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Research Article

Comparative Evaluation of Teaching Practices and Institutional Support of Physical Education in three Universities in Manipur

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ABSTRACT

Quality education in physical education and sports sciences hinges on effective pedagogy, hands-on training, and robust institutional support. In the higher education landscape of North East India, however, disparities in academic delivery and infrastructure persist. This study evaluates and compares teaching quality, pedagogical practices, student engagement, and infrastructural adequacy across three universities in Manipur, Dhanamanjuri University (DMU), Manipur University (MU), and National Sports University (NSU). Employing a cross-sectional and comparative research design, the study purposively selected these universities to reflect varied academic mandates: DMU as a state university with constituent colleges, MU as a central multidisciplinary institution, and NSU as a specialized sports university. A total of 200 respondents, students, faculty, and administrative staff were selected through stratified purposive sampling. Structured questionnaires were administered to capture data across three domains: (i) Teaching Quality and Class Engagement, (ii) Practical Instruction and Audio-Visual Support, and (iii) Teaching Strategies and Institutional Infrastructure. Data were analysed using IBM SPSS with chi-square (χ^2) tests to examine inter-institutional differences at a significance level of $P<0.05$. Results revealed significant disparities across institutions ($P<0.001$). DMU and NSU reported higher student satisfaction in theoretical and practical class sufficiency, instructional clarity, and engagement. NSU further stood out for its practical infrastructure and innovative teaching methods. In contrast, MU lagged in areas such as classroom interaction and demonstration techniques but performed better in conducting seminars and workshops. Internet/Wi-Fi quality remained consistently subpar across all institutions ($P>0.05$). These findings underscore the need for targeted interventions to bridge academic and infrastructural gaps in physical education across three universities in Manipur.

Keywords: Teaching Effectiveness, Practical Instruction, Higher Education, Institutional Support, Manipur Universities

Introduction

Physical education (PE) and sports science play a critical role in fostering the comprehensive development of students, extending far beyond physical fitness to include attributes such as leadership, teamwork, discipline, resilience, and cognitive growth. As a discipline, physical education integrates theoretical understanding with hands-on experience, making the quality of teaching methods, the availability of practical resources, and the strength of institutional support key determinants of educational success. The importance of these factors becomes particularly pronounced in the context of higher education, where structured pedagogy and well-facilitated training environments are essential to producing qualified professionals in physical education and sports. In India, and more acutely in the North East region, the landscape of higher education continues to grapple with systemic challenges, including geographic isolation, limited policy prioritization, uneven infrastructure, and insufficient faculty development. These obstacles often impede the delivery of quality education, particularly in specialized domains such as physical education that demand not just academic instruction but also functional sports facilities, competent mentoring, and modern pedagogical tools. North

East India's diverse demographic and cultural contexts further complicate educational access and uniformity, making it imperative to evaluate the effectiveness of teaching and institutional support systems from a region-specific perspective. Manipur, one of the key states in this region, houses three major public universities that offer academic programs in physical education: Dhanamanjuri University (DMU), Manipur University (MU), and the National Sports University (NSU). These institutions, while sharing a common commitment to physical education, operate under different institutional mandates and academic frameworks. DMU is a relatively new state university formed from a cluster of constituent colleges and is still in the process of academic consolidation. MU, a well-established central university, offers a multidisciplinary curriculum with a traditional administrative model. In contrast, NSU is a specialized national-level institution exclusively dedicated to sports science and physical education, with a clear mandate to produce elite sports professionals and promote high-performance athletics.

Despite their differing missions, these universities are united by the need to deliver effective physical education programs. However, disparities in resources, faculty training, administrative efficiency, and student engagement often lead to significant variations in the quality of education delivered. Concerns such as inadequate practical instruction, underutilization of modern teaching methods, lack of specialized coaching, and limited institutional support mechanisms have been noted in various educational audits and student feedback, raising questions about the overall consistency and effectiveness of physical education delivery in the state. This study seeks to undertake a comparative evaluation of the teaching practices, institutional infrastructure, and support systems within DMU, MU, and NSU to assess how these factors influence the learning experiences of students in physical education programs. By focusing on dimensions such as syllabus coverage, class engagement, demonstration methods, practical facilities, audio-visual support, and administrative responsiveness, the research aims to provide a nuanced understanding of the academic environments within these institutions. The ultimate goal is to identify both best practices and critical gaps, thereby contributing to informed policy decisions, institutional reforms, and improved pedagogical outcomes in physical education across Manipur's public universities.

