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POLICY FRAMEWORK AND CURRICULUM ANALYSIS OF PHYSICAL EDUCATION IN TELANGANA SCHOOLS

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Abstract :
This chapter investigates the policy framework and curriculum of PE in Telangana schools while at the same time pointing out that the importance of PE is increasing in the overall development of students. The evolution of this subject from a leisure or extracurricular activity to an essential academic discipline can be characterized as that which encourages physical fitness, mental health, and socialization skills at the same time. The author follows the trajectory of PE in India - its roots in traditional physical practices, and colonial drills to finally getting formal recognition through post-independence reforms. The National Education Policy (NEP) 2020 has even more strengthened its position by advocating for experiential learning, daily physical activities, and yoga and indigenous sports as a part of the curriculum. The chapter which mainly deals with Telangana discusses how national policies are appropriated in the state's educational system while taking into account the culture, resources, and infrastructure of the region. The authors point out the difficulties in carrying out the plans, for example, limited facilities, lack of qualified instructors, and varying levels of curriculum implementation in different schools. The author concludes the argument with the statement that maintaining a strong policy backing along with the development of better infrastructure and ongoing evaluation are the keys to unlocking the full potential of Physical Education.

Keywords: *Physical Education, Policy Framework, Curriculum Implementation, Telangana Schools*

I. INTRODUCTION

PE (Physical Education) is the key to the holistic development of students. It leads to the development of physical fitness, mental and emotional health, and even social responsibility. It is not merely sports and games but rather the killing of values such as discipline, teamwork, the ability to lead, and the power of persistence. With the world witnessing a steady increase in children's inactivity due to the digital era, the presence of an organized Physical Education program in the school curriculum has become extremely necessary. By systematic involvement in physical activities, students acquires good habits of wellness throughout their life and also education on how to keep a healthy body and mind. India's educational system is going through a radical change which places Physical Education in the category of a non-negotiable subject from inadequate or recreational subject. The National Education Policy (NEP) 2020 is the major catalyst of change, asserting physical fitness and activity-based learning to be the main parts of the holistic education spectrum. The policy states that equal weight should be given to the intellectual and the physical development, thus promoting daily physical activities, incorporating yoga and native sports, and hiring trained Physical Education specialists.

II. LITERATURE SURVEY

Physical Education (PE) has been recognized universally as the most important nurturing factor for students in all aspects of their being, that is to say, physically, emotionally, and socially. Different researchers have contributed to the understanding of its educational, cultural, and psychological dimensions.

Aguilar González et al. [1] drew attention to the Guatemalan Citaco Nacional Base (CNB), showing that properly managed physical education policies lead to lifelong health habits

and sociality. Their research advocates for curriculum standardization as the means to successful diversity in the use of physical activity. Anderson et al. [2] have likewise looked into the cognitive aspects of learning, revealing the role of comprehension in behavior change and thus skill gaining, which is the basis for contemporary pedagogy in PE. Antunes and Da Silva [3] investigated the function of sport in the rehabilitation of young offenders and their social reintegration, asserting that participation in sports can both decrease crime and build character. Bailey [4] on the other hand, did a systematic review of the positive aspects of PE in schools and found that physical activity was associated not only with better academic performance but also with good mental health and teamwork. The argument of Bailey et al. [5] went further by asserting that PE is a major contributor to the moral and social development of children and thus advocated its inclusion as a core subject in the academic curriculum. Berger et al. [6] likened sports pedagogy to socio-educational principles and posited that teaching methods in PE should incorporate both the/theoretical and practical to enhance inclusivity and motivation.

III. PROPOSED WORK

The paper is set to be a thorough inquiry into the policy structure and PE curriculum execution in Telangana schools, with special consideration of the national policies and local practices gap. The research will study the adaptations and applications of the principles of the NEP 2020 and other central directives in the school education system of the state. The research work will also involve a comparative analysis of the situation in government and private schools in certain districts, focusing on differences in the physical structures, teachers' qualifications, resources and amenities available, and student engagement. The study will further examine the extent to which the physical education objectives of fitness, discipline, teamwork, and holistic development are realized through the present curriculum. The mixed-method research technique will be utilized where quantitative surveys will be conducted along with qualitative interviews with teachers, administrators, and students. The data collected will be analyzed with the aim of locating the issues in policy enforcement, curriculum delivery, and assessment methods. In light of the findings, the research will suggest strategic actions for improving the implementation of policies, teacher training programs, resource distribution, and monitoring of Physical Education to ensure its impactful role in the overall student development in Telangana schools.

