

A Comparative Study Of Traditional Versus Modern Coaching Techniques in Indian Hockey

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Abstract: Field hockey has long been an important part of Indian sports culture. From 1928 to 1980, India dominated the Olympics by employing traditional coaching methods that placed a strong emphasis on discipline, practice, and one-on-one mentoring. These methods produced outstanding sportsmen like Dhyan Chand and brought about years of success. However, India declined and even missed out on the 2008 Beijing Olympics as a result of its inability to stay up with new strategies and technologies. In order to determine how coaching techniques impact player development, team spirit, and performance on the international scene, this study contrasts traditional and modern coaching methods in Indian hockey. The study integrates several techniques, including historical review, statistics, and case studies, using historical records, performance data, and research. The results show that while traditional coaching helped players develop their skills and discipline, it was insufficient to meet the mental and tactical demands of contemporary hockey. However, contemporary coaching that incorporates sports science, video analysis, nutrition, and mental conditioning was primarily responsible for India's recent comeback, which featured Olympic medals in 2020 and 2024 as well as improved world rankings. However, especially at the local level, values like fortitude and one-on-one tutoring remain essential. The study concludes that combining the best aspects of both traditional

and modern coaching is the best course of action for Indian hockey's future success.

Keywords: Sports Science, Player Development, Indian Hockey, Modern Coaching, Traditional Coaching, Olympic Performance.

1.INTRODUCTION

Background

One of India's most popular games for a long time, hockey is strongly associated with the nation's sporting identity. Hockey was first played during the colonial era, and from the 1920s until the 1970s, India dominated the Olympics, displaying exceptional talent and fostering a sense of national pride. Traditional coaching techniques that prioritised self-discipline, skill repetition, and individual counselling served as the foundation for this achievement. This method was used by trainers like Sardar Baldev Singh and legends like Dhyan Chand, who produced technically proficient athletes who excelled on a global scale. But as hockey evolved globally, India's performance drastically deteriorated. The men's hockey team did not qualify for the 2008 Beijing Games and did not win any Olympic medals between the 1980s and the 2010s. This decline is attributed to a number of factors, such as difficulties with artificial turf, changing tactical requirements, and continued use of antiquated training techniques. The decrease brought to light the shortcomings of conventional methods in a time when preparation techniques were increasingly expected to be scientific and grounded in evidence.

Traditional and contemporary coaching methods differ significantly. Traditional approaches, which

are popular in South Asia and India, are frequently coach-centered and emphasise obedience, athleticism, and repetitious drills. Although traditional coaching produced technically proficient athletes, it frequently failed to foster player independence, mental toughness, and inventive approaches. More emphasis is placed on problem-solving, tactical thinking, and maintaining player engagement in modern approaches. For instance, European hockey teams have an advantage over many South Asian teams because they place a high value on social support, mental preparedness, and confidence in addition to physical training. There is a noticeable change from the past to the present with this combination of sports science, technology, and instructional strategies.

Rationale of the Study

The traditional coaching beliefs that underpinned India's hockey success in the past have given way to evidence-based strategies that meet international standards. By contrasting these two strategies, we can identify their advantages and disadvantages and determine how combining them could maintain India's competitiveness over time. This study intends to clarify how hockey coaching has changed in India and what it means for upcoming regulations, player development, and training by examining both conventional wisdom and contemporary science.

Objectives of the Study

- 1) To explore the key features of traditional coaching in Indian hockey.
- 2) To examine modern scientific coaching techniques and how effective they are.
- 3) To compare how traditional and modern coaching affect player performance, team success, and international standing.
- 4) To propose a coaching model that blends traditional and modern methods for lasting success in Indian hockey.

Research Questions

- 1) What are the main elements of traditional coaching in Indian hockey, and how did they help achieve past success?
- 2) How have modern scientific methods influenced recent results?
- 3) What differences are there in player growth, team unity, and international competitiveness between the two approaches?
- 4) Can a mix of traditional and modern techniques create a sustainable future for Indian hockey?

