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Effect of Play-Way Method on Selected Locomotor Abilities and Mathematical Abilities of Elementary School Children

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Abstract

The purpose of the present study was to find out effect of play way method on selected mathematical abilities and loco motor abilities of elementary school children. To achieve the purpose of this study, the investigator selected 30 school students. The age of the subjects was ranged from 9 to 11 years. The selected subjects (N=30) were one group was underwent selected mathematical abilities namely numbers count and shapes, the locomotor training abilities namely running and kicking was measured by standardized test with tools. The training program was six weeks and it was scheduled at 60 min per day for five days a week. The pre-test were conducted before the training period and post-test were conducted after the training period. The investigator used dependent 't' test to find out the significant difference between pre and post-tests. in all the cases 0.05 level of confidence was fixed to test the hypotheses. it was considered as sufficient for the present study. It is concluded that loco motor abilities namely running and kicking of school students were significantly improved due to the application of play-way training method and mathematical abilities namely numbers count and shapes of school students were significantly improved due to the application of play-way training method.

Keywords: Play Way Method, Locomotor, Mathematical, School.

Introduction

Play-way method of learning is a complete package that enables overall development of the child by developing in terms of feelings, intellect and skills parameters. It not only focuses on subjective development but the emotional development of the child as well. In this method of learning, playing acts as the driving force as the entire learning method revolves around activity-based learning. It encourages expression and creative skills among children.

Methodology

The purpose of the present study was to find out the effect of the play way method on selected mathematical abilities and locomotor abilities of elementary school children. To achieve the purpose of this study, the investigator selected 30 school students. The age of the subjects ranged from 9 to 11 years. The selected subjects (N=30) were one group was underwent selected mathematical abilities namely numbers count and shapes, and the locomotor training abilities namely running and kicking measured by a standardized test with tools. The training program was six weeks and it was scheduled at 60 min per day for five days a week.

Training Programme

The training in the yogic practices and aerobic dance activities was given to the experimental groups for 6 weeks as follows:

- **Training period**: 6 weeks
- **Training sessions**: 5 days per week
- **Duration of one session**: 60 minutes

Post-tests were conducted for both the groups in all the selected variables as in the pre-tests.

Statistical Techniques

Paired 't' test was used to test the mean difference between the pre and post-test. Descriptive statistics such as mean. Standard deviation and standard error mean were found in order to get a basic idea of the data distribution-test was done for finding whether there was any statistically significant pre-test mean differences in their respective variable of explosive training basic due to modified drills training. In this statistical test level of significance was chosen at 0.05. It was considered sufficient for the present study. This statistical analysis was carried out with the help of the statistical package SPSS for windows.

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Result of locomotor abilities
Running

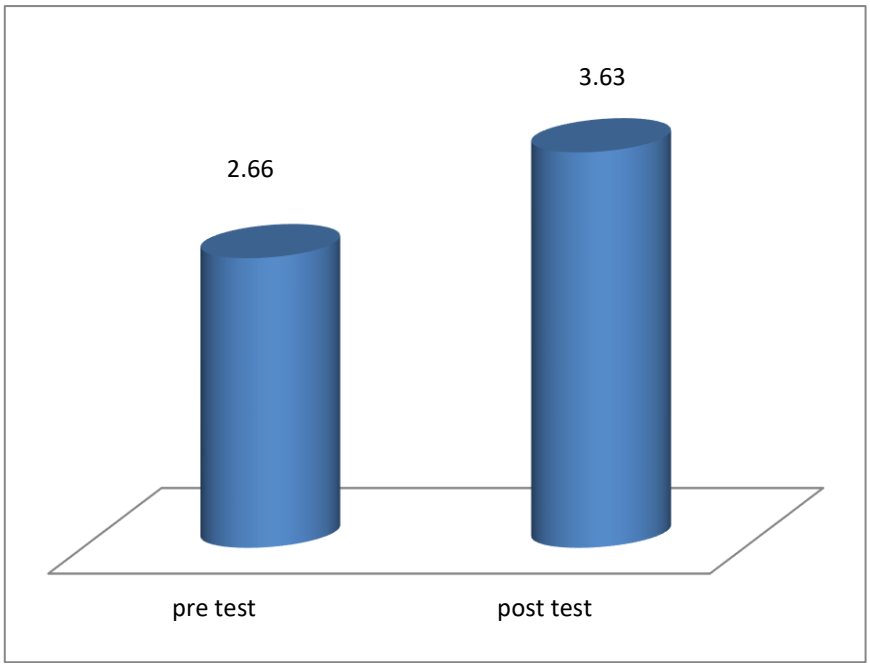
Table 1. Table showing the mean difference, standard deviation, and 't' value of running