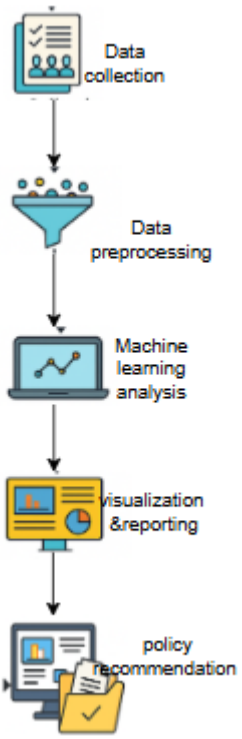

Fig 1: Proposed Architecture Diagram

IV. METHODOLOGY

1. Research Design

This study adopts a descriptive and analytical research design to explore how Physical Education policies are being framed, implemented, and monitored in Telangana educational institutions. It aims to assess the degree of conformity between the existing policies and the national guidelines, the effectiveness of their practice in schools.

2. Population and Sampling

The target population for the research comprises PE teachers, school officials, and pupils from both public and private educational institutions located in Hyderabad District of Telangana. A stratified random method will be applied to choose 20 schools, which will represent urban, semi-urban, and rural areas equally. Thus, the different

conditions and resources available for the Physical Education programs will be presented.

3. Data Collection Instruments

In order to gain precise and relevant data, several tools will be applied Questionnaires By means of structured questionnaires, quantitative data will be gathered regarding school infrastructure, PE facilities availability, time allocation, and students' participation rates. Interviews Teachers and administrators will take part in semi-structured interviews, and their points of view on policy implementation, curriculum efficiency, and obstacles encountered will be recorded. Observation Checklists During PE classes, these will be used to evaluate the condition of the playground, sports gear, teacher participation, and student participation.

4. Data Analysis Techniques

Quantitative Analysis Application of various statistical procedures such as mean, frequency, and percentage will be done on data obtained from the questionnaires to discover general tendencies and differences. Qualitative Analysis Thematic analysis will be performed on the data from interviews to identify and get insights into the major topics and points related to policy.

5. Ethical Considerations

Every single participant will be first told the reason for the study and then informed consent will be acquired before data collection happens. The research will be made sure to be confidential and anonymous as it keeps professional ethics intact all the way through the process. The data collected will be exclusively for academic and research purposes.

6. Expected Outcome

The method that has been chosen intends to deliver a thorough evaluation of how the Physical Education policies and curricula are put into practice in Telangana schools. The outcomes will assist in spotting the discrepancies between the intent and the practice of the policy, and hence, excellent practices will be indicated along with recommendations that are based on the evidence gathered for the enhancement of Physical Education programs across the state.

V. ALGORITHMS

Machine Learning (ML):

The primary application of Machine Learning gives insights from the large volume of data including physical performance metrics of the students, frequency of their participation, and learning outcomes. Supervised and unsupervised models are used to find the connections and differences that eventually lead to improvement prediction. The whole process is made possible by ML that allows designing of class-specific custom training applications based on data-driven decision-making, thus, improving students' skill and fitness in general. Moreover, ML is also beneficial in monitoring the effectiveness of curriculum interventions and policies across different schools.

Random Forest (RF):

The use of the Random Forest algorithm is meant for both classification and prediction in the Physical Education dataset. The algorithm first establishes a number of decision trees based on student fitness data, training attendance, and participation levels, then it combines them to produce accurate predictions through the averaging of the results. Besides determining the infrastructure, teaching quality, and activity type, RF also helps pinpoint students' performance drivers such as the aforementioned factors and others through its tree-based method that reduces the chance of errors, boosts the credibility of predictions, and sheds light on the various parameters influencing physical and academic outcomes.

Support Vector Machine (SVM):

SVM is put to use for posture recognition, movement pattern classification, and grading of students in physical activities. It can differentiate between right and wrong movements with the help of instructor's feedback provided through video or sensor-based analysis of data. One of the major strengths of SVM is its capability to effectively manage and classify complex situations in motion and performance analysis using its power of nonlinear relationships. Therefore, SVM can be acknowledged as a partner in improving the standards of quality of physical training and also through

VI. RESULTS AND DISCUSSION

The evaluation of the Physical Education (PE) policy framework and curriculum in Telangana schools showed both advances and difficulties. The results point out that the PE curriculum of the state is in line with the NEP 2020 guidelines, but the implementation has not been very effective because of poor infrastructure, fewer trained teachers, and varied assessment methods. Schools with excellent facilities and skilled PE teachers reported students' higher engagement, fitness, and cooperation rates. On the other hand, the rural and government schools had limitations in terms of space, equipment, and the number of teachers. Besides, the research also mentioned that the awareness of the policy and the support of the administration have a huge impact on the teaching of the curriculum. In short, the whole thing is that a better monitoring system, frequent teacher training, and upgrading of facilities are necessary for holistic physical development of students in Telangana.