2. LITERATURE REVIEW

Asghar, E. (2011) compared German and Pakistani hockey players in their skill development period (12–18 years) with the goal of identifying multifaceted performance traits that could be used to forecast future elite hockey players. In order to determine the differences in psychological, physical, and social profiles and their potential effects on the players' performance on two occasions, separated by a year, a total of 271 participants (127 German and 144 Pakistani) participated in this comparative study. The average age of Pakistani players was 16.3 years, whereas that of German players was 14.3 years. Players from a variety of clubs and institutions in both nations provided the data. Since hockey is a popular game in the region and South Asian cultures are comparable, the researcher later expanded the study to include Bangladesh, India, and Sri Lanka in order to boost the number of participants. This update will strengthen the research to determine the true disparities between South Asian and European performance. A total of 227 athletes participated in the study: 41 Indian, 40 Bengali, 44 Sri Lankan, 52 Pakistani, and 50 German. The average age was 14.5 for Indian athletes, 15.3 for Sri Lankans, 15.7 for Bangladeshis, 16.9 for Pakistanis, and 15.5 for German athletes. The variables were measured using the usual sport questionnaires in both

German and English, and SPSS version 17 was used to analyse the data. To determine whether the young players differed from one another, the following factors were tested: Sports goal orientation, overall athletic ability and attractiveness, perceived physical self-concept, anxiety associated to competition, coping mechanisms, dedication to sports, parental support, coach conduct, motivating environment, and self-efficacy in sports. According to the study, the players from the two nations had quite different social, psychological, and physical characteristics. In terms of motivation, perceived physical self-concept, self-confidence, and dedication to the activity, German athletes scored higher. They were also better able to deal with anxiety and situation-related issues. In contrast to predictions, Pakistani players reported a higher prevalence of coping mechanisms. They were more gregarious and had the full support of their families, peers, and coaches, who can boost the motivating climate to improve performance level. The results' causes are examined in relation to the two groups' varying environmental conditions and competing objectives.

Nathan, S. (2017) According to his research, a tactical and player-centered pedagogical approach still takes a backseat in hockey coaching in Malaysia and India, which favours a traditional, coach-centered approach to mastering technical skills in terms of game play parameters, fitness, intensity, and load training. The Teaching Games for Understanding (TGfU) paradigm, on the other hand, provides tactical-cognitive training and is becoming well-known throughout the world for its capacity to generate intelligent players through a problem-solving strategy in game play. Thus, the quasi-experimental study's goal was to find out how TGfU affected the game play characteristics of adjust and cover in 5 vs. 5 small-sided game play and game play intensity as measured by heart rate (HR) at various points during game play in comparison to skill mastery instruction, also known as Skill Drill Technical (SDT), among elite junior hockey players from Malaysia and India. Using simple random

sampling, a total of 60 players with an average age of 15 ± 1.03 were chosen from both of the study's participating countries. They were then divided equally into groups, with 15 players in each group for TGfU and SDT in Malaysia and India. The ANOVA and ANCOVA methods were used to examine the collected data. The results showed that following the intervention, there were no appreciable variations in the adjustment of 5 vs. 5 game play between TGfU and SDT in Malaysia and India. When comparing the TGfU model to SDT, Malaysian players' cover significantly improved. After the intervention, however, there was no discernible difference between these two models among the Indian players. HR was greater via TGfU, and there was a notable difference between these two models in terms of warm-up HR between the two countries. Indian players with TGfU showed a greater and significant difference in HR immediately following the 5 vs. 5 game play intervention and HR after three minutes of recuperation when compared to SDT. Although TGfU demonstrated a greater HR intensity, the results showed no discernible difference between these two forms of instruction among Malaysians. As a result, these results confirmed that TGfU is a helpful strategy for increasing cardiac output and intensity during gameplay. In conclusion, future studies should establish a connection between game performance and physiological markers in order to make TGfU more applicable to the coaching environment. The obstacles of tradition and cultural background that could impede TGfU's progress should be surmountable.

Krishnan, L. R. K. (2020) said in his research that although hockey has been played in various forms from ancient times, the British brought it to India. The game became well-liked by army soldiers and subsequently by other clubs and public sector organisations. India became the dominant force in the Olympic arena and held that position till the dominant European countries exploited the sport. For a variety of reasons, India has not fully adapted to the changes in the ecosystem and has not recovered from them. The case study goes into

detail about the performance of the Indian squad in the international arena and the resulting fallout. It included a thorough examination of the different causes of the performance decline as well as potential fixes. The case study's drawback was that, aside from a number of factors that have affected the performance of the Indian team, such as playing conditions and umpiring errors, no tournament-match-wise analysis had been conducted.

