

The interaction of school and family in physical education of first grade students

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Abstract: The article substantiates the necessity of improving the interaction of school and family in the issues of physical education of children who start studying at school. The present state of the problem of interaction between school and family in the physical education of first graders is studied. On the basis of the carried out study, some effective forms of cooperation between pupils, parents and teachers were identified and a program of interaction measures between the school and the family was developed, aimed at the formation of a comprehensive and harmoniously developed personality with a responsible attitude towards their own health by means of physical culture. The developed program of measures was implemented in the educational process and proved its effectiveness. The results of the research showed its positive effect on physical development, physical fitness and volume of motor activity of schoolchildren that is confirmed by methods of mathematical statistics. As a result of improved school-family cooperation, the number of schoolchildren involved in sports clubs has increased. Analysis of the obtained results proves that educational work with parents affects the free time of children and the involvement in independent exercises. Accordingly, one of the ways of solving the problems connected with motor activity shortage and deteriorating health of first-graders is to improve the cooperation of different institutions (schools, families, medical institutions, public organizations). Informational, theoretical and methodical work with parents motivates them to engage in active physical exercises together with children, to lead a healthy lifestyle, to recognize the importance of using their own example in the physical education of children.

Key Words: school, family, physical education of first-graders.

Introduction.

The strategic task of any state is to preserve and strengthen the health of the young generation. Human life and health are defined as the highest human values, are indicators of civilization and reflect the overall level of socio-economic development of society. As a result, it is necessary to state: in Ukraine there are some negative tendencies of deterioration of youth health and it becomes obvious that the health care system is unlikely to solve the problem of health improvement optimally (Bodnar et al., 2016; Zavydivska et al., 2017; Sorokolit et al., 2017).

The problem of poor activity of various institutions (school, family, community organizations) regarding the physical education of schoolchildren is urgent (Butenko et al., 2017). Particular attention should be paid to the pupils of the first grade, whose volume of motor activity is reduced by 40-50% compared with preschool children, and this is associated with an increase in the volume of time allotted to educational activities (Vilchkovskij, 2004; Moskalenko, 2006).

The transition to schooling from six years exacerbates the problem of hypokinesia of junior pupils, this leads to the search for additional reserves to increase the motor activity of children during the day. One of the possible ways of solving this problem is to organize effective interaction between school and family in the physical education of schoolchildren (Kornienko, 2001; Peregudova, 2005; Hadgiyev, 2006; Shukayeva, 2006; Kozhunova, 2011; Sihlař et al., 2017), that will promote the preservation and strengthening of health, harmonious and comprehensive pupil's development, improvement of working capacity and reduce fatigue, increase the body's resistance to various diseases (Vilchkovskij, 2004; Moskalenko, 2006). Appropriate theoretical and methodological training of parents should motivate them to engage in active physical exercises together with children, to the use of natural factors, to the developing of a healthy lifestyle, which will contribute to the achievement of personal and social aim. The criterion for the effectiveness of this process should be the level of health, physical development and physical fitness of children (Bodnar et al., 2015)

The peculiarities of physical education for children of junior school age are highlighted in many works. Theoretical and methodological foundations are considered in the works of (Vilchkovskij, 2004; Moskalenko, 2006). The questions of healthy lifestyle, development of physical and psychological qualities were highlighted in works by (Vilchkovskij, 2004; Moskalenko, 2006; Hadgiyev, 2006,) and others. The application of various forms of physical education is disclosed in the papers of (Vilchkovskij, 2004; Moskalenko, 2006; Ohnystyj, 2010).

At the same time, despite such a wide range of studies, insufficient attention is paid to the study of organizational and methodological principles of interaction between school and family in the physical education of first grade pupils. That is why the development of effective ways to deepen the interaction of the school and the family will enable children to stimulate their motor activity, to raise an interest in physical exercise and the need for a healthy lifestyle, and improve the physical education process of first grade pupils.

Organization and methods.

The study was conducted during 2014–2015. The survey of experts, teachers of physical education, parents and first grade pupils was conducted to study the current state of interaction between school and family in physical education. The physical development and physical fitness of the first grade pupils were studied. The effectiveness of the program of measures connected with mutual activity of the school and the family in the physical education of first-graders was developed and experimentally verified. In total, 16 experts, 43 physical education teachers, 112 parents and 112 children participated in the research and experimental work.