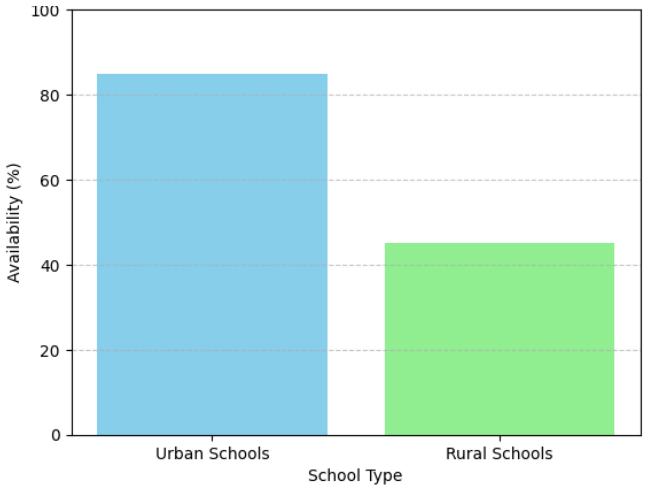

Fig 2:infrastructure availability in telangana school

This graph underscores the fact that urban schools have a remarkably better physical education infrastructure than the rural ones. The limitation of space, absence of sports equipment, and poor maintenance are the major challenges for rural areas that need to be overcome in order to implement the curriculum effectively and have the students participate.

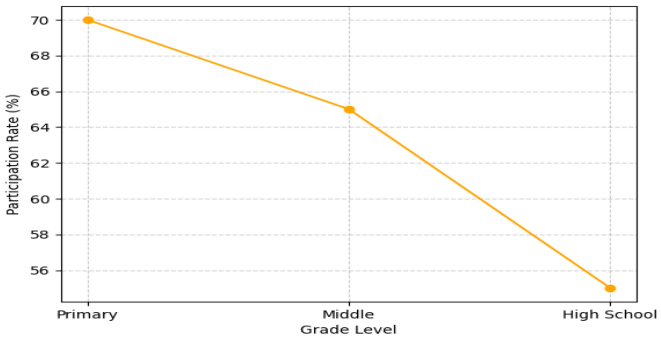

Fig 3:student participation in physical education

The graph shows that student participation in physical activities is inversely related to their grade levels. Academic pressure, exam schedules, and reduced emphasis on sports in higher grades are some of the factors that cause this decline, which in turn stresses the importance of balanced curriculum integration even more.

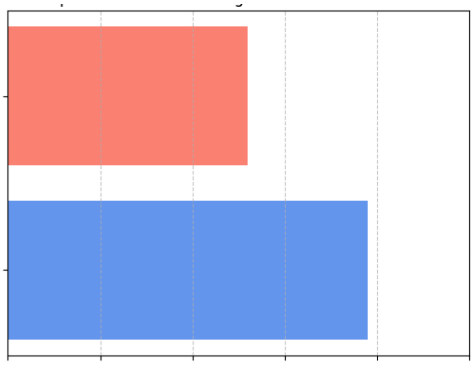

Fig 4:Impact of Teacher Training on Student Performance

This graph shows that schools with professionally trained physical education teachers achieve higher student fitness and engagement scores. Training enhances teaching methods, safety awareness, and student motivation, demonstrating the critical role of teacher expertise in quality PE delivery.

CONCLUSION

The investigation of the Policy Framework and Curriculum Analysis of Physical Education in Telangana Schools suggests that the state has made remarkable strides in conformity with national education reforms such as NEP 2020, but the gap between theory and practice still exists because of disparities in infrastructure, lack of teacher training, and monitoring of the policy being inadequate. The schools equipped with proper infrastructure and professional PE

instructors have more students taking part and better physical fitness conditions. On the other hand, many rural schools face difficulties in effectively carrying out the curriculum. The report calls for the establishment of regular teacher training, better investment in infrastructure, and strong policy assessment mechanisms as the way to go if inclusive and comprehensive physical education is to be achieved. The improving of these aspects would result in healthier, more cooperative, disciplined students - in other words – they would not only support but also contribute to the larger educational and developmental objectives of Telangana's school system.

FUTURE SCOPE

The present study has the potential to influence the future positively by making a new and modern physical education (PE) system more effective across the schools in Telangana. Data-driven monitoring systems that will use digital tools to track each student's fitness, participation, and progress in real-time can be developed as a major focus for future research. With the incorporation of Artificial Intelligence (AI) and Machine Learning (ML), training programs can be customized and performance trends' prediction can be made easier. Also, the cooperation of educational institutions and sports organizations would lead to better infrastructure and equipment, and increase the quality of teacher training. Making the curriculum richer with mental wellness, yoga, and sports for the disabled will guarantee the participation of all. The educational policy makers should consider PE as an essential aspect of evaluation and not just a co-curricular activity. In a word, the unrelenting support for research, technology adoption, and stakeholder engagement will turn out to be the reason for physical education becoming the main contributor to the holistic growth, discipline, and lifelong health of the students of Telangana.

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