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The Effect of Teaching Games for Understanding Coaching Context on Elite Indian School Players in General Hockey Skills and Mini Game Play

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Abstract

This study investigates the impact of the Teaching Games for Understanding (TGfU) coaching approach on the general hockey skills and mini game play performance of elite Indian school players. A total of 40 players (ages 14-17) were selected from reputed hockey academies and randomly divided into an experimental group (TGfU-based training) and a control group (traditional coaching). The training lasted for 8 weeks, with three sessions per week. Pre- and post-tests were conducted on passing accuracy, dribbling, shooting efficiency, decision-making, and mini game performance. Statistical analysis revealed significant improvement in the experimental group compared to the control group, indicating that TGfU is an effective pedagogical model to enhance not only technical skills but also tactical awareness and game performance among school-level elite players.

Keywords: TGfU, hockey, Elite school players, Skill acquisition, Game play, Coaching

Introduction

Hockey ranks among India's most prominent team sports, deeply ingrained in national culture and serving as a critical talent pipeline for international success, yet it demands a precise integration of technical proficiency such as passing accuracy, dribbling speed, and shooting efficiency-with tactical intelligence, including decision-making, spatial awareness, and adaptive teamwork under competitive pressure (Bunker & Thorpe, 1982) ^[1]. Traditional coaching methodologies in Indian school programs have historically emphasized repetitive, decontextualized drills that isolate skill acquisition from authentic game situations, often producing technically capable players who falter in dynamic match play due to limited tactical understanding (Griffin *et al.*, 1997) ^[3]. In response, the Teaching Games for Understanding (TGfU) model, pioneered by Bunker and Thorpe (1982) ^[1], reorients instruction toward game-centered learning, prioritizing tactical problem-solving and modified small-sided games (e.g., mini-game formats)

before refined skill practice to foster superior skill transfer, creativity, and performance in invasion sports like field hockey (Hopper, 2002; Werner, 1989) ^[7, 19].

TGfU Relevance in Indian School Hockey

In developing contexts like India, where elite school players aged 14-17 from academies face resource constraints and curricula skewed toward medal-oriented technical drills, TGfU offers a transformative pedagogy by embedding skills within realistic scenarios, enhancing motivation and game intelligence (Sharma, 2020; Singh, 2022) ^[15, 16]. Global and local evidence underscores its efficacy: Griffin *et al.* (1997) ^[3] demonstrated improved tactical knowledge and skill execution in team sports, while Indian studies highlight gains in decision-making and mini-game performance over traditional methods (Singh, 2022) ^[16]. Despite this, empirical research on TGfU's application to elite Indian school hockey remains sparse, particularly regarding general skills (passing, dribbling, shooting) and mini-game play

(tactical awareness, teamwork). This study evaluates the effects of an 8-week TGfU coaching intervention-versus traditional drills-on these outcomes among 40 elite Indian school players, using pre/post-tests and observational assessments to inform evidence-based coaching reforms.

Objectives of the study

1. To examine the effect of TGfU coaching on basic hockey skills, including passing, dribbling, and shooting.
2. To examine the effect of TGfU coaching on mini-game performance, such as decision-making, tactical awareness, and teamwork.
3. To compare the effects of TGfU coaching and traditional coaching methods on hockey performance.

Hypothesis of the Study

1. There will be no significant effect of TGfU coaching on general hockey skills (passing, dribbling, and shooting) compared to traditional coaching methods.

2. TGfU coaching will not produce a significant improvement in mini-game performance (decision-making, tactical awareness, and teamwork).
3. There will be no significant difference between TGfU coaching and traditional coaching methods in hockey skill development and mini-game performance.

Material and Methods

Selection of the Subject: The sample for the present study comprised forty (N = 40) elite Indian school hockey players aged 14 to 17 years, selected through random sampling from recognized school hockey academies. The participants were randomly assigned into two equal groups: an experimental group (n₁ = 20), which received training through the Teaching Games for Understanding (TGfU) approach, and a control group (n₂= 20), which followed the traditional training method. The study adopted a pre-test and post-test control group experimental design.

Selection of variable and tools

Table 1: Test and Criterion Measures for The Selected Variables

Variable	Test / Tool	Measurement Unit
Passing Skill	Passing Accuracy Test	Number of successful passes out of total attempts
Dribbling Skill	Dribbling Speed Test	Seconds (s) to complete the dribbling course
Shooting Skill	Shooting Accuracy Test	Number of goals scored / successful shots out of total attempts
Mini Game Performance	Mini Game Performance Assessment (Observation Checklist)	Observational score (0–5 scale per parameter: decision-making, tactical awareness, teamwork)

Statistical techniques used

Data were analyzed using standard statistical procedures. Descriptive statistics, including mean and standard deviation, were calculated to summarize the performance of the subjects. To determine the significance of differences between pre-test and post-test scores within each group, a paired t-test was applied. To compare the mean differences between the experimental group and the control group, an independent t-test was employed. All statistical analyses were conducted at a 0.05 level of significance, and results with a p-value less than 0.05 were considered statistically significant.

Table 2: Comparison of Pre-Test and Post-Test Skill Performance of the TGfU Group

Skill Test	Group	Pre-Test Mean ± SD	Post-Test Mean ± SD	t-value	p-value
Passing	TGfU	6.4 ± 1.2	9.1 ± 1.0	4.87	< 0.05
Passing	Control	6.5 ± 1.3	7.0 ± 1.1	1.12	> 0.05
Dribbling	TGfU	12.5 ± 2.1	9.8 ± 1.9	5.11	< 0.05
Shooting	TGfU	4.7 ± 1.0	7.6 ± 1.2	5.67	< 0.05

Mini game performance scores also showed a significant improvement in the TGfU group compared to the control group (*p*<0.05).