Bhattacharya (2024) Explained that Some of the history of Indian field hockey can be found in the little-known tale of the first predominantly tribal team to participate in organized field hockey on the Indian subcontinent. With players selected from the marginalized tribal population of the Chota Nagpur plateau under the province of Bengal, the Society for the Propagation of the Gospel (SPG) Mission, Ranchi, made its debut in the first-ever Beighton Cup in Calcutta, which is arguably the oldest field hockey tournament in the world. Despite losing at the start of the team's adventure, SPG Mission won the competition five times over the following thirteen years. With the aid of new evidence uncovered from recent newspaper accounts, government reports, and books on a range of topics, from church histories and player autobiographies to ethnographies of Indian tribes, the team's development over the first three years of the journey—from debut to the first title—is examined here. The goal is to examine the diversity present in Indian hockey in the 1890s, which eventually resulted in subcontinental teams experiencing unheard-of success on the global scene in the 20th century, using Ranchi Mission and its rivals as a window.

3. Methodology

Research Design

This study examined the distinctions between traditional and contemporary coaching approaches in Indian hockey using a comparative and descriptive research style. This design was selected since the objective was to assess the effectiveness of each strategy in enhancing player performance, team outcomes, and global

competitiveness in addition to describing each technique. The study provides a comprehensive understanding of how coaching practices have evolved and impacted Indian hockey by integrating historical data, performance metrics, and professional perspectives.

Research Approach

A mixed-methods approach was used, blending qualitative insights with quantitative data:

- **Qualitative:** Analysis of archival materials, interviews with coaches and players, and case studies.
- **Quantitative:** Review of performance stats like Olympic medal counts, world rankings, and physiological data from studies.

This approach helped capture both the historical and cultural background of Indian hockey as well as the measurable results of different coaching styles.

Sources of Data

Data came from three main sources:

1) Archival and Historical Records

- Olympic records (1928–2024) from the International Hockey Federation (FIH).
- Performance statistics from major tournaments such as World Cups and Asian Games.
- Biographical and institutional accounts of coaches.

2) Published Research and Literature

- Comparative studies on European vs. South Asian hockey talent profiles.
- TGfU vs. skill-drill technical approaches.
- The historical decline of Indian hockey.

3) Secondary Performance Data

- FIH world rankings (2003–2024).

- Heart rate and ball-control metrics from experimental coaching interventions.
- Reports on national coaching programs from the Sports Authority of India and Hockey India.

Method of Sampling

The study used purposive sampling because it relied on secondary data. Datasets and sources were chosen according to how well they met the goals:

- The period 1928–2024 encompasses both the time of conventional dominance and the contemporary renaissance.
- Geographic Scope: Europe and Asia are mentioned in comparison, but India is the main focus.
- Participants: Through case studies, published interviews, and recorded experimental trials, coaches and athletes were indirectly represented.

Techniques for collecting data

- **Documentary Analysis:** Examined published case studies, biographies, and government reports.
- **Performance Metrics:** Statistics taken from Olympic archives and official FIH records.
- **Method of Comparative Case Study:** Analysis of coaching approaches and results.

Data Analysis

The analysis followed a comparative framework structured around the study's research objectives:

- 1) Identification of key elements of traditional coaching.
- 2) Determining the essential components of modern coaching.
- 3) Charting performance results in relation to coaching techniques.

- 4) A comparison between the development of Indian hockey and global standards.

Analytical Tools:

- Descriptive statistics for performance indicators.
- Qualitative sources thematically coded.
- Triangulation, which involved cross-checking results from several sources, ensured validity.

Reliability and Validity

To improve legitimacy, official records, peer-reviewed studies, and historical accounts were all consulted. Reliability was increased by using consistent datasets and referencing widely used articles.

Ethical Considerations

There were no direct ethical hazards to participants because the study mostly employed secondary data. However, academic integrity was maintained by properly citing all sources. Quotations, case studies, and performance data were all credited to their original authors and institutions.