Group	Mean	MD	SD	Std. Error of the mean	DF	't'	Table value
Pre-test	3.95	0.15	5.95	1.0866	29	5.222*	2.04
Post-test	3.80		5.70	1.0422			

Signification at 0.05 level of confidence

To find out the significant difference between the pre-test and post-test on running 't' ratio was employed and the level of significance was set at 0.05. The locomotor abilities value pre-test was 3.95 and the post-test value was 3.80 respectively. The mean difference value was 0.15 and the play-way method group obtained a 't' ratio of 5.222 was greater than the table value of 2.04. It shows that the play-way method group had significant improvement on running. Pre-test and post-test mean values of running showed in Figure 1.

Figure 1. Figure showing the mean values of running



Kicking

The data obtained on kicking of the group have been analysed by using the 't' ratio is present in table – 2.

Table 2. Table showing the mean difference, standard deviation, and 't' value of kicking

Group	Mean	MD	SD	Std. Error of the mean	DF	't'	Table value
Pre-test	2.66	0.97	1.06	1.93	29	3.77*	2.04
Post-test	3.63		1.15	1.15			

Signification at 0.05 level of confidence

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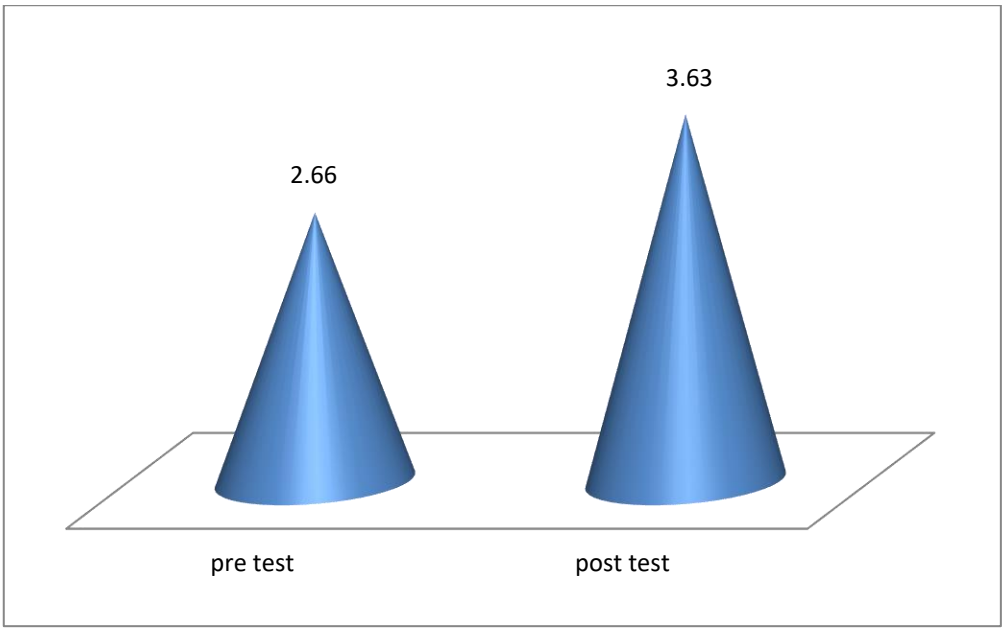
To find out the significant difference between the pre-test and post-test on kicking 't' ratio was employed and the level of signification was set at 0.05. The play-way method group value pre-test was 2.66 and the post-test value was 3.63 respectively. The mean difference value of 0.97 was and the play-way method training obtained 't' ratio 3.77 was greater than the table value of 2.04. It shows that the play-way method group had significant improvement on kicking. The pre-test and post-test mean values of kicking showed in Figure 2.

Figure 2. Figure showing the mean values of kicking



Result of mathematical abilities

Numbers count

The data obtained on the numbers of the group have been analyzed by using the 't' ratio present in table – 3.

