physical exercise, focusing on his condition, and well-being (Ezechil, 2011; Sitovskiy *et al.*, 2019; Arseniev, 2020).

Thus, the effectiveness of using the usual methods of physical education at school has been confirmed, and a sensitive period for the development of motor abilities has been proved. For the first time, the introduction of standard classics into the pedagogical process of physical culture at school for the development of motor abilities of children aged 8-9 years has been scientifically proven. The study is promising since it is possible to study the influence of standard classics on other motor abilities and physical qualities.

CONCLUSION

Before the study, the problem of child development was studied. The importance of a mobile lifestyle and physical activity in physical education classes at school. The effectiveness of the introduction of standard classics in the process of physical education of schoolchildren aged 8-9 years has been proved.



ACKNOWLEDGMENTS: We thank all the participants of the study. Physical education teachers, schoolchildren, and the director of school number 60, Kirov.

CONFLICT OF INTEREST: None

FINANCIAL SUPPORT: None

ETHICS STATEMENT: All procedures met the ethical standards of the 1964 Declaration of Helsinki. Informed consent was obtained from all parents of the children included in the study. It is also of great importance that standard classics do not require the purchase of expensive equipment, such a sign can Thus, the effectiveness of using the usual methods of physical education at school has been confirmed, and a sensitive period for the development of motor abilities has been proved. For the first time, the introduction of standard classics into the pedagogical process of physical culture at school for the development of motor abilities of children aged 8-9 years has been scientifically proven. The study is promising since it is possible to study the influence of standard classics on other motor abilities and physical qualities.

References

- Arseniev, D. G., Bondarchuk, I. L., Dyachenko, G. B., & Krasnoshchekov, V. V. (2020). Adaptation of foreign students to university education using the differentiated approach to physical education. *Theory and Practice of Physical Culture*, 2020(5), 39-41.
- Ezechiel, L. (2011). Coordinates a differentiated approach of physical education classes in compulsory school. *Journal of Physical Education and Sport*, 11(4), 443-448.
- Fuentes-Barría, H., Aguilera-Eguía, R., & González-Wong, C. (2021). Motor skills, physical qualities, and sensitive periods in the development of school children. *Andes Pediatrica*, 92(6), 983-984. doi:10.32641/ANDESPEDIATR.V92I6.4101
- Hirschler, V., Edit, S., Miorin, C., Guntsche, Z., Maldonado, N., Garcia, C., & Cariño Study Group. (2021). Association between high birth weight and later central obesity in 9-year-old schoolchildren. *Metabolic Syndrome and Related Disorders*, 19(4), 213-217. doi:10.1089/met.2020.0127
- Ivashchenko, O. (2020). Research program: Modeling of motor abilities development and teaching of schoolchildren. *Physical Education Theory and Methodology*, 20(1), 32-41. doi:10.17309/tmfv.2020.1.05
- Jung Ha Park, Ji Hyun Moon, Hyeon Ju Kim, Mi Hee Kong, Yun Hwan Oh (2020). Sedentary Lifestyle: Overview of Updated Evidence of Potential Health Risks. *Korean Journal of Family Medicine* 41(6):365-373. DOI: 10.4082/kjfm.20.0165
- Kainov, A. N., & Kuryerova, G. I. (2019). Working programs. Physical Culture. Grades 1-11. *Russia: Comprehensive Program of Physical Education of School Children*; p. 169.
- Kalugina, G., Cherepov, E., & Potop, V. (2021). Development of coordination abilities during initial preparation in motorcycling. *Human. Sport. Medicine*, 21(S1), 73-79. <https://doi.org/10.14529/hsm21s111>



Moseichuk, Y., Zoriy, Y., Kostashchuk, T., Kanivets, T., Nakonechnyi, I., Koshura, A., Yarmak, O., & Galan, Y. (2020). Age peculiarities of the development of coordination abilities in children of primary school age in the process of physical education. *Journal of Physical Education and Sport*, 20(2), 630-634.

Park JH, Moon JH, Kim HJ, Kong MH, Oh YH. Sedentary Lifestyle: Overview of Updated Evidence of Potential Health Risks. *Korean J Fam Med*. 2020; 41(6):365-373. doi: 10.4082/kjfm.20.0165.

Polevoy, G. G. (2021). Development of the Ability to Unite Movements of Schoolchildren with the Help of Exercises Classics. *International Journal of Human Movement and Sports Sciences*, 9(4), 797-806.

Sitovskyi, A., Maksymchuk, B., Kuzmenko, V., Nosko, Y., Korytko, Z., Bahinska, O., Marchenko, O., Nikolaienko, V., Matviichuk, T., Solovyov, V., et al. (2019). Differentiated approach to physical education of adolescents with different paces of biological development. *Journal of Physical Education and Sport*, 19(3), 1532-1543. doi:10.7752/jpes.2019.03222

Vohra, R., Bhardwaj, P., Srivastava, J. P., Srivastava, S., & Vohra, A. (2011). Overweight and obesity among school-going children of Lucknow city. *Journal of family & community medicine*, 18(2), 59–62. <https://doi.org/10.4103/2230-8229.83369>

Hassan, H. H. F. (2021). A Training Program on Emotional Adjustment and its Social Communication Effect in Children with Behavioral Disorders. *Journal of Organizational Behavior Research*, 6(1), 203-219. <https://doi.org/10.51847/t7qBdiPHsf>

Shahzan, S., Paulraj, J., & Maiti, S. (2022). Assessment of Anxiety Levels in Children Receiving Dental Treatment Using Rubber Dam- A Randomized Control Trial. *Annals of Dental Specialty*, 10(4), 15-21. <https://doi.org/10.51847/Ang4hblnjK>

Polevoy, G. G. (2022). Development of Spatial Orientation of Children Aged 8-9 Years Using a Gymnastic Stick. *International Journal of Pharmaceutical Research and Allied Sciences*, 11(4), 134-139. <https://doi.org/10.51847/bvPSNIJliW>

