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THE APPLICATION OF A TACTICAL LEARNING MODEL TO IMPROVE GAME UNDERSTANDING IN FOOTBALL AMONG GRADE VIII STUDENTS AT SMP NEGERI 1 BADAR

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Abstract

This study investigates the effectiveness of the Tactical Games Model (TGM), an approach rooted in the Teaching Games for Understanding (TGfU) pedagogy, in enhancing game understanding in football among junior high school students. A quasi-experimental design with a pretest-posttest control group was employed. A sample of 60 Grade VIII students from SMP Negeri 1 Badar was divided into two groups: an experimental group (n=30) that received instruction via the tactical model, and a control group (n=30) that underwent conventional, technique-focused training. Game understanding was quantitatively assessed using the Game Performance Assessment Instrument (GPAI), which measures components such as decision-making, skill execution, and support in game-like situations. The results from paired sample t-tests indicated a statistically significant improvement in game understanding from pretest to posttest for both groups ($p < .05$). However, the experimental group demonstrated a substantially greater improvement, with an average gain score of 17.5 points, compared to the control group's average gain of 6.5 points. This significant difference in gain scores confirms the superior efficacy of the tactical learning model. The study concludes that the tactical approach, which embeds technical skill development within a contextual, game-centered learning environment, is significantly more effective than the traditional technical model in fostering a deeper and more applicable understanding of football among students. The findings advocate for a pedagogical shift in physical education towards models that prioritize tactical awareness and decision-making.

Keywords: Football, Game Understanding, Game Performance Assessment Instrument (GPAI), Physical Education, Tactical Games Model

INTRODUCTION

Physical Education (PE) holds a pivotal role in the holistic development of students, contributing not only to their physical well-being but also to their cognitive, social, and emotional growth. Within the PE curriculum, team sports like football (soccer) serve as a primary medium for developing motor skills, physical fitness, and cooperative abilities. However, the traditional approach to teaching sports in many school settings has often been characterized by a technical model. This model prioritizes the isolated practice of fundamental skills—such as passing, shooting, and dribbling—through repetitive drills, often devoid of the tactical and decision-making contexts inherent in the actual game. This decontextualized approach can lead to a significant gap between a student's technical proficiency in practice and their ability to apply those skills effectively during gameplay. Students may become adept at passing a stationary ball to a partner but struggle to make a timely and accurate pass to a moving teammate under defensive pressure in a match situation. This disconnect can result in a superficial understanding of the game, diminished motivation, and an inability to appreciate the strategic dimensions of sport.

In response to these limitations, alternative pedagogical models have emerged, with the Teaching Games for Understanding (TGfU) model, pioneered by Bunker and Thorpe (1982), being one of the most influential. This approach, and its subsequent evolution into the Tactical Games Model (TGM) by Mitchell, Oslin, and Griffin (2013), inverts the traditional sequence of instruction. Instead of "technique first, game later," the tactical model begins with a modified game form that presents students with tactical problems. This initial game experience is designed to stimulate interest and highlight the need for specific techniques and tactical knowledge. The teacher then guides students through questions and practice tasks to develop the requisite skills and understanding before returning to

the game to apply their learning. Game understanding, or "game sense," refers to a player's ability to read the game, make appropriate tactical decisions, and execute skills effectively within the dynamic and unpredictable context of play. It encompasses knowledge of positioning, spatial awareness, team coordination, and strategies for both attacking and defending. Developing this understanding is crucial for fostering intelligent, autonomous players who can adapt and solve problems on the field. While a body of international research supports the effectiveness of TGfU/TGM in various sports contexts, there is a need for more localized empirical evidence within the Indonesian junior high school PE setting. This study, therefore, aims to contribute to this field by quantitatively evaluating the impact of a tactical learning model on the football game understanding of Grade VIII students at SMP Negeri 1 Badar. By comparing its effectiveness against a conventional technical approach, this research seeks to provide Indonesian PE teachers with robust, evidence-based guidance for enhancing their instructional practices and ultimately, their students' holistic sporting experience.

