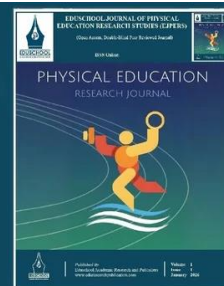




EDUSCHOOL JOURNAL OF PHYSICAL EDUCATION RESEARCH STUDIES (EJPERS)

(Open Access, Double-Blind Peer Reviewed Journal)

ISSN Online: 3139-7328



Game-Centred Approaches in Physical Education: A Review of Teaching Games for Understanding and Related Models with Applications to Indian Traditional Games

Kannan Karunakaran

Physical Education Teacher, Ambassador School Sharjah

Article information

Received: 2nd July 2026

Received in revised form: 5th August 2026

Accepted: 12th September 2026

Available online: 20th October 2026

Volume: 1

Issue: 3

DOI: <https://doi.org/10.63090/EJPERS/3139.7328.0008>

Abstract

Games constitute a large proportion of school physical education curricula, yet they are frequently taught through technique-first approaches in which isolated skills are drilled before learners experience the game itself. Since the early 1980s, game-centred approaches, beginning with Teaching Games for Understanding (TGfU), have challenged this tradition by placing modified games, tactical awareness and decision making at the centre of learning. This paper presents an integrative review of the theoretical foundations, principal models and empirical evidence associated with game-centred approaches, including TGfU, the Tactical Games Approach, Game Sense, Sport Education, and constraints-led and nonlinear pedagogy. The review finds that game-centred approaches are consistently associated with gains in tactical knowledge, decision making, engagement and enjoyment, with more variable effects on technical skill execution, and that their effectiveness depends on teacher understanding, task design and questioning. The paper then examines the relevance of these approaches to India, where the National Education Policy 2020 emphasises experiential and sports-integrated learning and where a rich heritage of traditional games such as kho-kho, kabaddi, lagori and gilli-danda remains under-used in formal physical education. Using a widely adopted games classification, the paper maps selected Indian traditional games to tactical problems and proposes a game-centred lesson framework and assessment approach for Indian schools. It concludes with recommendations for teacher education, curriculum design and research, arguing that game-centred pedagogy offers a means of making physical education more inclusive, cognitively engaging and culturally relevant.

Keywords: - Teaching Games for Understanding, Game-Centred Approaches, Tactical Games, Sport Education, Nonlinear Pedagogy, Physical Education, Traditional Games, Kho-Kho, Kabaddi, NEP 2020

I. INTRODUCTION

1.1. Background and Context

Games are among the most prominent elements of school physical education. They offer opportunities for physical activity, skill development, social interaction and enjoyment, and they connect school learning to the wider sporting culture. Yet the way games are taught has long been criticised. In the traditional technique-first approach, lessons begin with a demonstration of a skill, followed by repeated drills, with a full game introduced only at the end of the lesson or unit, if at all. Critics have argued that this approach produces learners who can perform isolated techniques but cannot apply them in games, who have little understanding of when and why to use particular skills, and who, if less skilled, experience repeated failure and disengagement.

In response to these concerns, Bunker and Thorpe (1982) proposed Teaching Games for Understanding (TGfU), a model in which learners begin with a modified game, develop an appreciation of the game and its tactical problems, and learn skills in the context of the decisions that require them. Over the following decades, TGfU inspired a family of related approaches, including the Tactical Games Approach, Game Sense, Sport Education, and constraints-led and nonlinear pedagogy, collectively referred to as game-centred or game-based approaches (Harvey & Jarrett, 2014).

In India, physical education has often been dominated by drills, fitness testing and the preparation of a small number of students for inter-school competition. The National Education Policy 2020 (NEP 2020) calls for experiential learning and introduces sports-integrated learning as a cross-curricular pedagogical approach (Government of India, 2020), while the National Curriculum Framework for School Education 2023 recognises Physical Education and Well-being as a curricular area (National Council of Educational Research and Training [NCERT], 2023). India also possesses a rich heritage of traditional games, such as kho-kho, kabaddi, lagori and gilli-danda, that are tactically complex, require minimal equipment and are culturally familiar to students. These conditions create a timely opportunity to consider how game-centred approaches might transform games teaching in Indian schools.

1.2. Problem Statement

Despite four decades of international scholarship, game-centred approaches remain little known and rarely used in Indian physical education. Teacher education programmes in India have traditionally emphasised coaching techniques and sport-specific skills, and traditional games are often treated as recreational activities rather than as vehicles for structured learning. There is a need for a synthesis that explains the theory and evidence behind game-centred approaches and demonstrates how they might be applied to the games that Indian children already know and play.