The following research methods were used to solve the problems: theoretical analysis and generalization of library resources; method of expert evaluation; sociological methods (questionnaires, interviews); pedagogical testing; pedagogical observation; pedagogical experiment; methods of mathematical statistics.

Objective. To substantiate the directions for increasing the efficiency of physical education of first-graders by deepening the interaction between school and family. To achieve the goal, the following tasks were solved: to study the current state of the interaction between school and family in the physical education of first-graders and to determine the directions of solving this problem; to develop a program of measures to deepen the interaction of school and families in the physical education of first grade pupils and to check its effectiveness.

Research results.

In order to implement the research idea connected with the development of an experimental program, it was important to study the forms of interaction between school and family in the physical education of first grade pupils. For this purpose, experts in the field of physical education, physical education teachers and first graders' parents were polled (Table 1).

Table 1. Evaluation of the interaction forms importance between school and family in the physical education of first-graders (ranks)

| Forms of school-family interaction | Experts (n = 16) | Teachers (n = 43) | Parents (n = 112) | Total points | Rank |
|---|---------------------|----------------------|----------------------|-----------------|------|
| Participation of parents and children in school sports events | 1 | 2 | 4 | 7 | I |
| Consultations of a school physician and teacher of physical education | 3 | 3 | 1 | 7 | I |
| Parents meetings | 6 | 4 | 3 | 13 | II |
| Individual work with parents | 2 | 1 | 10 | 13 | II |
| Combining the efforts of school and parents in ensuring the educational process of children | 5 | 5 | 6 | 16 | III |
| Group forms of interaction | 7 | 6 | 5 | 18 | IV |
| Open lessons visiting by parents | 10 | 8 | 2 | 20 | V |
| Defining of appropriate sports | 10 | 8 | 2 | 20 | V |
| Organization and spending free time by children and parents under the supervision of a school | 9 | 9 | 8 | 26 | VI |
| Presentation of the family physical education experience | 8 | 11 | 9 | 28 | VII |
| Lectures for parent | 11 | 10 | 11 | 32 | VIII |

It was found out that physical education and sporting events with the participation of parents and children were put in first place by the experts, in the second place by teachers, and in the fourth place by parents. Consultations of a school physician and a teacher of physical education parents put in the first place considering their importance, experts and teachers – in the third place. According to respondents, these two forms are the most effective, since they create favourable conditions for the developing a positive attitude to physical education, help to learn the curriculum, promote the involvement of children and parents in systematic and active physical education, and developing positive motivation to lead a healthy lifestyle. Consultations of the school physician and the teacher of physical education give parents information about the children's state of health, physical development, physical fitness, and functional capabilities of the basic body systems (Bodnarchuk, 2010; Bodnarchuk, Zanevskyi, 2011).

Teachers (first place) and experts (second place) considered individual work with parents as an important point. Parents paid little attention to this form of cooperation (the tenth place). Parents' meetings accompanied with methodological advice and discussion of physical education issues were put in the third place by parents, in the fourth place by teachers, and in the sixth place by experts choosing among interaction forms.

First-graders' parents need (second place) some advisory assistance of specialists while choosing a kind of sport to be taken up by a child as a member of a sport club. However, this kind of cooperation with parents is not important among experts and physical education teachers (ranked tenth and eighth).

As a result, the highest rating places were taken with the following forms, such as the participation of parents and children in physical education and sports activities at the school; consultations of a school physician and teacher of physical education, informing parents about the specifics of physical development and physical fitness of children; parents meetings accompanied with methodological advice, discussion of children's physical education issues, and individual work with parents. Thus, as a result of the survey, a list of key organizational and methodological measures was made which was taken into account in the further research.

In order to improve the school and family interaction concerning the physical education of first-graders, a program of measures was developed. The purpose of the program is to create an effective, organizational and educational system, which ensures the formation of a comprehensive and harmoniously developed personality with a responsible attitude towards his/her own health by means of physical culture.

To achieve the goal, the task is defined □ to improve educational work with parents on physical education of children and to increase the volume of motor activity of first-graders. The whole process of interaction between school and family was based on the following principles: awareness and activity, differentiation, visibility, scientific, system, and simplicity. During the experiment considerable attention was paid to the use of defined forms of cooperation with first graders' parents (Figure 1).

