

Thematic Analysis of Physical Education in Higher Education Institutions in India

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Abstract

Physical education plays a vital role in higher education by promoting professional competencies, health and well-being, sports performance, and the preparation of skilled human resources for the sports and fitness area. In India, the field has undertaken significant transformation due to the integration of sports sciences, technological advancements, and recent educational reforms. Although these developments have occurred, challenges remain regarding curriculum relevance, infrastructure, faculty competence, research productivity, and graduate employability. Therefore, a comprehensive assessment of physical education in Indian higher education institutions is essential to identify strengths, weaknesses, and opportunities for improvement. This review critically examines the status of physical education in Indian higher education, focusing on five key dimensions: curriculum, faculty skills, infrastructure and laboratory facilities, research and innovation, and student employability. It also explores the implications of the National Education Policy (NEP) 2020 and emerging trends such as multidisciplinary education, sports analytics, digital technologies, and field-academic collaboration. The analysis reveals huge growth in physical education and sports science programs. To address these issues, the research proposes a comprehensive evaluation framework to support evidence-based decision-making and quality enhancement. The findings emphasize the need for curriculum reforms, faculty development, infrastructure improvements, and stronger research to meet the demands of the developing field.

Keywords: Physical education, higher education, curriculum evaluation, sports science, research and innovation, NEP 2020.

Introduction

Higher education is essential for training qualified human resources, advancing scientific knowledge and solving societal problems. In this context, Physical Education has shifted from being only about being physically fit and playing sports to being a broad academic discipline that involves the study of sports science, health promotion, physical activity, exercise prescription, coaching, sport management and research. Physical education programs have come to be recognized as an important factor in health and wellness, giving additional importance to physical education in higher-education institutions globally (World Health Organization, 2022). Physical education in India has seen significant development in the last

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few decades. As well as traditional Physical Education courses, universities and colleges have developed new subject areas like sports biomechanics, exercise physiology, sports psychology, sports nutrition, sports management and sports analytics. This change is in response to the evolution in sports sciences and the need for qualified sports scientists who can meet the demands of modern society for improved sports performance, health promotion, rehabilitation and fitness, and participation in physical activity (Ajithkumar, L et al., 2024).

The sports industry, fitness industry and health-related professions have also grown at a rapid pace, adding even more importance to physical education in higher education. The graduates are no longer expected to have only teaching and coaching skills, but are expected to have scientific reasoning, technological literacy, research skills, leadership skills, and to be multi-disciplinary (L, A., & K, P., 2025). This means that postsecondary institutions need to make sure that PE is both relevant and innovative and meets evolving professional and societal needs. The development of physical education has been further boosted in India due to recent changes in the educational system. In keeping with the National Education Policy (NEP) 2020, which calls for holistic, multidisciplinary and skill-based education, it is important to emphasize that the integration of sports with physical activity into mainstream education is being advocated. The policy acknowledges that sports and physical education are integral parts of the learner's growth and development and that institutions are encouraged to have flexible curricula, interdisciplinary learning opportunities and outcome-based learning practices (Association of Indian Universities, 2021). These reforms have led to opportunities to improve the quality of the physical education programs and, at the same time, have raised the issue of systematic assessment of the effectiveness and quality of physical education.

While a standard step has been made, there are still several challenges concerning physical education in the Indian higher education institutions. Quality of curriculum, lack of good infrastructure, lack of facilities for advanced laboratory, lack of good faculty, lack of funds for research work, and faulty notions regarding employability of graduates are still major concerns. In addition, there is often a difference between institutions in urban and rural areas in the quality of the educational experience and professional preparation. The issues encountered provide a significant question of the preparedness of physical education programmes for meeting modern educational and field demands (K, Parveen et al., 2024).

Student enrolments and degree completion are not the only measures to determine the effectiveness of physical education programmes. Considering curriculum relevance, faculty competence, infrastructure, laboratory facilities, research output and innovation potential, student learning outcomes, and employment opportunities are all essential for a thorough assessment. Assessment of these dimensions is critical to understanding strengths, identifying shortcomings, and supporting evidence-based policy and institutional decision-making. While there have been many studies that have focused on aspects of physical education, a few studies have tried to critically assess the status of physical education in the Indian higher education institutions. The research literature tends to cover individual aspects of sport involvement, infrastructure, teacher preparation, etc., and few studies bring together academic, professional and institutional views. (Kirk, D., 2013; L, A., & Gnanaraj, M. A., 2021).

