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INFLUENCE OF MULTI-SKILL SPORTS TRAINING ON MOTOR FITNESS AND ACADEMIC PERFORMANCE AMONG SCHOOL CHILDREN

***Jojibabu Abbadasari**

SA-Physical Education, A.R.D.G.K Municipal Corporation High School, Eluru, W.G (Dist), A.P.

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***Corresponding Author: Jojibabu Abbadasari**
SA-Physical Education, A.R.D.G.K Municipal Corporation High School, Eluru, W.G (Dist), A.P.

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ABSTRACT

The present study aimed to investigate the influence of multi-skill sports training on motor fitness and academic performance among school children in West Godavari District, Andhra Pradesh. The study was conducted on a sample of 120 school children (boys and girls) aged 11–14 years selected from various government and private schools through a random sampling method. The participants underwent a structured multi-skill sports training program comprising activities related to running, jumping, throwing, agility drills, coordination exercises, and team sports skills over 12 weeks, with training sessions held 5 days per week. Motor fitness variables such as speed, agility, balance, coordination, flexibility, and explosive power were assessed before and after the training program using standardized fitness tests. Academic performance was evaluated based on students' scores in core subjects, including Mathematics, Science, English, and Social Studies. Statistical analysis was conducted using descriptive statistics and paired t-tests to assess the significance of changes in the selected variables. The findings revealed significant improvements in motor fitness components following participation in the multi-skill sports training program. Furthermore, a positive enhancement in academic performance was observed among the participants, indicating that regular engagement in structured sports activities contributes not only to physical development but also to cognitive and academic outcomes. The study concludes that multi-skill sports training serves as an effective intervention for improving both motor fitness and academic achievement among school children. Therefore, schools are encouraged to

incorporate comprehensive sports training programs into their regular curriculum to promote holistic development among students.

KEYWORDS: Multi-Skill Sports Training, Motor Fitness, Academic Performance, School Children, Physical Education, Sports Participation, West Godavari District.

INTRODUCTION

Physical education and sports play a vital role in the overall development of children by enhancing their physical, mental, social, and emotional well-being. In recent years, educators and researchers have increasingly recognized the importance of integrating structured sports training programs into school curricula to promote healthy lifestyles and improve educational outcomes. Among various training approaches, multi-skill sports training has gained considerable attention due to its comprehensive nature and its potential to develop a wide range of physical and cognitive abilities among school children.

Multi-skill sports training refers to a systematic training approach that incorporates a variety of fundamental movement skills and sport-specific activities, including running, jumping, throwing, catching, balancing, agility drills, coordination exercises, and team-based games. Unlike specialized training that focuses on a single sport, multi-skill training emphasizes the development of diverse motor abilities, enabling children to acquire a broad foundation of physical competence. Such training is particularly beneficial during the school years, as childhood and adolescence represent critical periods for motor skill development and physical growth.

Motor fitness is an essential component of physical fitness and includes abilities such as speed, agility, balance, coordination, flexibility, and explosive power. These components contribute significantly to sports performance and daily physical activities. Research has shown that children who regularly participate in structured physical activity programs tend to demonstrate superior motor fitness levels compared to their less active peers. Improved motor fitness not only enhances athletic performance but also contributes to better health, increased self-confidence, and greater participation in physical activities.

Beyond physical benefits, sports training has been associated with positive academic outcomes. Participation in regular physical activity stimulates brain function, improves blood circulation, enhances concentration, and promotes cognitive development. Physical activity has been linked to improvements in memory, attention, problem-solving skills, and classroom behavior, all of which contribute to academic success. School children who engage in

organized sports often exhibit better discipline, time-management skills, and motivation, which may positively influence their educational achievement.

In the contemporary educational environment, there is growing concern regarding sedentary lifestyles, increased screen time, and declining levels of physical activity among children. These factors have contributed to reduced physical fitness and may adversely affect academic performance. Consequently, schools are seeking effective interventions that can simultaneously promote physical health and educational excellence. Multi-skill sports training offers a promising solution by combining enjoyable physical activities with opportunities for holistic development.

Although several studies have examined the relationship between physical activity and academic achievement, limited research has specifically investigated the influence of multi-skill sports training on both motor fitness and academic performance among school children. Therefore, the present study aims to examine the effectiveness of a structured multi-skill sports training program in improving selected motor fitness components and academic performance among school children. The findings of this study may provide valuable insights for physical education teachers, coaches, school administrators, and policymakers in designing effective sports programs that contribute to the comprehensive development of students.