1.3. Objectives of the Review

- To trace the theoretical foundations and development of game-centred approaches in physical education.
- To compare the principal game-centred models and their distinctive features.
- To synthesise empirical evidence on student outcomes associated with game-centred approaches.
- To apply game-centred principles to Indian traditional games and propose a lesson and assessment framework for Indian schools.

1.4. Review Questions

- What are the theoretical foundations of game-centred approaches, and how do the principal models differ?
- What outcomes are associated with game-centred approaches in physical education?
- How can game-centred approaches be applied to Indian traditional games within the framework of NEP 2020?

1.5. Significance of the Review

The review introduces Indian educators to a substantial international body of pedagogical research and demonstrates its relevance to local games and curricular reforms. It offers practical guidance for physical education teachers, teacher educators and curriculum developers seeking to make games teaching more inclusive, cognitively engaging and culturally meaningful.

II. METHODOLOGY OF THE REVIEW

2.1. Review Design and Selection of Literature

The paper adopts an integrative review design. It drew on purposively selected sources, including foundational texts on TGfU and related models, systematic and narrative reviews of game-centred approaches and Sport Education, conceptual papers on the theoretical foundations of game-based pedagogy, and Indian curriculum and policy documents. Priority was given to peer-reviewed reviews and widely cited conceptual works.

2.2. Analytical Approach and Limitations

Sources were analysed thematically against the review questions. The application to Indian traditional games is conceptual and illustrative, based on the author's analysis of the games' structure rather than on empirical studies. The review is not a registered systematic review, and the evidence base is drawn predominantly from Western contexts, which limits direct generalisation to Indian schools.

III. THEORETICAL FOUNDATIONS

3.1. The Original TGfU Model

The TGfU model proposed by Bunker and Thorpe (1982) describes a cycle that begins with a modified game form, proceeds through game appreciation and tactical awareness to decision making about what to do and how to do it, and then to skill execution and overall performance. The model reversed the conventional sequence of games teaching, placing understanding of the game before the refinement of technique, and it emphasised modification of games so that they are appropriate to learners' developmental levels. Subsequent work introduced pedagogical principles such as sampling, modification by representation and exaggeration, and tactical complexity, and proposed a classification of games into four categories with shared tactical principles: invasion games, net and wall games, striking and fielding games, and target games (Almond, 1986; Thorpe et al., 1986). This classification allows teachers to teach transferable tactical concepts across games within a category.

3.2. Constructivist and Situated Learning Perspectives

Later scholarship has grounded game-centred approaches in constructivist and situated theories of learning. Kirk and MacPhail (2002) reinterpreted the Bunker-Thorpe model through situated learning theory, emphasising that learning occurs through participation in authentic practices and proposing a more detailed model that accounts for learners' perceptions and the social context of games. Light and Fawns (2003) argued that TGfU integrates embodied action in the game with verbal reflection and dialogue, so that understanding develops through both doing and talking about the game. These perspectives highlight the importance of questioning, discussion and reflection in game-centred lessons.

3.3. Ecological Dynamics and Nonlinear Pedagogy

A further theoretical strand draws on ecological dynamics and dynamical systems theory. Chow et al. (2007) proposed nonlinear pedagogy as a framework explaining why game-centred approaches work: by manipulating task constraints, such as playing area, number of players, rules and equipment, teachers can guide learners to discover functional movement solutions and decisions. Renshaw et al. (2010) similarly argued that the constraints-led approach provides a theoretical bridge between motor learning research and game-based teaching in physical education. From this perspective, the modified games central to TGfU are not simply easier versions of adult games, but carefully designed learning environments that shape perception, decision making and action.

IV. PRINCIPAL GAME-CENTRED MODELS

Table 1 compares the principal game-centred models discussed in the literature. While they share a commitment to learning through games, they differ in emphasis and structure.

Table 1. Comparison of Principal Game-Centred Models in Physical Education

Model	Core Emphasis	Distinctive Features
Teaching Games for Understanding (Bunker & Thorpe, 1982)	Tactical awareness and decision making before technique	Modified game forms; game appreciation; skills taught when tactically needed; games classification
Tactical Games Approach (Mitchell et al., 2013)	Structured progression of tactical problems	Game–practice–game lesson structure; tactical levels of complexity; Game Performance Assessment Instrument
Game Sense (Light, 2013)	Learning through play, questioning and reflection	Teacher as facilitator; emphasis on questioning and player-centred discussion
Sport Education (Siedentop et al., 2020)	Authentic and festive sport experiences	Seasons, team affiliation, student roles, formal competition, record keeping, culminating events
Constraints-led and nonlinear pedagogy (Chow et al., 2007; Renshaw et al., 2010)	Learner discovery of functional solutions	Manipulation of task, environmental and individual constraints; variability in practice

Source: Author's synthesis based on the sources cited in the table.