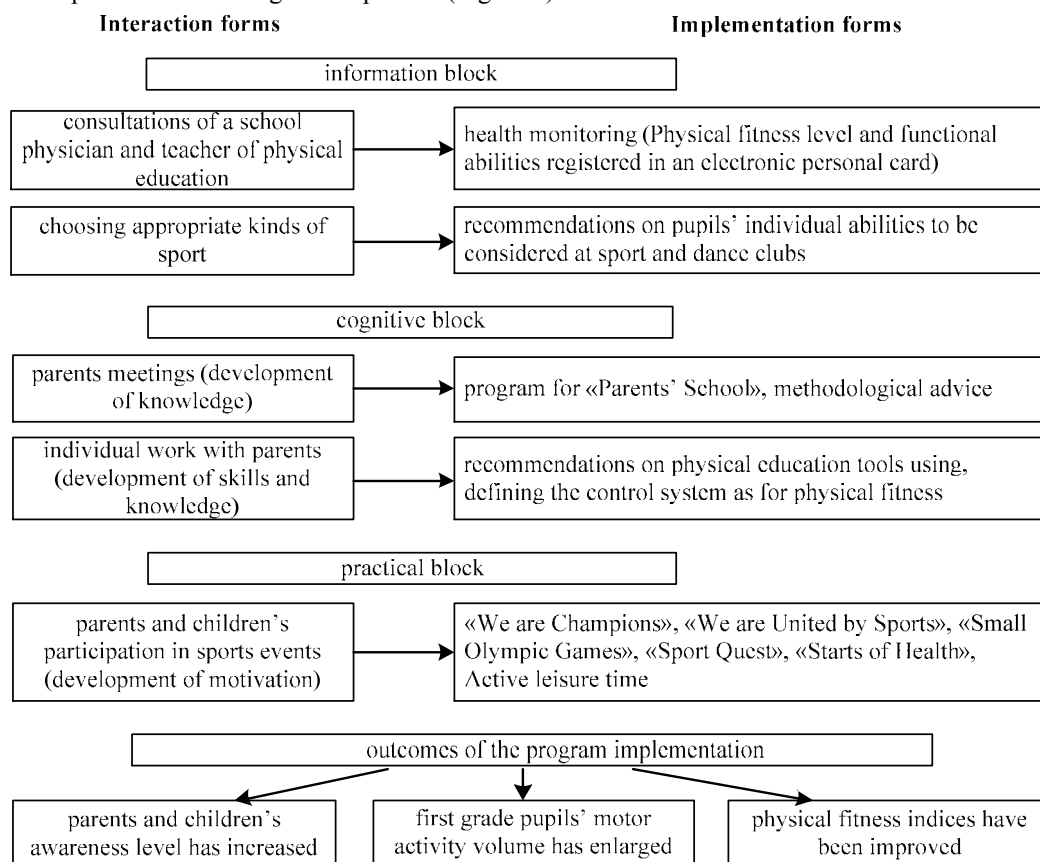


Fig. 1. Block – scheme program of measures aimed to deepening the interaction of school and family in the physical education of first grade pupils

The forms of joint work with our parents were united into three blocks. Informational (collection and analysis of received information on the needs of parents and children, monitoring of health, assistance in choosing the appropriate kind of sport), cognitive (parents meetings, individual work with parents); and practical (athletic events, active leisure) blocks.

The form of interaction «Participation of parents and children in school athletic events» was carried out through the organization of such events as: «We are Champions», «We are United by Sports», «Small Olympic Games», «Sport Quest», which contributed to the developing of children and parents' motivation to physical education, and also integrated into the harmonious and comprehensive development of a pupil.

The form of interaction «Consultation of a school physician and a teacher of physical culture» was aimed at determining the physical fitness and function abilities of a pupil at the beginning and end of the school year. These indices were entered into an electronic personalized registration card to inform parents about the state of a child's physical fitness and health.

The form «Parents meetings» was conducted in order to provide methodological recommendations, according to the developed theme «Parents School». This contributed to deepening parents' awareness about the developing a healthy lifestyle and the organization of physical education in the family. «Individual work with parents» envisaged familiarization with the peculiarities of the physical development of the child, the definition of the control and recommendations system using physical education.

