

# Effect of a Structured Physical Activities Program on throwing skill competence among grade 2 students of Indo Scots Global School from Pune

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## ABSTRACT

*The purpose of this research was to study Effect of a Structured Physical Activities Program on Throwing Skill Competence among Grade 2 Students of Indo Scots Global School from Pune. For this experimental research, 30 students from Indo Scots Global school Pune were selected using non - probability based convenience sampling technique, 15 of which formed the control group and 15 formed the experimental group. The experimental group underwent a 6 weeks SPAP designed by the researcher which consisted of Motor skill competence i.e Throwing skill based on the Physical Education (PE) framework. The control group underwent the regular PA program for the same duration. The performance of the children was observed 2 times i.e. Pretest before the implementing program and Post test after the SPAP, after 6, weeks using researcher designed assessment tool, where the Throwing skill that were rated on a 5-point scale. Based on all the 2 observations. The researcher used descriptive and inferential statistics to analysis the research data and interpret it for hypothesis testing. Pre-test score of the Throwing skill in both the Experimental and Control group scored Average 16.13 (SD 4.015 ± and ± 4.224 respectively). Paired Sample 't' test was computed to study the effect of 6 weeks, of SPAP on control and experimental group. Which showed SPAP had significant effect on all the Motor skill competence. Control group showed that there is no significance effect Structured physical activity program on motor skill competence.*

*Independent Sample 't' Test was administered to compare Post test of experimental group and control group, which showed that there is significance difference between both the groups. Hence it is concluded that there is positive effect of structured physical*

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*activity program on Motor Skill Competence among Grade 2 Students of Indo Scots Global School from Pune*

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**Keywords :** Throwing skill competence, structured physical activity, Experimental group, control group, Fundamental Motor skill, Manipulative skill

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## Introduction

Physical education plays a crucial role in fostering the holistic development of children, encompassing physical, cognitive, social, and emotional domains. According to Stodden et al. (2008), physical education programs play a critical role in enhancing children's motor competence, which encompasses both fundamental movementskills (e.g., running, jumping) and specialized skills (e.g., throwing, catching). By incorporating developmentally appropriate activities and exercises, physical education teachers can facilitate skill acquisition, confidence building, and enjoyment of movementamong students.

Physical activity is fundamental aspect of human life, contributing to overall health,wellbeing, and quality of life. In recent years, there has been growing recognition of the importance of physical activity in promoting physical, mental, and social health across the lifespan (Warburton et al., 2006).

Motor skill competence refers to an individual's ability to perform various physical tasks effectively and efficiently. One of the key aspects of motor skill competence is its multidimensional nature. Researchers often categorize motor skills into different domains based on their characteristics and requirements. For example, Gross Motor Skills (GMS) involve larger muscle groups and movements, such as running or jumping, while Fine Motor Skills (FMS) entail precise andcoordinated movements of smaller muscles, like those used in handwriting or threading a needle (Gallahue & Ozmun, 2012). By considering these various domains, researchers can assess an individual's overall motor skill competence more comprehensively.

Structured physical activity programs play a crucial role in enhancing motor skills among individuals of all ages, including children. Motor skills are essential for performing various physical activities and are fundamental to overall physical development. Research has shown that structured physical activity programs can have a significant impact on motor skill development. For example, a study by Hulteen et al. (2018) found that participation in a structured physical activity program led to improvements in motor skills among children aged 4-18 years. The study also found that the benefits of the program were greater for children who participated in the

program for longer durations.

In contrast to structured programs, unstructured physical activities refer to spontaneous and free-form play experiences, where children have the freedom to explore and engage in movement activities without predetermined rules or guidance. Hence, the researcher wanted to investigate Effect of a Structured Physical Activities Program on Motor Skill Competence among Grade 2 Students of Indo Scots Global School from Pune

## **Methodology**

Researcher used Experimental type of research Method. Specifically, a True experimental research design was selected, involving a two-group one i.e. Experimental group and Control group. For this experimental research, 30 students from Indo Scots Global school Pune were selected using non-probability-based convenience sampling technique, 15 of which formed the control group and 15 formed the experimental group. The experimental group underwent a 6 weeks SPAP designed by the researcher which consisted of Motor skill competence i.e Throwing skills based on the Physical Education (PE) framework. The control group underwent the regular PA program for the same duration.

The teacher made assessment tool was used to assess the level of motor skill competence (Throwing) Rated on 5 points scale. The validity of the teacher made assessment tool was established with the help of the experts in the related field.

Total duration of experiment is 6 weeks, 3 sessions per week. Duration of each session was 35mins. The activities selected for program is based on Throwing. The researcher had made 2 groups i.e. experimental and control groups. The experimental comprises 15 girls and control group comprises 15 girls. The groups were divided on basis of scores, and research had divided both groups based on means of both the groups. Pre-test score of the Throwing skill in both the Experimental and Control group scored Average 16.13 (SD 4.015  $\pm$  and  $\pm$  4.224 respectively). Pre-test and Post Test design was used to see the effect of the SPAP. Paired sample 't' test was used to study the effect of SPAP. This statistical test compares the mean scores of the same group before and after the program to determine if there is a significant difference in their motor skill competence

Independent sample 't' test was used to compare the post test of experimental group and control group.