Review of Literatures

The field of physical education (PE) and sports sciences has increasingly emphasized the need for student-centered, experiential learning models that combine theory with hands-on application. Scholars like Choudhary and Singh (2020) argue that demonstration-based instruction, structured feedback, and sufficient time for rest and skill repetition are crucial to developing motor proficiency and conceptual understanding. Building on this, Verma (2018) highlights the role of audio-visual (AV) aids and interdisciplinary approaches including seminars and simulations in enhancing student satisfaction and improving learning outcomes in physical education programs. At the global level, several studies have shown a direct correlation between student engagement and the quality of teaching strategies. For instance, Aquilina (2013) found that teacher approachability, motivational climate, and inclusivity significantly boost student participation and long-term commitment to sports education. Casey and Dyson (2009) similarly advocate for pedagogical models that are interactive, inclusive, and context-specific, allowing students to take ownership of their learning process. Pill (2014) further recommends game-based learning and heuristic instruction as alternatives to rigid instructional routines, especially in diverse classroom environments.

In the Indian context, however, the implementation of these global best practices remains uneven. Rathod and Kulkarni (2019) emphasize that despite updated curricula and revised national education policies, there exists a significant implementation lag, particularly in resource-constrained institutions. Patel and Joshi (2020) add that many public universities still lack functional sports infrastructure, adequate faculty development programs, and consistent practical training schedules issues that directly affect learning quality. Specific to North East India, scholars such as Sharma and Bhuyan (2021) and Devi and Singh (2022) note persistent infrastructural deficits, faculty shortages, and administrative gaps that hinder effective delivery of physical education. Goswami (2021) asserts that while universities in this region have made strides in establishing departments and courses in physical education, they often fall short in integrating digital tools, organizing practical workshops, or offering specialized coaching. Singh and Thokchom (2017) further critique the lack of regional-level comparative studies that examine how institutional mandates shape pedagogical experiences in varied academic settings. From a pedagogical standpoint, the significance of differentiated teaching strategies has also received scholarly attention. Das and Chatterjee (2016) argue that a "one-size-fits-all" approach cannot meet the diverse learning needs of students in sports science. Instead, they propose the use of modular teaching plans, periodic student evaluations, and scenario-based learning for better knowledge retention. Likewise, Mukherjee and Bhowmik (2015) emphasize that educational success in physical education hinges on the alignment between teaching practices and student expectations, which varies significantly across institutions and regions. Despite this growing body of literature, there is still a dearth of comparative institutional studies focusing on how public universities with different academic orientations such as central, state, and specialized institutions perform with respect to teaching quality, student engagement, and infrastructure. Rao (2020) calls for more micro-level analyses that investigate disparities in practical instruction, AV integration, and teacher availability across institutions within the

same geographic region. This study contributes to the existing scholarship by providing a comparative analysis of teaching practices, institutional support systems, and infrastructural provisions in three public universities in Manipur: Dhanamanjuri University (DMU), Manipur University (MU), and the National Sports University (NSU). It assesses parameters such as syllabus coverage, AV usage, demonstration frequency, inclusivity, and access to sports-specific coaching. Through a mixed-methods approach combining statistical evaluation and thematic interpretation, this research offers a nuanced understanding of how pedagogical and institutional factors collectively shape student experiences in physical education. By filling the existing research gap, it aims to inform policy design, institutional planning, and academic reform initiatives tailored to the unique needs of North East India's higher education landscape.

Objectives

The present study is to assess and compare the quality of teaching practices and institutional support mechanisms for physical education across three public universities in Manipur. Specifically it is:

1. To evaluate student perceptions of syllabus coverage, class engagement, and clarity of theoretical instruction across the universities.
2. To assess the adequacy and regularity of practical classes, demonstration methods, rest periods, and use of AV aids in physical education pedagogy.
3. To analyse the teaching strategies such as error correction, heuristic methods, and task decomposition as implemented across the institutions.
4. To examine infrastructural aspects, including sports gear quality, internet connectivity, and availability of specialized coaching staff.
5. To identify institutional strengths and shortcomings with a view to recommending targeted improvements in pedagogical and infrastructural standards.