4.1. The Tactical Games Approach

The Tactical Games Approach, developed by Mitchell, Oslin and Griffin, operationalises TGfU in a structured format suitable for school teaching (Mitchell et al., 2013). Lessons typically follow a game-practice-game sequence: an initial modified game presents a tactical problem, a focused practice addresses the skills or movements required, and a subsequent game allows learners to apply what they have learned. Tactical problems are organised into levels of increasing complexity, providing a curriculum progression across years of schooling.

4.2. Sport Education

Sport Education, developed by Siedentop, aims to provide students with authentic, educationally rich sport experiences by organising units as seasons in which students remain in persisting teams, take on roles such as captain, coach, referee and statistician, participate in formal competition and culminate in a festive event (Siedentop et al., 2020). A review of Sport Education research reported consistent benefits for student motivation, enthusiasm and fair play, along with some improvements in game performance, while evidence on skill and fitness outcomes was less consistent (Hastie et al., 2011). Sport Education is often combined with tactical approaches to address both the social and tactical dimensions of games.

4.3. Cooperative Learning as a Complementary Model

Cooperative learning, in which students work in small, structured groups toward shared goals, is frequently combined with game-centred models. A review of cooperative learning in physical education found evidence that it can contribute to physical, cognitive, social and affective learning outcomes, although most studies have examined only one or two of these domains at a time (Casey & Goodyear, 2015). Its emphasis on positive interdependence and individual accountability complements the team-based structures of Sport Education and the discussion-based learning of TGfU and Game Sense (Metzler, 2011).

V. EVIDENCE ON OUTCOMES

Reviews of the research literature provide a broadly positive picture of game-centred approaches. Harvey and Jarrett (2014), reviewing research published since 2006, reported that game-centred approaches were associated with improvements in tactical understanding, decision making and student engagement, while findings for technical skill execution were more mixed and many studies had methodological limitations. A systematic review of student outcomes associated with game-centred approaches in children and adolescents identified positive outcomes across physical, cognitive, affective and social domains, with the strongest evidence for tactical knowledge and decision making (Miller, 2015). Research in coaching contexts, though still developing, shows growing interest in game-based approaches in competitive team sport (Kinnerk et al., 2018).

Assessment has been central to this research. The Game Performance Assessment Instrument (GPAI) was developed to assess game performance in authentic contexts by observing components such as decision making, skill execution, support, base, adjust, cover and guarding or marking, and was found to be valid and reliable across invasion, net and wall, and striking and fielding games (Oslin et al., 1998). Such instruments allow teachers to assess what matters in games, namely the ability to make and execute good decisions during play, rather than isolated technical performance.

At the same time, the literature identifies important challenges. Stolz and Pill (2014) argued that evidence for the superiority of TGfU over technical approaches remains inconclusive and that a gap persists between researchers and teachers, suggesting that the relevance of TGfU depends on curricula that value its underlying educational purposes. Teachers report that game-centred approaches demand strong content knowledge, skill in designing modified games, and confidence in using questioning and managing less predictable lessons. These findings underscore the importance of teacher education and professional development.

VI. APPLICATION TO INDIAN TRADITIONAL GAMES

6.1. Rationale

Indian traditional games are well suited to game-centred teaching. Many are played in modified forms by children in neighbourhoods and schools, require little or no equipment, and involve rich tactical problems related to space, timing, deception and teamwork. Using these games in physical education also responds to NEP 2020's emphasis on rootedness in Indian culture and experiential learning (Government of India, 2020). Applying the games classification allows teachers to identify the tactical problems in these games and to connect them with tactically similar modern sports.

6.2. Mapping Traditional Games to Tactical Problems

Table 2 maps selected Indian traditional games to games categories, illustrative tactical problems and possible modifications. The mapping is illustrative and intended to guide lesson planning rather than to provide a definitive classification.