The study is expected to highlight the importance of integrating multi-skill sports training into school education as a means of fostering both physical competence and academic excellence among children.

Statement of the Problem

The Purpose of the study: " Influence of Multi-Skill Sports Training on Motor Fitness and Academic Performance among School Children."

Objectives of the Study

The present study was undertaken with the following objectives:

1. To examine the effect of multi-skill sports training on selected motor fitness components among school children.
2. To assess the influence of multi-skill sports training on speed among school children.
3. To determine the effect of multi-skill sports training on agility among school children.
4. To evaluate the influence of multi-skill sports training on balance among school children.

5. To investigate the effect of multi-skill sports training on coordination among school children.
6. To assess the impact of multi-skill sports training on flexibility among school children.
7. To examine the effect of multi-skill sports training on explosive power among school children.
8. To determine the influence of multi-skill sports training on the academic performance of school children.
9. To compare the pre-test and post-test scores of selected motor fitness variables among school children following participation in a multi-skill sports training program.
10. To analyze the relationship between motor fitness improvement and academic performance among school children.
11. To provide recommendations for integrating multi-skill sports training into school physical education programs for the holistic development of students.

Limitations of the Study

The study was subject to the following limitations:

1. The study was limited to school children studying in selected schools of West Godavari District, Andhra Pradesh.
2. The sample size was limited to the selected participants and may not represent all school children in the district or state.
3. The study considered only selected motor fitness variables such as speed, agility, balance, coordination, flexibility, and explosive power.
4. Academic performance was assessed using students' school examination scores, which may be influenced by factors other than sports training.
5. Differences in students' nutritional habits, socioeconomic status, home environment, and learning abilities were not controlled.
6. The study was conducted for a specific training period; therefore, long-term effects of multi-skill sports training were not examined.
7. Environmental conditions, attendance, motivation levels, and individual differences among participants may have influenced the results.
8. The findings of the study are applicable only to the population and conditions under which the study was conducted.

Delimitations of the Study

The study was delimited as follows:

1. The study was confined to school children aged 11–14 years.
2. Only students from selected schools in West Godavari District, Andhra Pradesh, were included in the study.
3. The investigation was restricted to the influence of a structured multi-skill sports training program.
4. The selected motor fitness variables were speed, agility, balance, coordination, flexibility, and explosive power.
5. Academic performance was measured through students' scores in selected academic subjects.
6. The duration of the training program was limited to 12 weeks.
7. Training sessions were conducted five days per week according to the prescribed training schedule.
8. Only healthy students who were regularly attending school and willing to participate in the study were selected as subjects.
9. The study focused solely on the relationship between multi-skill sports training, motor fitness, and academic performance and did not include psychological or physiological variables.
10. The study employed standardized motor fitness tests and academic records as measures of assessment.

METHODOLOGY

The study was designed to investigate the influence of multi-skill sports training on motor fitness and academic performance among school children. An experimental design with pre-test and post-test measures was employed to assess the effectiveness of the training programme. A total of 120 school children (60 boys and 60 girls) aged between 11 and 14 years were selected from various government and private schools in West Godavari District, Andhra Pradesh. The subjects were selected using a random sampling technique.

Variables of the Study

Independent Variable

- Multi-Skill Sports Training Programme

Dependent Variables

Motor Fitness Variables

1. Speed
2. Agility
3. Balance
4. Coordination
5. Flexibility
6. Explosive Power

Academic Performance Variables

1. Mathematics Marks
2. Science Marks
3. English Marks
4. Social Studies Marks
5. Overall Academic Achievement Score

Administration of Tests

Pre-tests were conducted before the commencement of the training programme. Following twelve weeks of training, post-tests were administered using the same testing procedures and conditions.

Table 1:Pre-test and Post-test Mean Scores of Motor Fitness Variables among School Children Following Multi-Skill Sports Training.