The form «Choosing of the appropriate sport» was chosen by parents and was carried out through the physical teacher's recommendations on the pupil's individual abilities to attend classes in sports club. Information was provided on addresses and locations of such sports clubs (Bodnarchuk, 2010; Bodnarchuk, Zanevskyi, 2011).

As a result of the pilot program implementation, there were changes in the rates of involvement of first-graders in sports clubs. Thus, at the beginning of the pedagogical experiment, the number of children engaged in various kinds of sports was insignificant, but practically the same both in the control group (37.0 % of children) and in the experimental group (36.2 % of children). At the end of the school year, as a result of the influence of the experimental factor, 56.9 % of the students of the experimental group had already been engaged in sports clubs (Table 2).

In the process of conducting a pedagogical experiment, parents were explained the need for sports that are beneficial to children, strengthening their health and allowing them to be more confident in themselves, and increase their sociability. At the same time, we took into account the need of parents in discussing and choosing the appropriate sports. Therefore, parents were motivated to organize additional extracurricular activities for their children and spend their leisure time actively.

Table 2. Percentage of pupils attending sports clubs (children's survey results), %

| Indices | Experimental group (n = 58) | | Control group (n = 54) | |
|----------------------------------|-----------------------------|------------------|------------------------|------------------|
| | before experiment | after experiment | before experiment | after experiment |
| pupils attending sports club | 36.2 | 56.9 | 37.0 | 38.9 |
| pupils not attending sports club | 63.8 | 43.1 | 63.0 | 61.1 |

Positive changes have also occurred in the parents' polls about the subjective evaluation of their children's health. Thus, in the experimental group after the pedagogical experiment the number of children with an average health level increased by 12.1 % and the number of children with a high health level increased by 13.8 %. In the control group the changes were minor □ within the range of 3.0 % (Table 3).

Table 3. Distribution of pupils by health levels, %

| Health levels | Experimental group (n = 58) | | Control group (n = 54) | |
|---------------|-----------------------------|------------------|------------------------|------------------|
| | before experiment | after experiment | before experiment | after experiment |
| high | 13.8 | 29.3 | 25.9 | 22.2 |
| average | 82.8 | 70.7 | 74.1 | 77.8 |
| low | 3.4 | 0.0 | 0.0 | 0.0 |

It was found that after the implementation of the author's program children of the experimental group started doing morning exercises more often than before the experiment by 21.0 %, and the number of children doing morning exercises together with their parents also increased by 38.0 % (Table 4).

We have developed and offered to the parents of experimental classes the exercises of morning gymnastics. The selected exercises were presented in accessible form with drawings motivating children.

Table 4. Doing morning gymnastics by first-graders, %

| Group | Those who do | Those who don't do | Those who do sometimes | Those who do | |
|-----------------------|--------------|--------------------|------------------------|--------------|-----------------------|
| | | | | individually | together with parents |
| before the experiment | | | | | |
| EG | 34.5 | 39.7 | 25.8 | 82.9 | 17.1 |
| CG | 25.9 | 48.2 | 25.9 | 75.0 | 25.0 |
| after the experiment | | | | | |
| EG | 55.2 | 12.1 | 32.7 | 45.1 | 54.9 |
| CG | 24.1 | 46.3 | 29.6 | 75.9 | 24.1 |

Notes: EG □ experimental group, CG – control group

The program offered has also had a positive effect on the children's preferences in spending free time. In the children's responses to the questionnaire for their favorite leisure activities, it was allowed to select several answers, so the results of the survey were re-ranked. The smaller the result of the total ranks, the more important for respondents was kind leisure.

Thus, before the experiment, any sport was not a priority kind of leisure for first-graders; children put this form in the fifth place. In their spare time children liked low intensity types of motor activity: playing computer games, watching TV, reading books and painting.

After the experiment, the priorities of the control group children did not change much but in the experimental group there were changes in leisure activities. So, sports from the fifth position moved to the second one, and going out with friends □ from the fourth position to the first. We find this more satisfactory as the involvement of children in these forms will provide the necessary optimal level of motor activity (Table 5).