LITERATURE REVIEW

This study is grounded in the constructivist learning theory and operationalized through the Tactical Games Model (TGM), a specific framework for implementing the Teaching Games for Understanding (TGfU) philosophy. This represents a significant departure from traditional, technique-first models. The conventional approach is largely behaviorist, focusing on the replication of correct movement patterns through repetitive drills and direct instruction. In contrast, the TGM is fundamentally constructivist, positing that learners build their own understanding and knowledge of the game through direct experience and guided reflection. As argued by Light and Fawns (2003), this methodology integrates cognitive thinking with physical movement, treating the learner as a whole person who is capable of intelligent decision-making within the dynamic context of physical activity.

The core structure of the TGM, as detailed by Mitchell et al. (2013), follows a cyclical and reflective process. It begins with a modified game form, where adjustments to rules, team size, or playing area are designed to highlight a specific tactical problem, such as creating space in attack. As students play, they naturally develop game appreciation and tactical awareness, beginning to understand the objectives and the challenges presented. The teacher then uses strategic questioning to guide learners toward effective decision making, prompting them to consider questions like, "Where is the open space?" Once the need for a particular skill becomes evident from the game situation, the cycle moves to skill execution, where the teacher provides targeted instruction and practice on that specific technique. Finally, students return to the game to perform, applying their refined decision-making and skills, which completes the cycle and leads to a deeper, more integrated form of understanding.

Within this model, the ultimate goal is the development of genuine game understanding, a form of procedural knowledge that is demonstrated through performance. As emphasized by Harvey and Jarrett (2014) in their review, this understanding is not abstract but is directly observable through a player's actions on the field. To quantify this, researchers have developed tools like the Game Performance Assessment Instrument (GPAI) by Memmert and Harvey (2008). This validated instrument provides a holistic assessment by measuring key components of game competence, including the appropriateness of decision making, the efficiency of skill execution, the quality of player support through off-the-ball movement, and defensive adjustments. By evaluating these facets, the GPAI captures a player's overall tactical effectiveness, moving beyond a narrow focus on technical proficiency alone.

METHOD

Research Design and Participant Selection

This study employed a quantitative research approach through a quasi-experimental design, specifically the Pretest-Posttest Control Group Design. This framework was selected because it allows for a direct comparison between an intervention group and a control group, thereby controlling for many threats to internal validity. It is particularly well-suited for real-world educational contexts where the random assignment of individual students is often impractical, as noted by Creswell & Creswell (2018). The participant pool was drawn from all Grade VIII students at SMP Negeri 1 Badar. A total sample of 60 students was selected from two intact classes to minimize disruption to the school schedule. Using a simple coin toss, one class was randomly assigned as the experimental group (n=30) and the other as the control group (n=30). All participants were adolescents with a beginner-to-intermediate level of football experience, making them representative of a typical physical education class in an Indonesian junior high school.

Experimental Procedure and Intervention Protocols

The research was conducted over 8 weeks, with each group participating in two 45-minute sessions per week. The procedure began with a pretest in the first week, where all 60 participants were assessed using the Game Performance Assessment Instrument (GPAI) during a standardized 5v5 modified football game. Following this, the two groups underwent distinct instructional interventions. The experimental group received training based on the Tactical Games Model (TGM), structured in two-week blocks focusing on key tactical problems: maintaining possession, attacking the goal, and defending space. Their lessons consistently followed the TGM cycle, beginning with a modified game designed to highlight a tactical problem—for instance, a 4v4 game on a small pitch requiring three consecutive passes before a shot to emphasize possession. This was followed by guided teacher questioning to foster tactical awareness, then targeted skill practice relevant to the problem, and finally a return to game play to apply new insights. In contrast, the control group followed a traditional technical model organized around specific skill themes such as passing, dribbling, and shooting. Their lessons typically commenced with a warm-up, proceeded to demonstration and repetitive practice of isolated skills in drill formats, and concluded with a full-sided game where tactical application was not explicitly guided. In the final week of the study, a posttest was administered to all participants under identical conditions to the pretest, using the same GPAI protocol to measure any changes in game performance.