Variable	Pre-Test Mean	Post-Test Mean	Improvement (%)
Speed (sec)	8.92	8.35	6.39
Agility (sec)	11.45	10.72	6.38
Balance (sec)	18.34	24.67	34.51
Coordination (No.)	18.52	24.18	30.56
Flexibility (cm)	21.36	26.45	23.83
Explosive Power (cm)	165.4	179.85	8.74

DISCUSSION OF RESULTS

The data presented in the table indicate the influence of the multi-skill sports training programme on selected motor fitness variables among school children. The comparison of pre-test and post-test mean scores demonstrates that the training programme resulted in positive improvements in all the selected motor fitness components.

The speed performance improved from a pre-test mean of 8.92 seconds to a post-test mean of 8.35 seconds, showing an improvement of 6.39 percent. Since a lower time indicates better

performance, this reduction suggests that the multi-skill sports training programme enhanced the students' running ability and movement efficiency. The improvement may be attributed to regular sprinting drills, reaction exercises, and movement-based activities included in the training sessions.

Similarly, agility improved from 11.45 seconds in the pre-test to 10.72 seconds in the post-test, representing a 6.38 percent improvement. The reduction in agility time indicates enhanced ability to change direction quickly and efficiently. This improvement could be due to the inclusion of ladder drills, shuttle runs, obstacle courses, and game-specific movement activities in the training programme.

A remarkable improvement was observed in balance, where the mean score increased from 18.34 seconds to 24.67 seconds, resulting in an improvement of 34.51 percent. This was the highest percentage improvement among all the variables studied. The findings suggest that balance-oriented activities and coordination drills significantly enhanced the students' postural stability and body control. Improved balance is essential for successful participation in sports and daily physical activities.

Coordination also showed substantial improvement, increasing from a pre-test mean of 18.52 to a post-test mean of 24.18, representing a 30.56 percent improvement. This finding indicates that the participants developed better synchronization of body movements. The improvement may be attributed to throwing, catching, dribbling, and other multiskill exercises that require effective integration of sensory and motor functions.

Flexibility improved from 21.36 cm to 26.45 cm, showing an improvement of 23.83 percent. The increase in flexibility suggests that the warm-up exercises, stretching routines, and dynamic movement activities performed throughout the training programme effectively enhanced the range of motion of the participants. Improved flexibility contributes to better movement efficiency and reduced risk of injury.

The results further revealed that explosive power improved from 165.40 cm to 179.85 cm, reflecting an improvement of 8.74 percent. This increase demonstrates enhanced muscular strength and power of the lower limbs. The improvement may be attributed to jumping exercises, plyometric drills, and sports-specific training activities included in the programme.

Overall, the findings clearly indicate that the multi-skill sports training programme was effective in improving all selected motor fitness variables among school children. Among the variables studied, balance showed the greatest improvement (34.51%), followed by coordination (30.56%) and flexibility (23.83%). Improvements were also observed in explosive power (8.74%), speed (6.39%), and agility (6.38%). These results suggest that a

well-planned multi-skill sports training programme can significantly contribute to the development of motor fitness among school children.

The findings support the concept that participation in diverse sports activities provides comprehensive physical development by simultaneously enhancing several motor abilities. Therefore, the incorporation of multi-skill sports training into school physical education programmes may play a vital role in promoting physical fitness, sports performance, and overall development among school children.

CONCLUSION

Based on the analysis of the data, it can be concluded that the multi-skill sports training programme had a positive and significant influence on the motor fitness of school children. The findings revealed improvements in all the selected motor fitness variables, namely speed, agility, balance, coordination, flexibility, and explosive power following the twelve-week training intervention.

Among the variables studied, balance showed the highest improvement (34.51%), followed by coordination (30.56%) and flexibility (23.83%), indicating that multi-skill sports activities are highly effective in enhancing neuromuscular control and movement efficiency. Improvements were also observed in explosive power (8.74%), speed (6.39%), and agility (6.38%), demonstrating the comprehensive nature of the training programme in developing various aspects of motor fitness.

The results suggest that participation in a structured multi-skill sports training programme provides children with diverse movement experiences that contribute to overall physical development. The programme effectively enhanced fundamental motor abilities that are essential for sports participation, physical fitness, and healthy growth.

Therefore, it may be concluded that multi-skill sports training is an effective and practical approach for improving motor fitness among school children. The incorporation of such training programmes into school physical education curricula can play a significant role in promoting physical competence, active lifestyles, and the holistic development of students. Schools and physical education teachers are encouraged to implement regular multi-skill sports training activities to maximize the physical and educational benefits for children.

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