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## **IMPROVING THE GROSS MOTOR SKILLS OF PRESCHOOL CHILDREN**

***Abstract:*** *this research aimed to investigate how supplementary physical education influences the development of major motor skills in preschool children. There was an additional physical education session in the experimental group. Test of Gross Motor Development-2 was used in the study. A significant improvement in the indicators was found in the experimental group. In the control group, the improvement in indicators was but not statistically significant. The study was conducted in kindergarten.*

***Keywords:*** *preschool children, gross motor skills, physical education.*

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***Аннотация:*** *целью исследования было изучить, как дополнительное физическое воспитание влияет на развитие навыков крупной моторики у детей дошкольного возраста. В экспериментальной группе проводилось дополнительное занятие физкультурой. В исследовании использовался тест Gross Motor Development-2. В опытной группе выявлено достоверное улучшение показателей. В контрольной группе улучшение показателей было, но не статистически значимым.*

***Ключевые слова:*** *физическое воспитание, дети дошкольного возраста, навыки крупной моторики.*

## Introduction

Knowledge of the level of development of children's major motor development in the preschool age is very important, as children move to a new stage of life – schooling. The general program of pre-school education states that pre-school education aims to ensure the optimal development of the child, to help prepare for learning according to the primary education program, taking into account the experience, powers, and educational needs of each child. Thus, the child's major motor skills should be sufficiently well developed. Hardy et al. (2010) point out that general motor skills are generally divided into two categories, namely locomotor abilities (body control skills) and manipulative abilities (object control skills). According to Loy-Ee and Hoon Ng (2018), it was found that movement coordination, which is important for motor skills, develops most actively from the age of three and fully matures around the eighth year. However, as noted by Roth et al. (2010), if no effort is made to develop motor skills, there is a likelihood of motor developmental disorders occurring. Senkutė and Radžiūnas (2012) indicate that children aged 4–6, whose development is not impaired, should have certain physical characteristics and characteristics of motor development. Clark and co-authors (2018) argue that the most effort is required to perform jumping tasks. Researchers emphasize that it is a childhood that is a particularly important period for the development of motor skills, as this is the foundation for the further life of an active person. It is a physical activity that promotes a child's flexibility, endurance, speed, balance, and coordination of movements, as a result of which the children's motor skills develop.

LeGear, Greyling, Sloan, Bell, Williams, et al., (2012) point out that developing preschool motor skills and children's perceptions of the benefits of physical education are critical to engaging them to actively move, improve, and maintain targeted motor skills. self-esteem and to maintain a positive opinion in the future about the benefits of physical activity for humans. Besides, active physical activity helps prevent chronic diseases such as diabetes, cardiovascular disease, depression, and obesity at an early age (Loy – Ee & Hoon Ng, 2018).

Bulbenko (2019) found that some preschool children were unable to meet the minimum requirements of the major motor development test.

The Test of Gross Motor Development-2 (TGMD-2) was used in the study. According to Cools, Martelaer, Samaey, Andries (2010), this test is suitable for children aged 3–10 years and measures overall movement performance based on qualitative aspects of movement ability, consisting of 6 major motor skills assessment tasks: one for dynamic balance, three for shock, and two for manipulative ability tasks. Test tasks: running around obstacles (test No 1), jumping (test No 2), jumping on one leg (test No 3), long jump (test No 4), catching the ball (test No5), and controlling the ball in place (test No 6). The testing method is a structured work performance situation, the results of which (numerical scores) allow us to conclude how different individuals differ from others in the construct measured in the test.

There were twenty preschool children in each experimental and control group. The study was conducted in kindergarten. Testing was performed at the beginning of the experiment and after three months. In the control group, physical education was carried out perhaps in a general curriculum.

During the test, the subject performs each task three times. Grades 0, 1, 2, and 3 points. An additional session was conducted in the experimental group, the tasks of which were aimed at the development of children 's gross motor skills. The results of the study are presented in table 1.

Table 1

| Group              | Test | Before the experiment |           |          |          | After the experiment |           |          |          |
|--------------------|------|-----------------------|-----------|----------|----------|----------------------|-----------|----------|----------|
|                    |      | <i>M</i>              | <i>SD</i> | $\chi^2$ | <i>p</i> | <i>M</i>             | <i>SD</i> | $\chi^2$ | <i>p</i> |
| Experimental group | No 1 | 1.86                  | .321      | .874     | >.05     | 2.56                 | .351      | 2.57     | <.05     |
| Control group      |      | 1.89                  | .425      |          |          | 1.98                 | .386      |          |          |
| Experimental group | No 2 | 1.62                  | .512      | .758     | >.05     | 2.81                 | .289      | 3.84     | <.05     |
| Control group      |      | 1.54                  | .426      |          |          | 1.78                 | .354      |          |          |
| Experimental group | No 3 | 2.31                  | .524      | .721     | >.05     | 2.82                 | .358      | 1.59     | <.05     |
| Control group      |      | 2.42                  | .457      |          |          | 2.31                 |           |          |          |
| Experimental group | No 4 | 1.95                  | .387      | .821     | >.05     | 2.65                 | .358      | 3.27     | <.05     |
| Control group      |      | 1.64                  | 4.23      |          |          | 1.78                 | .564      |          |          |
| Experimental group | No 5 | 1.65                  | .358      | .568     | >.05     | 2.65                 | .372      | 1.68     | <.05     |
| Control group      |      | 1.84                  | .852      |          |          | 1.84                 | .564      |          |          |
| Experimental group | No 6 | 1.68                  | .425      | .657     | >.05     | 2.85                 | .268      | 1.69     | <.05     |

|               |  |      |      |  |  |      |      |  |  |
|---------------|--|------|------|--|--|------|------|--|--|
| Control group |  | 1.84 | .652 |  |  | 2.04 | .532 |  |  |
|---------------|--|------|------|--|--|------|------|--|--|

Notes:  $\chi^2$  – Chi-square criterion,  $M$  – mean,  $SD$  – standard deviation,  $p$  – confidence level.

These results from ours are consistent with those obtained by other researchers (Loy-Ee and Hoon Ng, 2018). The importance of increasing physical activity in pre-school children is also emphasized by Kain et al. (2018). This, in our view, is very important in the pre-school age, as children at school have to adapt to the new environment, the requirements of other educators, and school curricula. More research is needed, but based on this research as well, it could be recommended to adjust the content of pre-school physical education programs.

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