Table 2. Selected Indian Traditional Games Mapped to Game Categories and Tactical Problems

Game	Closest Category	Illustrative Tactical Problems	Possible Modifications for Learning
Kho-kho	Invasion and territorial (chasing)	Creating and denying space; timing of chases and dodges; team coordination in relays of chasers	Smaller court; fewer players per side; shorter turns; rotating roles
Kabaddi	Invasion and territorial (raiding)	Raider: entering, tagging and returning safely; defenders: chain formation, covering and anticipating	Tagging with a bib instead of contact; reduced court; limited raid time; touch-only rules
Lagori (seven stones)	Target and striking/fielding hybrid	Accuracy in striking the stack; fielding team's interception; rebuilding the stack under pressure	Soft ball; larger target; designated safe zones; graded throwing distances
Gilli-danda	Striking and fielding	Placing the strike into space; fielders' positioning and catching; decision to run or stay	Larger, softer gilli; marked zones for scoring; batting tee for beginners
Kancha (marbles)	Target	Accuracy and control; selecting targets strategically; managing risk	Larger targets; varied distances; cooperative scoring

Source: Author's illustrative analysis using the games classification of Almond (1986).

6.3. A Game-Centred Lesson Framework

A game-centred lesson using Indian traditional games might follow the game-practice-game structure of the Tactical Games Approach (Mitchell et al., 2013):

- Initial modified game: students play a simplified version of the game designed to highlight one tactical problem, for example, creating space in kho-kho.
- Questioning and discussion: the teacher asks open questions such as "When is the best moment to chase?" or "Where should defenders stand to protect the court?" to draw out tactical understanding.

- Focused practice: students practise the skills and movements needed to solve the tactical problem, such as quick changes of direction or chain formation in kabaddi.
- Return to the game: students apply what they have learned in the modified game, with the teacher observing decision making and execution.
- Reflection: students discuss what worked, linking the tactical concept to other games in the same category, such as basketball or football for invasion games.

Over a unit, teachers can incorporate elements of Sport Education, such as persisting teams, student roles and a culminating festival of traditional games, and can use cooperative learning structures to promote inclusion and social learning. Assessment can be adapted from the GPAI to observe decisions and actions in context (Oslin et al., 1998).

VII. DISCUSSION

The review shows that game-centred approaches rest on a coherent theoretical foundation, drawing on constructivist, situated and ecological theories of learning, and are associated with meaningful gains in tactical understanding, decision making, engagement and enjoyment. These outcomes correspond closely to the goals of NEP 2020, which emphasises critical thinking, experiential learning and holistic development. Game-centred approaches also have potential to make physical education more inclusive, because modified games allow students of varying abilities to participate meaningfully, and because the focus on understanding and decision making values forms of competence other than physical prowess.

Indian traditional games offer a distinctive opportunity. They are tactically rich, culturally resonant and low-cost, and their use in physical education could help preserve cultural heritage while promoting active, thoughtful play. However, the application of game-centred approaches to these games has not been systematically studied. The mapping presented in this paper is conceptual, and empirical research is needed to examine how Indian students and teachers respond to game-centred teaching of traditional games.

The principal challenge is teacher preparation. Game-centred teaching requires teachers to understand games tactically, to design modified games, to ask effective questions and to manage dynamic lessons. Without investment in teacher education and professional development, there is a risk that game-centred approaches will be reduced to simply letting students play, without the structured learning that distinguishes them.

VIII. RECOMMENDATIONS

8.1. For Physical Education Teachers

- Use modified games and the game-practice-game structure to teach tactical concepts before or alongside technique.
- Incorporate Indian traditional games into units organised by games category.
- Use open questioning and reflection to develop students' tactical understanding.
- Assess game performance in context using adapted observation tools.

8.2. For Teacher Education Institutions

- Include game-centred models, games classification and the design of modified games in physical education teacher education curricula.
- Provide practicum experiences in which student teachers plan and teach game-centred lessons using both modern sports and traditional games.

8.3. For Curriculum Developers and Researchers

- Develop curriculum resources that organise games teaching by tactical categories and integrate traditional Indian games.
- Conduct empirical studies of game-centred teaching in Indian schools, including its effects on tactical understanding, participation, inclusion and enjoyment.
- Adapt and validate game performance assessment tools for traditional Indian games.

IX. CONCLUSION

Game-centred approaches, beginning with Teaching Games for Understanding, represent one of the most significant developments in physical education pedagogy of the past four decades. By placing modified games, tactical understanding and decision making at the centre of learning, they address many of the limitations of technique-first teaching and are associated with gains in tactical knowledge, decision making, engagement and enjoyment. Their effectiveness depends, however, on well-prepared teachers who can design appropriate games and facilitate learning through questioning and reflection.