Materials and Methods

This study adopted a comparative and cross-sectional research design to examine variations in the delivery of physical education across three public universities in Manipur—Dhanamanjuri University (DMU), Manipur University (MU), and National Sports University (NSU). These institutions were purposively selected to capture a diverse institutional profile within the region. DMU, a newly formed state university with constituent colleges, represents Manipur's state-level educational infrastructure. MU, a multidisciplinary central university, embodies a more conventional academic setting, while NSU, India's only dedicated central university for sports education, reflects a specialized model focusing on elite athletic training. This strategic selection allowed for a contextualized understanding of how institutional mandates shape educational delivery in the field of physical education. The research involved a sample of 200 respondents, including students, faculty members, and administrative staff, drawn through stratified purposive sampling to ensure proportional representation across institutional levels and academic departments. Data collection was carried out using a structured questionnaire that focused on three thematic domains: (i) Teaching Quality and Class Engagement, (ii) Practical Instruction and Audio-Visual Support, and (iii) Teaching Strategies and Institutional Infrastructure. The questionnaire employed categorical response scales (such as "Never," "Rarely," "Often," and "Always") to capture nuanced perceptions. Data were analysed using IBM SPSS (Version 26), with the Chi-square (χ^2) test serving as the principal statistical tool to assess inter-institutional differences. A significance threshold of $P<0.05$ was applied. The results were then thematically interpreted to uncover trends in teaching effectiveness, infrastructural adequacy, and institutional responsiveness. The analysis emphasized how structural characteristics, such as university type and resource availability, impacted the pedagogical experience and student satisfaction, thereby offering a robust basis for educational planning and reform within Manipur's higher education landscape.

Analysis and Findings

The comparative analysis of teaching quality, class engagement, and practical instruction across Dhanamanjuri University (DMU), Manipur University (MU), and National Sports University (NSU) reveals substantial and statistically significant disparities across several key indicators. The evaluation of theory-based education (Table 1) shows that while DMU (90%) and MU (78.6%) provide consistent syllabus coverage, NSU lags with more variability (63.3% "often" and 26.7% "rarely"), reflecting inconsistent curriculum delivery ($\chi^2=22.008$, df=4, $P<0.05$). In terms of clarity and comprehension, DMU (94.3%) and NSU (88.3%) students largely found theory classes "easy," whereas MU showed greater difficulty, only 60% found it "easy" and 5.7% "difficult" ($\chi^2=31.186$, df=4, $P<0.001$), indicating uneven teaching effectiveness. Engagement levels further demonstrate NSU's relative strength, with 41.7% finding classes "very interesting" versus just 8.6% at MU, where 20% found them "boring" ($\chi^2=41.342$, df=4, $P<0.001$). On teacher approachability and support, MU had the highest rating for "always" accessible faculty (71.4%), though teacher availability was alarmingly low with only 14.3% reporting "always" available and 18.6% saying