Thus, the present paper aims to assess physical education in higher education

institutions in India by critically analysing the curriculum structures, faculty competencies, infrastructure facilities and laboratories, research and innovation, and employability of the graduates (L, A., et al 2022). The study also investigates new possibilities that are linked to educational reform, new technologies, and multicultural learning approaches. The paper aims to offer a holistic framework for assessing and evaluating the quality of physical education and sports development in India and to facilitate continued debate on how to enhance the quality of physical education and sport, as well as policy development and the direction of physical education in India (Seliyan, V. B. et al., 2026).

Methods

In the present study, the researchers have conducted qualitative review-based research to critically examine the status of physical education in higher education institutions in India. A narrative review and document analysis of the different aspects of physical education, such as curriculum structure, teacher's skills, infrastructure and laboratory facilities, research and innovation, and the employability of physical education graduates, were conducted. This was deemed appropriate because a detailed synthesis of data from literature, policy and institutional reports was possible. Review-based evaluations differ from empirical studies in that they rely on secondary data to gain a more comprehensive understanding of the strengths, weaknesses, and developmental trends within a discipline by synthesizing data from a range of sources. The study sought to gain a comprehensive picture of the current situation of physical education in Indian higher education and pinpoint the most urgent areas to be addressed and policies to be introduced.

Secondary data from multiple academic and institutional sources were used in the evaluation. The peer-reviewed journal articles, books, conference papers, government publications, policy papers, institutional publications, and official websites of educational and sports organizations were the sources of relevant information. The documents issued by the University Grants Commission (UGC), the Ministry of Education, the Ministry of Youth Affairs and Sports, and other organizations engaged in the field of higher education and sports promotion in India were taken into consideration. Further, reports were analysed on the implementation of educational reform, sports promotion initiatives and quality assurance mechanisms, to gain insight into the wider policy context affecting the development of physical education. Multiple sources of data helped to triangulate data and added to a more balanced and comprehensive assessment. The use of both academic and policy literature enabled the study to consider a range of views on the development, practice and effectiveness of physical education in Higher Education Institutions.

Literature Search Strategy

A systematic literature search was performed to find relevant literature on physical education in higher education. Scholarly articles were retrieved using electronic databases such as Google Scholar, Scopus, Web of Science, ERIC and PubMed. The search strategy included using the keywords and phrases: physical education in India, higher education physical education, sports science education, physical education curriculum, sports infrastructure, faculty development in physical education, sports research in India, graduate employability in physical education, NEP 2020 and physical education. The review was mainly on publications

published from 2015 to 2025 to ensure contemporary relevance and the relevance of the findings. A few seminal studies and foundational policy documents were also incorporated where they were needed for historical and conceptual purposes before this period. Selected articles that were referenced were further reviewed to determine if there were other relevant articles not identified in the initial database searches.

Inclusion and Exclusion Criteria

Criteria were defined for inclusion and exclusion of literature based on the quality and relevance of literature reviewed. The studies included in this paper focused on one of the following areas: physical education, sports sciences, sports pedagogy, curriculum development, faculty competencies, infrastructure, research productivity and employability in higher education environments (Bailey, R et al., 2009). There was also an inclusion of government reports, policy documents, and institutional publications which were directly related to higher education PE in India. Only studies that targeted school-level physical education, programs of recreational sports outside of school, or other health and fitness interventions that were not related to physical education were included. In addition, publications, non-peer-reviewed opinion articles, editorials and sources with insufficient methodological rigour were not considered in the assessment. These criteria were used in the application of the analysis so that the analysis is based on credible and relevant evidence (Bailey, R., 2006; Hardman, K., 2008; K, P. et al., 2026).