For Indian schools, game-centred approaches offer a means of realising NEP 2020's vision of experiential and holistic learning in physical education, and Indian traditional games provide an ideal and culturally meaningful context for their application. Integrating game-centred pedagogy with traditional games could make physical education more inclusive, intellectually engaging and rooted in Indian culture, while preparing students to understand and enjoy a wide range of games throughout their lives.

REFERENCES

Almond, L. (1986). Reflecting on themes: A games classification. In R. Thorpe, D. Bunker, & L. Almond (Eds.), *Rethinking games teaching* (pp. 71–72). Loughborough University of Technology.

- Bunker, D., & Thorpe, R. (1982). A model for the teaching of games in secondary schools. *Bulletin of Physical Education*, 18(1), 5–8.
- Casey, A., & Goodyear, V. A. (2015). Can cooperative learning achieve the four learning outcomes of physical education? A review of literature. *Quest*, 67(1), 56–72. <https://doi.org/10.1080/00336297.2014.984733>
- Chow, J. Y., Davids, K., Button, C., Shuttleworth, R., Renshaw, I., & Araújo, D. (2007). The role of nonlinear pedagogy in physical education. *Review of Educational Research*, 77(3), 251–278. <https://doi.org/10.3102/003465430305615>
- Government of India. (2020). National education policy 2020. Ministry of Human Resource Development.
- Harvey, S., & Jarrett, K. (2014). A review of the game-centred approaches to teaching and coaching literature since 2006. *Physical Education and Sport Pedagogy*, 19(3), 278–300. <https://doi.org/10.1080/17408989.2012.754005>
- Hastie, P. A., Martínez de Ojeda, D., & Calderón Luquin, A. (2011). A review of research on Sport Education: 2004 to the present. *Physical Education and Sport Pedagogy*, 16(2), 103–132. <https://doi.org/10.1080/17408989.2010.535202>
- Kinnerk, P., Harvey, S., MacDonncha, C., & Lyons, M. (2018). A review of the game-based approaches to coaching literature in competitive team sport settings. *Quest*, 70(4), 401–418. <https://doi.org/10.1080/00336297.2018.1439390>
- Kirk, D., & MacPhail, A. (2002). Teaching games for understanding and situated learning: Rethinking the Bunker-Thorpe model. *Journal of Teaching in Physical Education*, 21(2), 177–192. <https://doi.org/10.1123/jtpe.21.2.177>
- Light, R. (2013). *Game sense: Pedagogy for performance, participation and enjoyment*. Routledge.
- Light, R., & Fawns, R. (2003). Knowing the game: Integrating speech and action in games teaching through TGfU. *Quest*, 55(2), 161–176. <https://doi.org/10.1080/00336297.2003.10491797>
- Metzler, M. W. (2011). *Instructional models for physical education* (3rd ed.). Holcomb Hathaway.
- Miller, A. (2015). Games centered approaches in teaching children & adolescents: Systematic review of associated student outcomes. *Journal of Teaching in Physical Education*, 34(1), 36–58. <https://doi.org/10.1123/jtpe.2013-0155>
- Mitchell, S. A., Oslin, J. L., & Griffin, L. L. (2013). *Teaching sport concepts and skills: A tactical games approach for ages 7 to 18* (3rd ed.). Human Kinetics.
- National Council of Educational Research and Training. (2023). National curriculum framework for school education 2023. Ministry of Education, Government of India.
- Oslin, J. L., Mitchell, S. A., & Griffin, L. L. (1998). The Game Performance Assessment Instrument (GPAI): Development and preliminary validation. *Journal of Teaching in Physical Education*, 17(2), 231–243. <https://doi.org/10.1123/jtpe.17.2.231>
- Renshaw, I., Chow, J. Y., Davids, K., & Hammond, J. (2010). A constraints-led perspective to understanding skill acquisition and game play: A basis for integration of motor learning theory and physical education praxis? *Physical Education and Sport Pedagogy*, 15(2), 117–137. <https://doi.org/10.1080/17408980902791586>
- Siedentop, D., Hastie, P. A., & van der Mars, H. (2020). *Complete guide to sport education* (3rd ed.). Human Kinetics.
- Stolz, S., & Pill, S. (2014). Teaching games and sport for understanding: Exploring and reconsidering its relevance in physical education. *European Physical Education Review*, 20(1), 36–71. <https://doi.org/10.1177/1356336X13496001>
- Thorpe, R., Bunker, D., & Almond, L. (Eds.). (1986). *Rethinking games teaching*. Loughborough University of Technology.