Table 3. Table showing the mean difference, standard deviation and 't' value of numbers

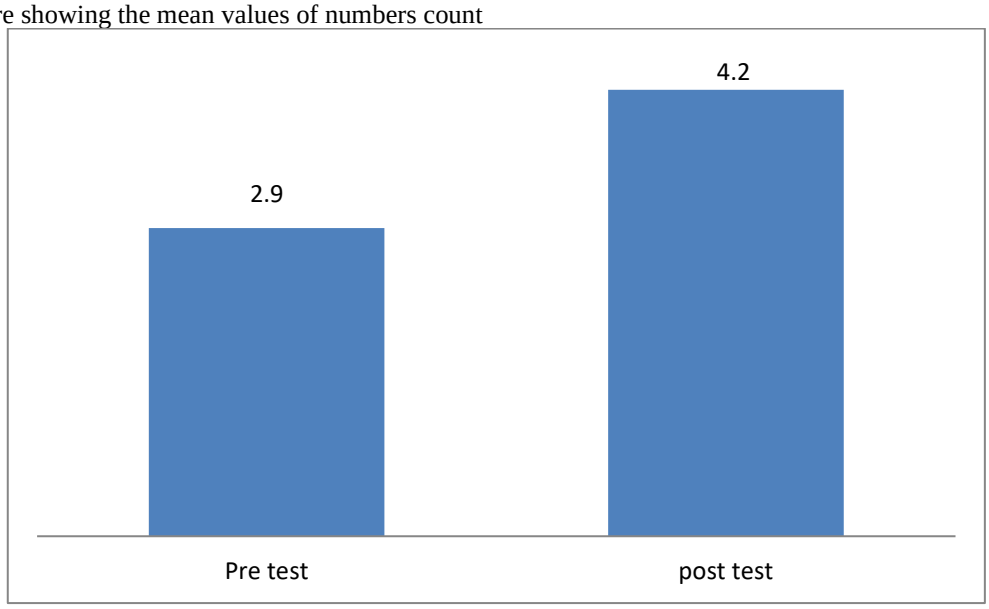
Group	Mean	MD	SD	Std. Error of the mean	DF	't'	Table value
Pre-test	3.66	1.04	9.94	1.81	29	6.10*	2.04
Post-test	4.70		4.66	0.85			

Signification at 0.05 level of confidence

To find out the significant difference between the pre-test and post-test on numbers count 't' ratio was employed and the level of signification was set at 0.05. The play-way method group value pre-test was 3.66 and the post-test value was 4.70 respectively. The mean difference value of 1.04 was and the play-way method training obtained 't' ratio 6.10 was greater than the table value 2.04. It shows that the play-way method group had significant improvement on numbers count. Pre-test and post-test mean values of numbers count showed in figure-3

ISSN: 2349 – 4891

Figure 3. Figure showing the mean values of numbers count



Shapes

The data obtained on numbers of the group have been analyzed by using the 't' ratio is present in the table - 4

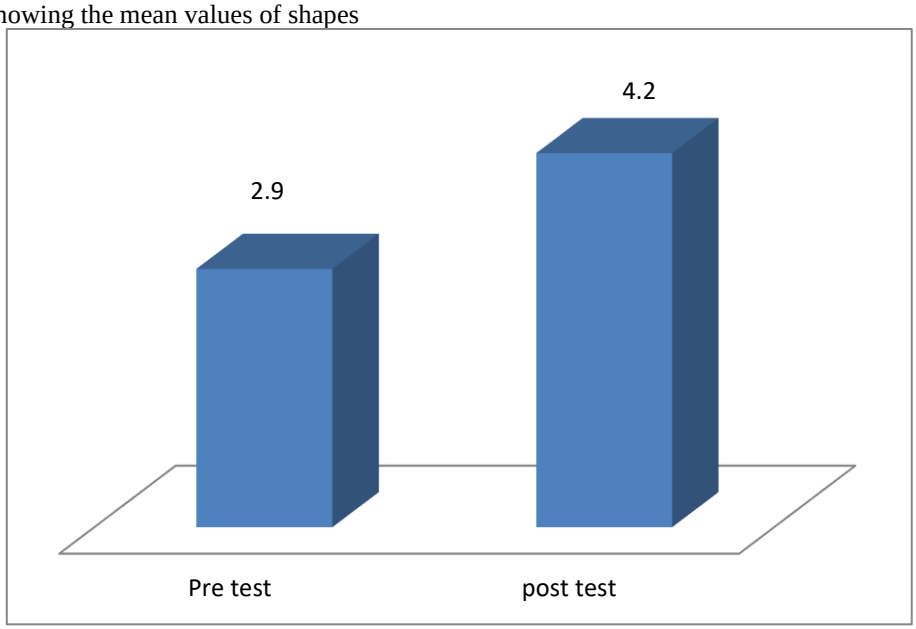
Table 4. Table showing the mean difference, standard deviation and 't' value of shapes