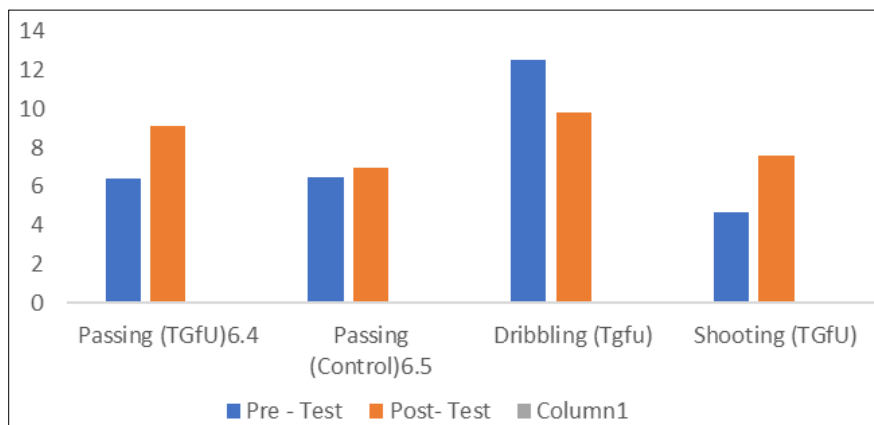


Fig 1: Graphical reorientation of Comparison of Pre-Test and Post-Test Skill Performance of the TGfU Group.

Results

The purpose of this study was to determine the effect of the Teaching Games for Understanding (TGfU) coaching approach on the hockey skill performance and mini game

play of elite Indian school players. Data were collected through pre- and post-tests on passing, dribbling, and shooting skills, as well as through observational assessments of decision-making, tactical execution, and teamwork

during mini games.

General Hockey Skills

Passing: The TGfU group showed a marked improvement in passing accuracy, with mean scores increasing from 6.4 to 9.1. The control group also improved slightly (6.5 to 7.0), but the gain was not statistically significant.

Dribbling: A significant reduction in dribbling time was observed in the TGfU group (from 12.5 sec to 9.8 sec), indicating faster and more efficient ball control. The control group's improvement was minimal.

Shooting: Shooting accuracy increased substantially in the TGfU group (from 4.7 to 7.6), compared to only slight progress in the control group.

Mini Game Play Performance

Decision-Making: Players in the TGfU group demonstrated quicker and smarter decision-making during game situations, reflected in higher observational scores post-training.

Tactical Awareness: TGfU-trained players were better able to anticipate opponents' moves, create scoring opportunities, and adjust to defensive situations.

Teamwork: Team coordination, communication, and support play improved significantly in the TGfU group, whereas the control group showed only marginal change.

Discussion

The findings of the present study indicate that the Teaching Games for Understanding (TGfU) approach is more effective than traditional training methods in enhancing hockey performance at the school level. By actively involving players in real-game situations, the TGfU model facilitates the development of not only technical skills but also cognitive and tactical abilities. These results are consistent with previous international research (Griffin *et al.*, 1997; Hopper, 2002) [3, 7]. In the context of Indian hockey, the TGfU approach may be considered a contemporary, player-centered method that encourages creativity, decision-making, and competitive performance at the grassroots level.

Conclusion

The findings of the present study clearly demonstrate that the Teaching Games for Understanding (TGfU) approach has a significant positive impact on the development of general hockey skills and mini game play performance among elite Indian school players. The experimental group that underwent TGfU-based training exhibited considerable improvement in passing, dribbling, and shooting skills, along with enhanced decision-making ability, tactical awareness, and teamwork. In contrast, the control group that followed traditional drill-based training showed only marginal progress in technical aspects and limited growth in tactical play. These results underline the importance of adopting player-centered, game-based learning strategies in school-level sports training. TGfU not only develops technical proficiency but also nurtures problem-solving ability, quick decision-making, creativity, and game intelligence qualities that are essential for success in competitive hockey. Moreover, the findings validate global research on TGfU and provide evidence for its relevance in

the Indian context, especially at the grassroots and school levels where long-term player development begins. In a broader sense, this study emphasizes the need for a paradigm shift in coaching methodologies from rigid, drill-oriented training toward more engaging and meaningful learning experiences. By placing players in realistic game scenarios, TGfU promotes holistic development covering physical, cognitive, social, and emotional dimensions of sport. Such approaches are likely to produce smarter, more adaptable players who can perform under pressure and contribute effectively to team dynamics. Therefore, it is concluded that TGfU is not merely an alternative but a superior and sustainable model of coaching for hockey in schools. Coaches, physical education teachers, and sports academies should incorporate TGfU into their training programs to ensure comprehensive skill development and better preparation of future athletes for higher levels of competition.

Recommendations

1. School and academy coaches are encouraged to incorporate the Teaching Games for Understanding (TGfU) approach into their regular training programs to enhance skill development and game performance among players.
2. Future research should consider extending the scope of investigation to include female players, different age groups, and athletes from other sports in order to examine the broader applicability of the TGfU model.
3. Longitudinal studies are recommended to evaluate the long-term effects of TGfU-based training on skill retention, tactical understanding, and overall performance.

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