A multidimensional approach that emerged from the literature review of previous studies on educational quality assurance and physical education program evaluation was used to guide the evaluation. Five main areas were found to be crucial in the effective and quality of Physical Education in HEIs. The first dimension, curriculum and academic programs, addressed the relevance, comprehensiveness and contemporary applicability of PE curricula. Sports sciences and multidisciplinary learning opportunities, as well as skill-based education and industry/ occupational needs, were given special consideration. The second dimension, faculty competencies and professional development, focused on faculty competencies, expertise, teaching effectiveness, research involvement, and faculty professional development opportunities. The quality of faculty is a key element of effective education and student achievement (K, P. et al 2024).

Assessment of the third dimension, infrastructure and laboratory facilities, was used to determine the effectiveness of sports facilities, gymnasiums, playgrounds, biomechanics laboratory, exercise physiology laboratory, information technology resources, and other facilities required for quality teaching and research. The fourth dimension, research and innovation, took a closer look at research productivity, number of publications, funding opportunities, interdisciplinary collaboration, and the overall impact of the physical education department on research productivity and innovation (L, A et al., 2024). The fifth dimension, Graduate employability and career opportunities, provided an evaluation of how well physical education programs equip students for employment in teaching, coaching, sports management, fitness industries, sports sciences, and related fields. This dimension also considered the acquisition of professional capabilities essential in today's jobs.

Data Analysis

Thematic content analysis was used to analyse the collected literature and documentary evidence. All the relevant documents were initially read thoroughly to familiarise oneself with the text content and to look for any patterns that might emerge. Data for the five evaluation dimensions were gathered and systematically analysed. Similar concepts and findings were then grouped into broader categories and themes. The analysis was directed towards the identification of key strengths, weaknesses, opportunities and threats of physical education in higher education institutions. Diverse data were analysed and integrated to create a meaningful picture of the present situation and problems. This analytical procedure allowed for the identification of common concerns among the institutions, as well as opportunities that arise out of educational reforms, new technologies, and the increasing interest in sports sciences.

Several methods were used to increase the credibility and trustworthiness of the evaluation. Data triangulation was provided using data from a variety of sources such as peer-reviewed research articles, policy documents, government reports, and institutional publications. The use of multiple sources minimized the potential for bias and gave a more complete picture of findings. Moreover, the evaluation framework was developed based on the existing concepts found in the literature of educational evaluation and quality assurance, providing theoretical consistency and conceptual clarity. The study was conducted in a systematic manner to retrieve evidence from various credible sources to offer a balanced and comprehensive evidence-based assessment of physical education in Indian higher education institutions (HEIs).

Results and Discussion

The findings of the review showed that, in the last 20 years, there had been significant changes in the physical education curriculum in higher education institutions in India. While the emphasis of traditional curricula remains mainly on sports participation, teaching methods and coaching, more specialized subjects like sports biomechanics, exercise physiology, sports psychology, sports nutrition, sports medicine, sports management, and research methodology have become more common (Braun, V., & Clarke, V., 2022). This shift is in response to the development of sports sciences around the world and the need for evidence-based practice in the profession (Braun, V., & Clarke, V., 2006).

Despite these good progressions, there are many differences between institutions in terms of curriculum structure and the way it is delivered. Some universities have switched to modern and multidisciplinary courses which follow international standards, and others remain with traditional syllabi where there is only a minor focus on new subjects like sports analytics, artificial intelligence, performance analysis, and digital technologies. Moreover, there is still not a lot of industry input into curriculum design, leading to a gap between academic preparation and job demands. The implementation of the National Education Policy 2020 offers scope for the modernization of curriculum with the introduction of multidisciplinary learning, flexible learning approach, skill-based education, and outcome-based teaching approach. But it's going to take institutional buy-in, curriculum change, and ongoing quality checking to achieve this (Capel, S., & Whitehead, M., 2015; Green, K., 2008).