Table 5. Forms of leisure for the first grade pupils, (position)

| Kinds of leisure | Experimental group (n = 58) | | Control group (n = 54) | |
|-------------------------|-----------------------------|------------------|------------------------|------------------|
| | before experiment | after experiment | before experiment | after experiment |
| Playing computer games | 1 | 3 | 1 | 1 |
| Watching TV | 2 | 4 | 2 | 3 |
| Reading books, drawing | 3 | 5 | 3 | 2 |
| Going out with friends | 4 | 1 | 4 | 4 |
| Playing sports | 5 | 2 | 5 | 5 |
| Helping about the house | 6 | 6 | 6 | 6 |

The study of their physical development peculiarities is important for optimizing the process of physical education of first-graders. In the experimental and control groups of boys and girls, the data of their harmony of physical development at the beginning of the pedagogical experiment did not differ ($t = 0.063$, $p > 0.05$). On average, harmonic development was observed in the experimental group in 72.4 % of cases, in the control group □ 72.2 %. Disharmonious development was observed in the experimental group □ 20.7 % of children, in the control group □ 22.2 % of first graders. A sharp disharmonious development was characteristic of 6.9 % of the experimental group children and 5.6 % of the control group (Table 6).

Table 6. Distribution of pupils by physical development levels, %

| Indices | Experimental group (n = 58) | | Control group (n = 54) | |
|-----------------------|-----------------------------|-------|------------------------|-------|
| | before | after | before | after |
| harmonious | 72.4 | 79.3 | 72.2 | 72.2 |
| disharmonious | 20.7 | 15.5 | 22.2 | 16.7 |
| sharply disharmonious | 6.9 | 5.2 | 5.6 | 11.1 |

Physical exercises, increase of motor activity volume during leisure time have effectively influenced the indices of junior schoolchildren physical development. After the pedagogical experiment in the experimental group, a substantial increase in the number of students with harmonious (by 6.9 %; $p < 0.05$) and, respectively, reduction of disharmonious and sharply disharmonious physical development was noted. Optimal motor activity of children acts as a kind of regulator of growth and development of a young organism. During the pedagogical experiment children of the control group didn't show statistically significant changes in the distribution of pupils into groups according to the physical development indices. Therefore, as a result, after the end of the pedagogical experiment, the parameters of physical development of the experimental group pupils were statistically significantly different from the parameters of physical development of the pupils in the control group ($t = 0.008$; $p < 0.01$).

Thus, under the influence of the experimental program, significant progress was made in improving the harmony of the first grade pupils' physical development. Positive shifts in the results of physical fitness of the experimental group pupils ($p < 0.04$) in the terms of the pedagogical experiment were revealed (Table 7). So, after the experiment, the difference between the indices of the experimental group and the control group was: the «shuttle» run 4×9 m □ boys □ 0.6 s, girls □ 0.7 s; running 30 m □ boys – 0.3 s, girls □ 0,2 s; standing jumps □ boys □ 8.3 cm, girls □ 9.9 cm; trunk bending forward from the sitting position □ boys □ 2.2 cm, girls □ 3.0 cm. Children who studied under the experimental program in four types of tests have achieved significantly higher results ($p < 0.05 - 0.01$), comparatively with a control group (Bodnarchuk, 2012).

Table 7. Physical fitness indices of pupils both in the experimental and control groups (before / after the experiment)

| Test | Sex | Experimental group (n = 58) | | Control group (n = 54) | | t_{CG-EG} | |
|---|-------|-----------------------------|------------|------------------------|------------|-------------|-------|
| | | before | after | before | after | before | after |
| Running 30 m (sec) | boys | 7.6±0.7 | 6.6±0.5 | 7.4±0.5 | 6.9±0.4 | 0.05 | 0.03 |
| | girls | 7.6±0.5 | 6.8±0.4 | 7.6±0.5 | 7.0±0.5 | 0.05 | 0.04 |
| Standing jumps (cm) | boys | 110.1±17.5 | 125.8±14.7 | 107.2±13.0 | 117.5±14.3 | 0.05 | 0.04 |
| | girls | 88.3±12.5 | 116.5±16.9 | 94.1±16.9 | 106.6±16.7 | 0.05 | 0.03 |
| «Shuttle» running 4 x 9 m (sec) | boys | 14.7±1.0 | 12.6±0.9 | 14.9±1.0 | 13.2±1.0 | 0.05 | 0.03 |
| | girls | 15.1±1.2 | 13.2±1.0 | 15.6±1.3 | 13.9±1.1 | 0.05 | 0.01 |
| Trunk bending forward from the sitting position(cm) | boys | 1.0±3.1 | 4.9±3.4 | 2.1±4.6 | 2.7±4.2 | 0.05 | 0.04 |
| | girls | 5.2±5.6 | 8.0±5.6 | 4.3±4.2 | 5.0±4.3 | 0.05 | 0.02 |

