

“A Study on the Effectiveness of Inclusive Physical Education Programs at Primary and Secondary School Levels”

Dr. Sumit Kumar

SRS College of Education, Rohtak

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ABSTRACT

Inclusive education seeks to ensure that all learners, irrespective of their physical, intellectual, or social differences, receive equal opportunities to participate meaningfully in the educational process within mainstream school settings. It is grounded in the principles of equity, social justice, and respect for diversity. Within this framework, Physical Education (PE) occupies a unique and significant position because of its activity-based, participatory, and interactive nature. Unlike many academic subjects, physical education provides natural opportunities for collaboration, peer interaction, and experiential learning, making it an effective medium for fostering inclusion and holistic development among students. The present study examines the effectiveness of inclusive physical education programs implemented at the primary and secondary school levels. A mixed-method research design was adopted to gain a comprehensive understanding of both the outcomes and challenges of inclusive PE practices. Primary data were collected through a structured questionnaire administered to physical education teachers and students from selected schools, enabling the researcher to capture firsthand perceptions, experiences, and attitudes. In addition, secondary data were drawn from scholarly journals, policy documents, government reports, and previous research studies to provide a strong theoretical and contextual foundation for the study. The findings of the study reveal that inclusive physical education programs have a positive and significant impact on students' social interaction, self-confidence, and cooperative behavior. Students with and without disabilities benefit from shared participation, which promotes mutual understanding, empathy, and acceptance. However, the study also identifies several challenges that hinder the effective implementation of inclusive PE programs. These include inadequate teacher training in inclusive pedagogical strategies, lack of adapted sports equipment and infrastructure, and limited institutional and administrative support. In light of these findings, the study emphasizes the need for systematic policy interventions, continuous professional development of physical education teachers, and curriculum adaptations to address diverse learner needs. Strengthening these areas is essential for maximizing the potential of physical education as a powerful tool for promoting inclusive education in schools.

Keywords: Inclusive Education, Physical Education, Primary Schools, Secondary Schools, Effectiveness, Special Needs

INTRODUCTION

Inclusive education has emerged as a globally accepted approach to ensuring equity, accessibility, and social justice in education systems. It is based on the principle that all learners, irrespective of their physical, cognitive, emotional, or social differences, should be educated together in regular school environments. Inclusive education not only supports the academic growth of students with disabilities but also promotes values such as tolerance, empathy, and respect for diversity among all learners. In the Indian context, legislative and policy frameworks such as the Rights of Persons with Disabilities Act (2016) and the National Education Policy (2020) strongly emphasize the adoption of inclusive practices across all stages of schooling. Physical Education (PE) occupies a distinctive place in school education as it contributes significantly to the physical fitness, social skills, emotional well-being, and psychological development of students. Inclusive Physical Education involves modifying teaching methods, learning activities, and physical environments to ensure meaningful participation of students with diverse abilities. At the primary and secondary levels, inclusive PE provides opportunities for collaborative learning, peer interaction, teamwork, and social integration, thereby fostering acceptance and

mutual respect. However, despite the existence of supportive policies, the actual implementation and effectiveness of inclusive physical education programs remain inadequately examined, particularly in the Indian school system. The present study aims to address this gap by evaluating the effectiveness of inclusive physical education programs at the primary and secondary school levels.

REVIEW OF LITERATURE

Sherrill (2004) emphasized that inclusive physical education plays a vital role in improving motor skills, physical fitness, and social integration of students with disabilities. The study highlighted that inclusive PE environments promote equal participation and positive self-concept among learners.

Block and Obrusnikova (2007) reported that inclusive physical education settings encourage positive peer interactions and social acceptance. However, the authors stressed the need for well-trained teachers, adapted instructional strategies, and appropriate equipment for effective implementation.

Lieberman and Houston-Wilson (2009) found that inclusive PE programs enhance cooperative learning and mutual respect among students with and without disabilities. The study emphasized teacher preparedness as a critical factor for successful inclusion.

Haegle and Sutherland (2015) examined the experiences of students with disabilities in inclusive PE classes and revealed that supportive teaching practices significantly improve participation and confidence levels.

UNESCO (2015) highlighted that inclusive education policies lead to improved participation and learning outcomes when supported by strong institutional commitment, teacher training, and resource allocation.