4. Results

Performance Analysis: Traditional Era vs Modern Era

Olympic Performance Metrics

Looking at Indian hockey's Olympic history, we can see clear phases linked to different coaching styles:

Traditional Era (1928-1980; International Hockey Federation, 2024)

- **Olympic Success Rate:** 92% (11 medals in 12 Olympics)
- **Gold Medals:** 8 (a record still unmatched)
- **Medal Consistency:** 41 years of winning medals in a row

Decline Period (1984-2016)

- **Olympic Success Rate:** 0% (no medals in 9 Olympics)
- **Did not qualify for Beijing 2008**
- **Lowest world ranking ever:** 12th in 2010

Modern Revival (2020-2024)

- **Olympic Success Rate:** 100% (2 medals in 2 Olympics)
- **First time winning medals in back-to-back Olympics since 1972**
- **Current World Ranking:** 5th

World Ranking Trajectory

Since the FIH world rankings started in 2003, India's coaching changes have clearly impacted their rankings:

- 2008: Fell out of the top 10 for the first time
- 2010: Hit the lowest rank ever at 12th
- 2021: Reached best rank ever, 3rd, after the Tokyo Olympics
- 2024: Currently ranked 5th worldwide

Improving from 12th in 2010 to 5th now reflects the move towards scientific training methods.

Scientific Training Implementation and Results

Comparing Teaching Games for Understanding (TGfU) and Traditional Methods:

- **Ball Control:** TGfU groups showed much better improvement than traditional skill drills.
- **Cardiovascular Fitness:** Malaysian players had better heart rate responses using TGfU.
- **Indian Players:** Showed higher heart rate intensity (143.4 bpm) during play, meaning better fitness adaptation (Nathan, 2015).

Modern Training Technologies

Current Indian hockey programs use advanced tech tools (Hockey India, 2024).

Overall, it is evident that implementing cutting-edge scientific coaching has contributed to Indian hockey's recent success. Stronger international performances, improved player skills, and higher team rankings have resulted from the shift from experience-based to evidence-based approaches. For future success in Indian hockey, this data recommends a focus on scientific training, technological utilization, and coaching that is supported by evidence.

5. CONCLUSION

This study examined traditional and contemporary coaching approaches in Indian hockey to ascertain the benefits, drawbacks, and long-term impacts on player and team performance. The findings demonstrate the significance of coaching philosophy in shaping Indian hockey's evolution from its height of dominance to its decline and eventual comeback in the modern period. According to the data, traditional coaching techniques that placed a significant emphasis on physical endurance, discipline, repetitive repetitions, and strong coach-athlete hierarchies were quite successful in the early and middle 20th century. These methods produced technically skilled athletes like Dhyan Chand and set an Olympic record that made India a global powerhouse. However, these approaches' over-reliance on rigid training frameworks and poor adaptation to evolving international standards ultimately revealed their shortcomings. The decline of Indian hockey from the 1980s to the early 2000s can be directly attributed to the sport's inability to keep up with innovations like artificial grass, tactical flexibility, and sports science integration.

On the other hand, the study discovered that contemporary scientific techniques have played a significant role in bringing Indian hockey back to life in the twenty-first century. Player fitness, tactical awareness, and team cohesion have all increased as a result of evidence-based methods, which include the use of sports technology, data

analytics, nutrition, and sports psychology. Player-centered, problem-solving models foster more tactical intelligence and improved physiological adaptation, as demonstrated by comparative studies between Teaching Games for Understanding (TGfU) and skill-drill training. These methods bring India closer to European coaching systems, which place an emphasis on both technical proficiency and mental toughness as well as overall growth.

According to the analysis, conventional methods are still useful even though modern approaches have clearly improved performance, as seen by back-to-back Olympic medals in 2020 and 2024 as well as higher world rankings. Traditional coaching's emphasis on self-control, fortitude, and one-on-one mentoring is still crucial, particularly at the local level. This implies that the best course for Indian hockey going ahead is a combination of traditional dedication and cutting-edge scientific methods.

Taking a broader view, this study demonstrates that sports teaching involves more than just technique; it also involves flexibility. India's experience demonstrates that both a willingness to innovate and a respect for tradition are necessary for success in sports. The findings emphasize the necessity of continuing to invest in scientific training, coach education, and technology, as well as maintaining the commitment and diligence that led to previous success, for coaches, policymakers, and organizations such as Hockey India and the Sports Authority of India.

In summary, Indian hockey coaching is changing by striking a balance between traditional and contemporary techniques. By merging the advantages of both, Indian hockey may strive to create a solid and enduring example of excellence for upcoming generations in addition to regaining its former grandeur.

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