"rarely" or "never" (χ^2=114.169, df=6, P<0.001). In contrast, DMU showed 100% "often" available teachers, and NSU had 70% report "always" availability, underscoring institutional disparities in academic support. MU scored highly on inclusivity, with 75.7% stating they "always" received equal opportunities (χ^2=20.744, df=4, P<0.001), but the same could not be said for clarity, access, and engagement. In sum, DMU leads in accessibility and syllabus coverage; NSU in engagement and clarity; and MU in inclusivity but falls short in many teaching metrics highlighting the urgent need for policy-level interventions to harmonize academic standards across institutions. The findings related to practical instruction and pedagogical resources (Table 2) further reveal deep institutional contrasts in the quality of experiential learning. DMU performs consistently well, with 91.4% of students affirming the sufficiency of practical classes, 87.1% rating the equipment "good," and 100% reporting they "always" receive rest time post-practicals. MU shows substantial shortcomings 32.9% of students say practical classes are "rarely" held, 25.7% rate equipment as only "fair," and 20% report rare usage of demonstration methods (χ^2 values for all >70.0, P<0.001). NSU exhibits a mixed profile: while 35% of students report practicals are "always" held and 25% rate equipment "excellent," it struggles with rest time, where only 8.3% of students say they "always" get rest, and 21.7% report "rarely" (χ^2=160.302, df=4, P<0.001). In the use of audio-visual (AV) aids, DMU and NSU again outpace MU. DMU had an even 50% split between "often" and "always" using AV, while 51.4% of MU students reported "rare" usage (χ^2=96.411, df=4, P<0.001). Despite this, all three institutions report high AV effectiveness, with over 80% of students across the board describing them as "very effective" (χ^2=4.050, df=2, P>0.05), indicating a shared appreciation for multimedia tools where they are utilized. Table 3 further uncovers imbalances in teaching strategies and institutional provisions. DMU and NSU fully implement advanced methods like demonstration, error correction, and heuristic learning (χ^2=200.000, df=2, P<0.001), while MU lacks them entirely or applies them inconsistently. MU compensates with strong seminar and workshop organization (100% in both), unlike DMU and NSU, which report only 50% or none. NSU is the only institution with differentiated coaches for various sports, aligning with its specialized mandate (χ^2=200.000, P<0.001). Infrastructure quality, particularly sports gear and Wi-Fi, varies significantly. DMU fares best in gear quality, while MU and NSU lag behind, though internet quality is uniformly average across institutions with no statistically significant variation (χ^2=0.663, df=4, P>0.05). These findings collectively underscore the uneven academic landscape across Manipur's public universities. While DMU leads in theoretical clarity and resource support, NSU shines in innovation and sports-specific delivery, and MU maintains a strong hold on co-curricular structure but needs critical improvement in instructional methods and digital integration. These disparities call for targeted improvements in pedagogical training, infrastructure upgrades, and the development of a common framework for instructional quality and student support across higher education institutions in the region.

Discussion

The findings of this study reaffirm the growing academic consensus that student-centered and experiential pedagogies are essential for effective physical education (PE). Scholars like Choudhary and Singh (2020) emphasize the pedagogical value of demonstration-based learning, rest intervals, and structured feedback for building both conceptual clarity and physical competencies. The consistent implementation of these strategies at Dhanamanjuri University (DMU) and National Sports University (NSU) but not at Manipur University (MU) echoes the assertion by Verma (2018) that the integration of modern tools such as AV aids, simulations, and interdisciplinary seminars leads to improved student satisfaction and learning outcomes. This aligns with international research, such as Aquilina (2013), who links teacher approachability, motivational environments, and inclusive teaching with greater student participation and long-term commitment in sports education. The higher engagement levels reported at NSU and DMU support this view, especially when contrasted with MU's comparatively low class engagement and high rates of student-reported boredom. Casey and Dyson (2009) similarly advocate for interactive, context-specific learning models qualities that NSU appears to demonstrate more consistently than MU, which still relies on outdated and less adaptive instructional approaches. Pill (2014) has recommended game-based and heuristic learning in place of rigid instruction. The application of such methods at NSU and DMU, particularly in the domains of error correction and task decomposition, shows the positive influence of diversified teaching strategies. Conversely, MU's poor adoption of these techniques highlights a pedagogical gap, confirming Das and Chatterjee's (2016) argument that a "one-size-fits-all" approach is inadequate for the dynamic needs of sports education. Despite evolving national education policies, the Indian context is still plagued by implementation lags, especially in resource-constrained institutions. Rathod and Kulkarni (2019) note this gap between policy and practice, a gap clearly visible at MU, where faculty shortages and irregular practical classes persist. Patel and Joshi (2020) add that deficiencies in infrastructure, faculty development, and training frequency limit learning quality observations echoed in MU's weak scores in equipment adequacy and AV usage.