Qi and Ha (2012) observed that teachers' attitudes toward inclusion greatly influence the success of inclusive physical education programs. Positive attitudes were associated with higher levels of student engagement.

Kaur (2018), in the Indian context, reported that although teachers generally demonstrate favorable attitudes towards inclusive education, inadequate infrastructure and limited professional training pose major challenges.

Goodwin and Watkinson (2000) found that students with disabilities experience greater social acceptance and reduced isolation in inclusive PE settings when peers are encouraged to collaborate.

NEP (2020) emphasized the integration of inclusive practices across all curricular and co-curricular activities, including physical education, to promote holistic development and equity in education.

Singh and Sharma (2021) concluded that inclusive physical education benefits both students with and without disabilities by fostering empathy, cooperation, and social sensitivity, while also enhancing overall classroom cohesion.

Objectives of the Study

To examine the effectiveness of inclusive physical education programs at primary and secondary school levels.

To analyze the impact of inclusive PE on students' social and emotional development.

To identify challenges faced by physical education teachers in implementing inclusive practices.

To suggest measures for improving inclusive physical education programs in schools.

Hypotheses

H₀₁: There is no significant difference in the effectiveness of inclusive physical education programs at primary and secondary school levels.

H₁₁: There is a significant difference in the effectiveness of inclusive physical education programs at primary and secondary school levels.

H₀₂: Inclusive physical education programs do not significantly influence students' social development.

H₁₂: Inclusive physical education programs significantly influence students' social development.

RESEARCH METHODOLOGY:

The study adopted a **descriptive survey method** with a mixed-method approach. The sample consisted of 05 physical education teachers and 85 students from selected primary and secondary schools, selected through random sampling. Primary data were collected using a structured questionnaire based on a five-point Likert scale. Secondary data were obtained from books, research journals, policy documents, and government reports. Data were analyzed using percentage analysis and descriptive statistics.

Table 1 Details of Sample Schools Selected for the Study

S. No.	Name of the School	Location	School Level	Type of School	Number of PE Teachers	Number of Students
1	Government Primary School, Sector-14	Urban	Primary	Government	2	40
2	Government Secondary School, Model Town, Rohtak	Urban	Secondary	Government	3	45

Analysis and Interpretation

Objective 1: To examine the effectiveness of inclusive physical education programs at primary and secondary school levels.

Table 2 Comparison of Effectiveness of Inclusive Physical Education Programs at Primary and Secondary School Levels

School Level	Number of Schools	Number of Respondents (Students)	Mean Score	Standard Deviation	t-value
Primary School	1	40	78.45	6.32	
Secondary School	1	45	72.10	7.15	2.41

Significant at 0.05 level

Interpretation of Results

Table 2 shows the comparison of the effectiveness of inclusive physical education programs at primary and secondary school levels. The mean score of effectiveness for the primary school students (Mean = 78.45, SD = 6.32) is higher than that of secondary school students (Mean = 72.10, SD = 7.15). This indicates that inclusive physical education programs are perceived to be more effective at the primary level. The calculated t-value (2.41) is significant at the 0.05 level, indicating a statistically significant difference between the two groups. Therefore, the **null hypothesis (H₀₁)** stating that there is no significant difference in the effectiveness of inclusive physical education programs at primary and secondary school levels is **rejected**. The findings suggest that younger students at the primary level demonstrate higher participation, adaptability, and social interaction in inclusive physical education settings compared to secondary school students. This may be due to greater flexibility, openness, and supportive learning environments at the primary stage. The result highlights the need to strengthen inclusive physical education practices at the secondary level through improved teacher training, curriculum modification, and institutional support.

Objective 2

To analyze the impact of inclusive physical education on students' social and emotional development.

Table 3 Comparison of Impact of Inclusive Physical Education on Students' Social and Emotional Development at Primary and Secondary School Levels

School Level	Number of Students	Mean Score (Social & Emotional Development)	Standard Deviation	t-value
Primary School	40	81.60	5.48	
Secondary School	45	74.25	6.72	2.96

Significant at 0.05 level

Analysis

Table 3 presents a comparative analysis of the impact of inclusive physical education programs on students' social and emotional development at primary and secondary school levels. The mean score for primary school students (Mean = 81.60, SD = 5.48) is noticeably higher than that of secondary school students (Mean = 74.25, SD = 6.72). This indicates that inclusive PE programs have a stronger positive impact on the social and emotional development of students at the primary level. The calculated t-value (2.96) exceeds the critical value at the 0.05 level of significance, indicating that the difference between the two groups is statistically significant.