Faculty Competencies and Professional Development

The quality of education in physical education is essential, and it is teachers who are a key element of this quality. The analysis revealed that Indian universities and colleges have gained qualified faculty members who are related to the sports sciences. The proliferation of doctoral programs and research opportunities has helped to foster academic expertise in the field. But there are still issues of faculty development and specialization. There are still a lack of professionals for higher-level disciplines like biomechanics, exercise physiology, sports analytics and sports technology in many institutions. Further, there is a lack of balance in the opportunities for international collaboration, advanced professional education, and interdisciplinary research within institutions (UNESCO, 2015). The results indicate that it is necessary to have continuous professional development programmes to keep the faculty informed about the latest scientific knowledge, technological innovations and pedagogical methods. Faculty development investments can have a great impact on teaching quality, research output and institutional competitiveness.

Infrastructure and Laboratory Facilities

One of the most significant drivers impacting the quality of physical education programs was identified as infrastructure. The sports facilities, laboratories and technological resources are well equipped and contribute to effective teaching, learning and research practices. The creation of dedicated laboratories for the study of biomechanics, exercise physiology, sports psychology and performance analysis by several leading universities has enhanced educational experiences and production. However, significant differences are found between institutions. Many colleges and universities, especially those in remote and resource-scarce areas, still have poor facilities and equipment, and a lack of laboratory facilities. These shortages limit opportunities for students to have hands-on experiences and conduct scientific investigations. The results show that there is a need to invest in targeted sports infrastructure and development of laboratories. Fair access to good quality facilities is crucial for quality education and scientific progress in physical education. This ability to make contributions to research and innovation. (Casey, A et al., 2017; Creswell, J. W et al., 2018).

The relevance of research and innovation as academic excellence markers has become more significant in higher education. The review illustrated the growth of research publications, doctoral programs, and scientific research in the field of physical education and sports sciences in the country of India (University Grants Commission, 2023). An increased interdisciplinary research interest has enabled cross-disciplinary research between various disciplines such as physiology, biomechanics, psychology, medicine and data science. Although these are positive developments, research output is still largely concentrated amongst a few institutions. Most universities still have issues with research funds, laboratory facilities, publishing aid and international cooperation (Singh, A et al., 2012).

Emerging Opportunities Under NEP 2020

The National Education Policy (2020) has provided great opportunities for enhancing physical education in HEIs. The policy is focused on the idea of a whole-school approach to education, on a multi-disciplinary education, on skill education, and on flexibility in learning

pathways. These reforms are very similar to the development of the body of knowledge of physical education and sports sciences. The incorporation of technology, inter-disciplinary education, and competency-based instruction and assessment could be a facilitating factor in the production of highly skilled practitioners able to respond to issues in the 21st century related to sports, health and the promotion of physical activity. In addition, there are opportunities to improve the institutional support and resource allocation, as sports and physical activity gain more acceptance as an integral part of the education system (Ministry of Education, 2020).

Conclusion

The discipline of physical education in higher education has come a long way from being a subject dominated by activities to one that is a multi-disciplinary academic subject that involves sports sciences, health promotion, research, technology and professional practice. The results of this review show that there was significant development in academic program development, incorporation of scientific knowledge into academic programs, and research engagement, as well as development of a variety of career paths for graduates. The developments convey an increasing awareness of the importance of physical education as a vital part of all-round education, human growth and the promotion of national sport. It found that there are some strengths: diversification of the curriculum, development of specialist sports science courses, increased research and employment opportunities in both education and coaching, fitness, sport management, rehabilitation and recreation sectors. In addition, the introduction of the National Education Policy (NEP) 2020 has presented positive prospects for multidisciplinary learning, curriculum innovation and skill-based learning. However, there are still some areas where significant challenges: infrastructure, lab facilities, faculty expertise, research capacity, technological integration, institutional resources, etc. Issues regarding the modernization of the curriculum and industry connection. Hence, physical education in India must have an evidence-based and multidisciplinary approach with a focus on quality curriculum design, faculty development, research excellence, and technological innovation to sustain its future growth. Additionally, strengthening collaborations among universities, research institutions, sports organizations, and policymakers will be essential for enhancing academic quality and professional competencies in physical education. Future initiatives may emphasize digital learning technologies, artificial intelligence-driven sports analytics, interdisciplinary research, innovation in sports science, and international academic collaborations to align Indian physical education with global standards.

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