The situation in North East India, as discussed by Sharma and Bhuyan (2021) and Devi and Singh (2022), reveals persistent infrastructural bottlenecks, teacher unavailability, and uneven administrative commitment to PE programs. This is evident in the poor Wi-Fi quality and inconsistent coaching access across the three universities, and especially in MU's limited use of AV tools and near absence of demonstration-based learning. Goswami (2021) notes that despite curricular advancements, regional institutions struggle to

integrate digital tools and specialized instruction, precisely the issues this study identifies in MU. Singh and Thokchom (2017) have critiqued the lack of comparative institutional analysis within North East India. This study addresses that gap by comparing three distinct types of institutions central (MU), state (DMU), and specialized (NSU) across teaching quality, infrastructure, and engagement. Rao (2020) calls for more micro-level assessments within a single region to identify disparities in practical learning, AV integration, and pedagogical delivery. This study responds directly to that call, highlighting how institutional mandates like NSU's specialization in sports shape differentiated educational outcomes. Furthermore, Mukherjee and Bhowmik (2015) argue that successful physical education hinges on alignment between student expectations and institutional delivery. DMU's consistency in syllabus coverage, equipment adequacy, and AV integration appears to meet these expectations well. NSU excels in fostering innovation and coaching quality but struggles with post-practical care and gear adequacy. MU, while stronger in seminar organization and inclusivity, lags in nearly all other pedagogical indicators.

Summary and Conclusion

The present study highlights the multifaceted challenges and strengths of physical education delivery across three key public universities in Manipur such as Dhanamanjuri University (DMU), Manipur University (MU), and National Sports University (NSU). Through a comparative analysis of teaching practices, student engagement, institutional infrastructure, and pedagogical strategies, it is evident that substantial disparities exist in how physical education is conceptualized and implemented across these institutions. DMU demonstrates consistency in syllabus coverage, teacher availability, and integration of audio-visual aids, making it a relatively strong performer in both theoretical and practical components of physical education. Its structured and student-centered approach fosters a more accessible and engaging academic environment. NSU, as a specialized sports institution, excels in innovative teaching methods, heuristic instruction, and the provision of sport-specific coaching. The university also shows commendable efforts in maintaining high levels of class engagement and clarity of instruction. However, it faces challenges in managing rest time post-practical sessions and maintaining uniform quality in sports gear and infrastructure. On the other hand, MU, despite being a central university with better inclusivity and frequent seminar and workshop organization, underperforms in key teaching parameters such as demonstration methods, AV aid usage, and regularity of practical classes. It also suffers from poor teacher availability, which hampers academic support and student satisfaction. These institutional differences are statistically significant and highlight the urgent need for systemic reforms to bridge performance gaps. To sum up, the study emphasizes that the quality of physical education is not solely dependent on curricular design but also heavily influenced by institutional commitment, faculty engagement, infrastructural adequacy, and pedagogical innovation. To promote equitable and effective physical education across Manipur's universities, policy interventions should focus on faculty training, infrastructure development, integration of modern teaching aids, and standardized pedagogical practices. Addressing these gaps will not only improve academic outcomes but also contribute to the broader goal of nurturing skilled, motivated, and holistically developed professionals in the field of physical education and sports sciences.

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Table 1: Evaluation of Teaching Quality and Class Engagement (in %)

Indicator	Response Options	Dhanamanjuri University	Manipur University	National Sports University	χ^2, df, P-value
Theory classes sufficient to cover syllabus	Never / Rarely / Often / Always	0.0 / 10.0 / 90.0 / 0.0	0.0 / 21.4 / 78.6 / 0.0	5.0 / 26.7 / 63.3 / 5.0	22.008, 4, $P<0.05$
Ease of understanding theory classes	Very Difficult / Difficult / Easy / Very Easy	0.0 / 0.0 / 94.3 / 5.7	0.0 / 5.7 / 60.0 / 34.3	0.0 / 0.0 / 88.3 / 11.7	31.186, 4, $P<0.001$
Class engagement level	Very Boring / Boring / Interesting / Very Interesting	0.0 / 0.0 / 71.4 / 28.6	0.0 / 20.0 / 71.4 / 8.6	0.0 / 0.0 / 58.3 / 41.7	41.342, 4, $P<0.001$
Teachers approachable and supportive	Never / Rarely / Often / Always	0.0 / 0.0 / 48.6 / 51.4	0.0 / 0.0 / 28.6 / 71.4	0.0 / 8.3 / 51.7 / 40.0	49.836, 4, $P<0.001$
Equal learning opportunities for students	Never / Rarely / Often / Always	0.0 / 0.0 / 60.0 / 40.0	0.0 / 0.0 / 24.3 / 75.7	0.0 / 1.7 / 43.3 / 55.0	20.744, 4, $P<0.001$
Teacher availability when needed	Never / Rarely / Often / Always	0.0 / 0.0 / 100.0 / 0.0	4.3 / 14.3 / 67.1 / 14.3	0.0 / 0.0 / 30.0 / 70.0	114.169, 6, $P<0.001$