Group	Mean	MD	SD	Std.Error of the mean	DF	't'	Table value
Pre-test	2.90	1.3	1.02	1.87	29	10.9*	2.04
Post-test	4.20		80.5	1.47			

Signification at 0.05 level of confidence

To find out the significant difference between pre- test and post- test on shapes 't' ratio was employed and the level of signification was set at 0.05. The play-way method group value pre-test was 2.90 and post-test value was 4.20 respectively. The mean difference value 1.3 was and the play-way method training obtained 't' ratio 10.9 was greater than the table value 2.04. It shows that the play-way method group had significant improvement on shapes. Pre-test and post –test mean value of shapes showed in Figure-4

Figure 4. Figure showing the mean values of shapes



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Discussion on Findings

Locomotor Ability

Running

The results of 't' the ratio indicate that there is a significant improvement in running due to the the application of play-way training method.

Kicking

The results of 't' the ratio indicate that there is a significant improvement in kicking due to the the application of play-way training method.

Mathematical Ability

Numbers count

The results of 't' the ratio indicate that there is a significant improvement in numbers count due to the the application of play-way training method.

Shapes

The results of 't' the ratio indicate that there is a significant improvement in shapes due to the the application of play-way training method.

Conclusions

1. It is concluded that the locomotor abilities namely running, kicking, throwing, and jumping of school students were significantly improved due to the application of the play-way training method.
2. It is concluded that the mathematical abilities namely numbers count, addition, multiplication, and shapes of school students were significantly improved due to the application of the play-way training method.

Reference

1. Adeyemi1, B. A. &Ghose, AK.A. (2016). The efficacy of social studies teachers' competence in the use of play way method in lower primary schools in Osun state, Nigeria. *The physical and sports medicine*, 9, p 44-66.
2. Butterworth, B. & James Elmer Walfe. (1997). Mathematical cognition. London, England: psychology press. *Dissertation Abstracts International*, P 40.
3. Chohan., & Samita. (2019). Locomotor disabled women a study of opportunities and challenges in district Panchkula Haryana. *Research Journal of physical educations sciences.* 1(3), 1-4.
4. Christophe., & Draheim. (2006). Cardiovascular Disease Prevalence and Risk Factors of Persons with Mental Retardation Mental Retardation and Developmental Disabilities Research Reviews. *Journals of human movement studies*, 43: 151-164.
5. Elif Top, & N. Zetou. (2015). Analysis of the influence of a twelve-month swimming exercise on mentally disabled individuals' physical fitness level. International Journal of Physical Education, Sports, and Health. *Journal of strength conditioning and research;* Feb 18 31(11): 1187-96.
6. Eric Emerson, & Zhu, Q. (2007) Poverty and People with Intellectual Disabilities Mental retardation and development Developmental Disabilities Research. *Journals of Strength Conditioning and Research;* Feb 18 31(11): 1187-96.
7. Frey, G.C. & Bedford, A. (2006). Relationship between BMI, physical fitness, and motor skills in youth with mild intellectual disabilities. *British Journal of sports science & medicine*, 10(3):528-33.
8. Hair, R. J., Levin, B. E., Lust, W. D., & Harik, S. I. (1995). Effects of unbalanced diets on cerebral glucose metabolism in the adult rat. Neurology *Journals of the American Medical Association*, 203, P 201-204.
9. Heidi I. Stanish. & Cronin, J. B. (2006). Health-promoting physical activity of adults with mental retardation" mental retardation and developmental disabilities research reviews. *Journals of strength and conditioning research*, 19(2) P,349-357.