Effect of movement education program on speed of students aged between 10 to 13 years

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Abstract
The present study was undertaken with a view to evaluate the effect of movement education on motor performance and self-concept of student aged between 10 to 13 years. To achieve the purpose of this study eighty school boys (n=80) from Khantilal Khinwatra school Pune (Maharashtra), were selected randomly as a sample and were divided randomly into two groups viz; Group-A Experimental and Group- B Control with 40 students in each group. All the subjects of different experimental and control groups were exposed to motor performance components (Speed) to record the pretest data. After the pretest was over, all the subjects of a group A were exposed to movement education training program with their regular school schedule daily in the morning for one hour except on Sundays and holidays for a total period of 12 weeks. The subjects of a control group did not receive the movement education training. Finally, when the treatment or training period of 12 weeks was over, the post test on motor performance and self-concept variables was conducted for all the subjects of two groups. The score in each criterion measure were taken before and after the experimental period of 12 weeks. Movement education training for the period of 12 weeks is effective to improve the Motor Performance and Self-Concept variables of 10 to 13 years children’s. It contributes to improve overall aspects of Motor Performance Components wherein speed was one of the components of the selected school children’s.

Keywords: Movement education, motor performance, self-concept

1. Introduction
Movement is the prime requirement of living beings. Same performed in a designed pattern improves the quality and grace. Skilled moves are always admired. Uniformity in the same improves on the grace of the students at various levels. An existence of an individual in this world is established through the movement. If there is no movement there is no life. As children move and play, they must find a way to function in the midst of other people, places, and things. Whether dribbling a soccer ball between two defenders, playing on the swings, running down a field, or moving through a crowded mall, children must learn to manipulate their bodies safely within a pace. Play is the medium through which children develop motor skills (Meece, 2002) [2]. In the growth and development progression of children, muscles grow stronger and coordination improves significantly during the preschool years. Children in this early stage of development need a great deal of supervision and instruction in order to master the gross motor skills. Therefore there is need to understand the movement education.

A motor skill is acquired through a long process of motor learning. Skill denotes the level of effectiveness with which a movement or motor action can be done. Skill is defined as automatization of motor action. In sports we come across sportsmen with varying degree or level of skill who are attempting to follow the same motor procedure or technique. Their skill or lack of skill does not convey much about the effectiveness or correctness of that technique or skill. Skills can be assessed and evaluated by the use of different procedures (Hardayal singh. 1991) [8]. Skilful movements are made possible by highly advance control and regulation process of motor coordination. To understand skill and to derive guidelines for its improvement, therefore skill tests are needed. To be more specific a test that is given for the purpose of improving the learning process may be put to further use by the teacher in grading and in interpreting the program to pupils, administrators, teachers and other interested groups. Testing just for the sake of testing is waste of time, but an actual obstruction in the total educational process, when measurements are conducted,
there should be a guiding purpose for which the resulting data may be used. Therefore measurement and evaluation are the means by which we accomplish the task of developing well-adjusted and physically educated students. Judicious use of evaluation procedure can give the direction to teaching that cannot be obtained in any other way. Evaluation can help inform teachers of beneficial changes that occur for each student and for society.

Modern education gives much more importance to the physical education for the all-round development of students. It emphasizes on the various activities that need to be included in physical education to enable all the students to take part in them according to their attitudes, interest and ability. Necessary facilities for physical education should be provided in every school, so that maximum number of students can take part in its various activities. We envision students moving efficiently, enjoying physical activity developing physical fitness and pursuing wellness as a part of lifelong learning. The speed is rapidity of muscle movement of the rate change of body movement is known as muscular speed. The most of the movements in sports and skills needs fast execution of movements thus the objective of this study is to identify the effect of Movement Education Program on the speed component of the school students aged between 10 to 13 Years.