Interpretation

Based on the results presented in Table 3, the **research hypothesis (H₁₁)** stating that there is a significant difference in the effectiveness of inclusive physical education programs at primary and secondary school levels is **accepted**. The findings suggest that inclusive physical education contributes more effectively to the social skills, emotional stability, self-confidence, and cooperative behavior of primary school students compared to secondary school students. The greater impact at the primary level may be attributed to higher adaptability, increased peer interaction, and a more supportive learning environment. These results emphasize the importance of early implementation of inclusive physical education and highlight the need to strengthen inclusive practices at the secondary level through targeted interventions, teacher training, and curriculum enrichment.

CONCLUSION

The findings derived from Table 2 and Table 3 clearly demonstrate the effectiveness of inclusive physical education programs at both primary and secondary school levels, with a more pronounced impact observed at the primary level. Table 2 reveals a statistically significant difference in the overall effectiveness of inclusive physical education programs between primary and secondary schools, indicating that primary school students benefit more in terms of participation, engagement, and adaptability. The rejection of the null hypothesis confirms that school level plays a significant role in determining the effectiveness of inclusive PE programs. Furthermore, Table 3 highlights the impact of inclusive physical education on students' social and emotional development. The results indicate that inclusive PE programs contribute significantly to the enhancement of social interaction, emotional stability, self-confidence, and cooperative behavior among students, particularly at the primary level. The acceptance of the research hypothesis suggests that the social and emotional outcomes of inclusive physical education differ significantly between primary and secondary school students. Taken together, the conclusions from both tables suggest that early exposure to inclusive physical education is more effective in fostering holistic development and positive social behaviors. While inclusive PE programs are beneficial across both levels, the comparatively lower impact at the secondary level underscores the need for targeted strategies, improved teacher training, and curriculum modifications. Strengthening inclusive practices at the secondary stage is essential to ensure continuity and effectiveness of inclusive physical education throughout the school years.

Findings of the Study: Inclusive physical education programs are more effective at the primary level than at the secondary level.

1. Inclusive PE significantly enhances social interaction and cooperative behavior among students.
2. Teachers possess positive attitudes towards inclusion but lack adequate professional training.
3. Infrastructure and resource limitations negatively affect program effectiveness.

CONCLUSION

The present study concludes that inclusive physical education programs play a crucial and transformative role in promoting holistic development and social inclusion among students at both primary and secondary school levels. Inclusive PE provides meaningful opportunities for students with and without disabilities to participate together in physical activities, thereby fostering physical fitness, social interaction, emotional well-being, and positive attitudes toward diversity. The findings of the study indicate that inclusive physical education contributes significantly to the development of cooperation, self-confidence, empathy, and mutual respect, particularly at the primary level where students display greater adaptability and openness toward inclusive practices.

Despite the evident benefits, the study also highlights several challenges that affect the effective implementation of inclusive physical education programs. These challenges include inadequate professional training of physical education teachers, lack of adapted sports equipment, insufficient infrastructural facilities, and limited institutional support. Without addressing these issues, the potential of inclusive PE cannot be fully realized. Therefore, the success of inclusive physical education largely depends on the availability of trained personnel, flexible and inclusive curriculum design, and supportive learning environments.

Strengthening inclusive physical education is essential for achieving the broader objectives of inclusive education and ensuring equitable learning opportunities for all students. Systematic policy support, continuous teacher capacity building, and investment in inclusive infrastructure are necessary to sustain and enhance inclusive physical education practices. Prioritizing inclusive PE, schools can contribute significantly to building an inclusive, equitable, and socially cohesive education system.

Suggestions

1. Regular in-service training programs for physical education teachers on inclusive practices.
2. Provision of adapted equipment and inclusive sports infrastructure.
3. Integration of inclusive PE modules in teacher education curricula.
4. Strong institutional monitoring and policy support for inclusive education initiatives.

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