## Results:

**Table 1:** Summary of Descriptive Statistics of Throwing Skill (N=30)

	<b>Experimental Pre-Test</b>	<b>Control Pre-Test</b>	<b>Experimental Post-Test</b>	<b>Control Post-Test</b>
Median	16	16	25	16
Mean	16.13	16.13	24.93	17
Std. D	4.015	4.224	3.9	4.342
SEM	1.037	1.091	1.007	1.121
Minimum	10	10	15	9
Maximum	23	25	31	24

Above table shows that mean Pre-test score of the Throwing skill in both the Experimental and Control group scored Average 16.13 (SD  $4.015 \pm$  and  $\pm 4.224$  respectively). This shows that average performance of Throwing Skill is 16.13. The median score for both the groups is 16 which shows that 50% of the sample scored points above 16 and 50% below 16. It shows that there is no significance difference between both the groups.

The above table shows that mean of the Post test for Throwing skill in the Experimental group scored average 25 (SD  $\pm 3.9$ ) and control group scored 17 (SD  $\pm 4.342$ ). The Experimental group showed a median score of 25, which shows that 50% of the sample scored points above 25 and 50% below 25. The Control group showed score 16 which shows that 50% of the sample scored points above 16 and 50% below 16.

**Table 2 :** Description of Paired Sample 't' Test (Experimental Pre and Post N=15)

<b>Skill</b>	<b>Mean diff</b>	<b>t</b>	<b>df</b>	<b>sig</b>	<b>correlation</b>	<b>sig</b>
Throwing	8.933	11.228	14	0.00	0.695	0.004

When the paired sample 'T' test is applied between the pre-test and post of Throwing skill, the above table shows that the 't' value of throwing is 11.228. Which is significant at 0.05 level of significance.

Hence, it is interpreted that there is significant difference between the scores of Post-test compared to the Pre-test.

**Table 3** : Description of Paired Sample 't' Test (Control Pre and Post N=15)

Skill	Mean difference	t	df	sig	correlation	sig
Throwing	1	1.511	14	0.153	0.813	0

When the paired sample 'T' test is applied between the pre-test and post of Throwing, the above table shows that the 't' value of throwing is 1.511. Which is Not significant at 0.05 level of significance.

Hence, it is interpreted that there is NO significant difference between the scores of Post-test compared to the Pre-test.

**Table 4** : Description of Independent Sample 't' Test (Experimental and Control group Post test)

Skill	t	df	sig.(2-tailed)	Mean Difference
Throwing	5.264	27.683	0	7.93333

When Independent sample was applied on the post test of control and experimental group of Throwing skill, The above table shows that the 't' value (5.264) at 27.683 degrees of freedom is found significant at 0.05 level of significance. The mean difference between the Post test of control and experimental group is found 7.93333.

From tables it is found that the calculated 'p' value (0.000) is smaller than the 0.005 therefore null hypothesis is rejected and alternative hypothesis is rejected and alternative hypothesis is selected.

## Discussion

Previous research study by Abusleme-Allimant (2023), shown that the both structured and unstructured physical activities can help improve motor skill in young girls, but the unstructured activities might have a slight advantage in certain aspects of motor development. Numerous studies have highlighted the positive correlation between participation in structured physical activities and the development of motor skills in children. A study by

Stodden and colleagues (2008) compared the effects of structured and unstructured physical activities on motor skill development in preschool children. The results showed that children who participated in structured activities demonstrated greater improvements in motor skill competence compared to those engaged in unstructured play. This finding highlights the importance of structured programs in promoting

motor skill development among young children.

By considering existing research on structured and unstructured physical activity programs, the study can provide valuable insights into the effectiveness of structured programs in improving motor skill development in young children. The findings of this study support the implementation of structured physical activities programs in schools to enhance motor skill competence among students. Future research should focus on exploring the long-term effects of structured programs on motor skill development and physical fitness to further inform educational practices and policies.

## **Conclusion**

In the experimental group, it was found that there was a significant difference between the scores of the post-test and pre-test in skills such as throwing, and catching. This indicates that after participating in the structured physical activity program, students showed improvement in their motor skill competence.

In the control group, no significant difference was observed between the scores of the posttest and pre-test for the same set of skills. This suggests that without the structured physical activity program, there was no improvement in motor skill competence among grade 2 students.

Based on these findings it is concluded that the structured physical activity program was effective and improves the motor skill competence of grade 2 students at Indo Scots Global School in Pune. While there was no significant difference between pre-test and post-test scores for throwing skills, the overall improvement in motor skill competence indicates the effectiveness of the program. These findings highlight the importance of incorporating structured physical activities into the school curriculum to promote the holistic development of students, particularly in enhancing motor skills essential for physical fitness and overall well-being.

## **Recommendation**

1. Schools should consider implementing structured physical activity programs to enhance motor skill development in young children, as these programs have shown to be effective.
2. Structured physical activity programs have been shown to be more effective than unstructured activities in promoting motor skill development in young children.

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