Table 2: Practical Instruction, Methods, and Audio-Visual Support (in %)

Indicator	Response Options	Dhanamanjuri University	Manipur University	National Sports University	χ^2, df, P-value
Sufficiency of practical classes	Never / Rarely / Often / Always	0.0 / 8.6 / 91.4 / 0.0	0.0 / 32.9 / 67.1 / 0.0	0.0 / 8.3 / 56.7 / 35.0	70.741, 4, $P<0.001$
Adequacy of practical equipment	Poor / Fair / Good / Excellent	0.0 / 12.9 / 87.1 / 0.0	2.9 / 25.7 / 68.6 / 2.9	0.0 / 0.0 / 75.0 / 25.0	48.974, 6, $P<0.001$
Use of demonstration methods	Never / Rarely / Often / Always	0.0 / 0.0 / 77.1 / 22.9	0.0 / 20.0 / 71.4 / 8.6	0.0 / 0.0 / 61.7 / 38.3	39.836, 4, $P<0.001$
Rest time after practical sessions	Never / Rarely / Often / Always	0.0 / 0.0 / 0.0 / 100.0	0.0 / 0.0 / 5.7 / 94.3	0.0 / 21.7 / 70.0 / 8.3	160.302, 4, $P<0.001$
Frequency of audio-visual aids	Never / Rarely / Often / Always	0.0 / 0.0 / 50.0 / 50.0	0.0 / 51.4 / 48.6 / 0.0	0.0 / 3.3 / 68.3 / 28.3	96.411, 4, $P<0.001$
Effectiveness of AV aids	Very Ineffective / Ineffective / Effective / Very Effective	0.0 / 0.0 / 12.9 / 87.1	0.0 / 0.0 / 18.6 / 81.4	0.0 / 0.0 / 6.7 / 93.3	4.050, 2, $P>0.05$

Table 3: Teaching Strategies, Institutional Activities, and Infrastructure (in %)

Indicator	Response Options	Dhanamanjuri University	Manipur University	National Sports University	χ^2, df, P-value
Teaching Method: Demonstration	Yes / No	100.0 / 0.0	0.0 / 100.0	100.0 / 0.0	200.000, 2, $P<0.001$
Teaching Method: Error Correction	Yes / No	100.0 / 0.0	0.0 / 100.0	100.0 / 0.0	200.000, 2, $P<0.001$
Teaching Method: Decomposition	Yes / No	100.0 / 0.0	50.0 / 50.0	50.0 / 50.0	200.000, 2, $P<0.001$
Teaching Method: Scenario	Yes / No	100.0 / 0.0	100.0 / 0.0	50.0 / 50.0	82.353, 2, $P<0.001$
Teaching Method: Heuristic	Yes / No	100.0 / 0.0	50.0 / 50.0	100.0 / 0.0	82.353, 2, $P<0.001$
Seminars organized regularly	Yes / No	50.0 / 50.0	100.0 / 0.0	50.0 / 50.0	51.852, 2, $P<0.001$
Workshops organized regularly	Yes / No	0.0 / 100.0	100.0 / 0.0	0.0 / 100.0	200.000, 2, $P<0.001$
Different coaches for different sports	Yes / No	0.0 / 100.0	0.0 / 100.0	100.0 / 0.0	200.000, 2, $P<0.001$
Quality of sports gear and uniform	Poor / Average / Good / Excellent	0.0 / 40.0 / 60.0 / 0.0	25.7 / 74.3 / 0.0 / 0.0	0.0 / 86.7 / 13.3 / 0.0	100.276, 4, $P<0.001$
Internet/Wi-Fi quality	Poor / Average / Good / Excellent	27.1 / 72.9 / 0.0 / 0.0	27.1 / 72.9 / 0.0 / 0.0	21.7 / 78.3 / 0.0 / 0.0	0.663, 4, $P>0.05$