2. Material and Methods

2.1 Sampling

The populations for the study were the students aged between 10 to 13 years of the Kantilal Khinwasara School, Pune. Total 80 subjects were selected by Random sampling technique from Kantilal Khinwasara School, Pune, and they were equally divided into 40 each in Experimental and Control group respectively.

2.2 Variables

After reviewing the literature in the researcher’s area of interest, it was decided that an investigation be made to see the effect of movement education training program on the speed of children aged between 10 to 13 years. Hence, for the study a movement education programme was identified as the independent variable and speed as the dependant variable.

2.3 Assessment Instrument

The assessment tool used to measure the speed performance of the children was the standardised test of 60 yard dash measured in sec/min. The 60 yard dash test was measured in seconds; 60 yard dash timing was taken with the help of stop watch which is available in laboratory of Department of Physical Education, University of Pune. The tools used for collecting the data were used which were available with the laboratory of Department of Physical Education University of Pune. The said instruments were standardized, sophisticated and reliable.

2.4 Research Design

The pre-test post-test non-equivalent-group research design was adopted. The experiment was conducted by classifying the subjects in two groups, experimental group and control group. The experimental group received the stimulus (training programme) for the period of 12 weeks, whereas the control group did not receive any training. This design was used to analyse and compare the result of control and experimental group for a definite conclusion.

Procedure

The data was collected in three phases.

PHASE - 1st - Pre Test (performance in speed)
PHASE - 2nd - Movement Education Program 12 weeks)
PHASE - 3rd - Post Test (Both Control and Experimental Group)

Pilot Study

To check the feasibility of the movement education program pilot study was conducted on twenty student of Khantilal Khinwasara School Pune for a period of two weeks. The study helped to know the time required for the training and problems which could arise in the treatment. All these problems were rectified with the guidance from the research guide and experts and then the training program was finalized.

2.5 Statistical Procedures

The data was analyzed by using SPSS software of version 17.0. The results of the pre and post-test of the each group as well as each gain scores of the experimental and controlled group was compared by using “t” test for the significance of difference at 0.05 level.

3. Results and Discussions

Finally, when the treatment period of 12 weeks was over the movement education program of the subject was measured again. The post test was taken and the data was collected and analyzed. Inferential statistic and descriptive statistic tools (paired sample descriptive statistic, paired sample correlation, paired sample ‘t’ test, group statistics and independent ‘t’ test) was used for analyzing the collected data of this study. The speed of the students in the experimental group before implementing the programme was 10.86 and that after implementing the programme was 9.83 and that of the control group was 10.20 before and 10.32 after.

Table 1: Descriptive Statistics of Speed Component for Experimental Group

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed Pre test</td>
<td>10.86</td>
<td>1.11</td>
<td>0.17</td>
</tr>
<tr>
<td>Experimental Post test</td>
<td>9.83</td>
<td>1.22</td>
<td>0.19</td>
</tr>
<tr>
<td>Speed Pretest</td>
<td>10.20</td>
<td>1.12</td>
<td>0.17</td>
</tr>
<tr>
<td>Control Post test</td>
<td>10.32</td>
<td>1.16</td>
<td>0.1</td>
</tr>
</tbody>
</table>

The change in performance of both the groups was analysed using the independent sample ‘t’ test.

Table 2: Descriptive Statistics for Change in Performance.

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>Std. deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change speed</td>
<td>1.03</td>
<td>0.78</td>
<td>0.12</td>
</tr>
<tr>
<td>Control</td>
<td>0.11</td>
<td>0.59</td>
<td>0.09</td>
</tr>
</tbody>
</table>

The result reveals that the subject who practiced movement education training program could show higher score in speed as tested by 60 yard dash test than the control group. Thus, the mean gain in speed has increased significantly in experimental group as compared to control group. Thus movement education training program shows a statistically significant effect to increase the overall level of performance in speed.
4. Conclusion
From this study we can conclude that twelve week movement education programme has a significant effect on the speed of children aged between 10 to 13 years.

5. References