In the experimental group, the increase in the number of pupils with a high level of educational achievement in physical education was greater by 32.1 % than in the control group by 20.4 %. It was also essential to reduce the number of pupils with an initial level of achievement in the experimental group by 24.2 %, in the control group □ by 9.3 %. The number of pupils with sufficient and average level of physical fitness did not change significantly.

Thus, it can be argued that the developed program of interaction between school and family in physical education is effective and can be used to increase the volume of motor activity and improve the physical development and physical fitness of first-graders.

Discussion.

Successful solving of the tasks connected with junior pupils' physical education is possible only when it becomes a part of the entire educational process combined school, society and family. Creation and implementation of an effective system of interaction between the school and the family, where the knowledge, habits, and skills provided by the school will be maintained in the everyday life of the family will contribute to the development of a healthy lifestyle.

Unfortunately, there is a tendency of decreasing the effectiveness of cooperation between school and family. No appropriate conditions are created; little potential opportunities of both parties are used. Unfortunately, parents are not always willingly help the teacher of physical culture, the same attitude can be observed from another part.

At the very beginning, school education brings high demands to the child and requires a lot of effort. In this period of a first graders' adaptation to educational activities school put forward new requirements, new responsibilities, and new relationships with adults and peers. Among the factors that have a significant effect on adaptation to the school conditions, health plays an important role.

The school itself can not solve the problems of learning, upbringing and improving child's health without the help of parents. During the adaptation period, the established constant interaction is especially important, which can be activated through the implementation of various forms.

The data obtained indicate that the most influential forms of effective interaction between the school and the family are, according to the experts, teachers, and parents: participation of parents and children in school sports events; consultations with a school physician and a physical education teacher; parents meetings accompanied with methodological advice and individual work with parents. Sports events held by school are aimed at the comprehensive implementation of a wide range of health and educational tasks and as a means of active recreation develop the need for physical education in the family, promote the increase of children and parents' general physical fitness, influence the joint responsibility and strengthening the relations between children and their parents, creating an atmosphere of mutual respect, stimulating the systematic pursuit of physical activity, inducing to prepare for the next starts, promote physical education and sport.

Consultations of a school physician and a teacher of physical education are more informative forms of interaction, but passive, because not always parents, knowing the real state of health and physical fitness of their children, are motivated, theoretically and methodically prepared for decisive action.

The attitude towards the healthy lifestyle of their children is developed from the level of parents' physical education. Therefore, forms such as parents meetings and individual work with parents in our opinion are somewhat similar and we suggest combining them. General information is usually given to parents or teachers of physical education at school (class) meetings, but separate issues are discussed with parents individually. This allows parents to receive certain theoretical and methodological information that will encourage them to engage in active physical exercises together with children, and develop healthy lifestyle.

Only the joint efforts of the school and the family can contribute to the harmonious and comprehensive development of the child, preservation and strengthening of his/her health. This interaction has creative potential and a wide range of activities; therefore it should be clearly organized and systematic.

Conclusion.

Developed during the study, program of measures to deepen the interaction of school and family in the physical education of first grade pupils envisaged the use of the most effective forms of interaction and ways of their implementation: participation of parents and children in physical education and sports events, consultations of school physicians and physical education teachers (physical development, physical fitness, functionality); parents meetings accompanied with methodological advice (subject classes, methodological developments); individual work with parents (familiarization with the peculiarities of the child' physical development, the definition of the control system, recommendations for the use of physical education tools), choosing the appropriate sports. As a result of experimental verification of the author's program, there were changes in the results of physical development and physical fitness of schoolchildren, as well as positive changes in their leisure time.

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