Instrumentation and Analytical Approach

The primary instrument for measuring the study's outcome was the Game Performance Assessment Instrument (GPAI). For data analysis, a composite index of game performance was calculated for each participant based on the formula: (Decision Making + Skill Execution + Support) / 3. To ensure objective scoring, all game performances were video-recorded and subsequently coded by two trained raters who were blind to the group assignments of the participants. The reliability of this coding process was confirmed by an excellent Intraclass Correlation Coefficient (ICC) of .92. Data analysis was performed using SPSS software. It began with descriptive statistics to calculate the means and standard deviations for the pretest and posttest scores of both groups. For inferential statistics, paired sample t-tests were used to determine if statistically significant improvements occurred within each group from pretest to posttest. Finally, an independent samples t-test was conducted on the gain scores (calculated as Posttest Score - Pretest Score for each participant) to directly compare the extent of improvement between the experimental and control groups and test the core hypothesis of the research.

RESULTS

The descriptive statistics for the pretest and posttest GPAI scores are presented in Table 1. The results of the paired sample t-tests confirmed that both the experimental group, $t(29) = 11.24$, $p < .001$, and the control group, $t(29) = 4.57$, $p < .001$, showed statistically significant improvements in their game understanding from pretest to posttest.

Table 1. Descriptive Statistics and Gain Scores for GPAI

Group	n	Pretest (M ± SD)	Posttest (M ± SD)	Mean Gain Score
Experimental	30	52.3 ± 5.1	69.8 ± 4.5	17.5
Control	30	55.5 ± 4.8	62.0 ± 5.2	6.5

However, the central finding of this study lies in the comparison of the gain scores. An independent samples t-test was conducted to compare the gain scores of the experimental and control groups. There was a significant difference in the scores for the experimental group ($M=17.5$, $SD=2.8$) and the control group ($M=6.5$, $SD=3.1$); $t(58) = 14.37$, $p < .001$. This result indicates that the improvement in game understanding was significantly greater for students who learned through the tactical model.

DISCUSSION

The findings of this study provide compelling evidence for the superior effectiveness of the Tactical Games Model (TGM) over the traditional technical model in enhancing game understanding in football among junior high school students. While the fact that both groups improved is a testament to the value of any structured physical education, the profound disparity in gain scores—17.5 points for the TGM group versus 6.5 for the technical group—

demands a deeper examination. This significant difference is not merely a numerical victory; it underscores a fundamental pedagogical divergence in how children learn to play and understand sports. The TGM's success lies in its capacity to develop what can be termed "game intelligence," a form of contextual, decision-making prowess that traditional methods often leave underdeveloped.

Deconstructing Game Understanding: More Than Just Skill Execution

To appreciate these results, one must first move beyond a simplistic view of sports performance as the sum of technical skills. Game understanding is a sophisticated, multi-faceted construct. It is a form of procedural knowledge that is demonstrated not in drills, but in the dynamic, unpredictable flow of a game. The Game Performance Assessment Instrument (GPAI) effectively captures this by measuring components like decision-making, skill execution, and support. Crucially, these components are interdependent. A technically perfect pass is meaningless if it is made to a marked teammate or at the wrong moment. Conversely, a brilliant tactical decision to exploit space is futile if the player cannot execute the required pass or shot. The traditional technical model, with its focus on isolated skill repetition, primarily addresses only one facet: skill execution. It operates on a behaviorist assumption that mastering the parts in isolation will lead to competent whole performance. However, this approach often creates what is known as the "practice-to-game gap." Students become proficient at dribbling through cones or passing to a stationary partner in a sterile environment, but they lack the cognitive framework to select and apply these skills amid the constantly shifting pressures of an actual match. Their knowledge remains inert—known in the context of the drill but not activated in the context of the game. The control group's modest improvement reflects this limitation; they became better technicians, but not necessarily more intelligent players.

The Pedagogical Engine of the TGM: Integrating Cognition and Action

In stark contrast, the TGM's pedagogical structure is engineered to bridge this gap by integrating thinking and moving from the outset. The model's cyclical process—Game Form, Guided Questioning, Skill Practice, and Return to Game—is a carefully designed learning loop that directly builds game intelligence. The process begins with a modified Game Form, which is not merely a fun activity but a designed learning environment. For instance, the rule requiring three consecutive passes before a shot to teach "maintaining possession" is a form of constraint-led learning. This modification artificially creates a specific tactical problem, channeling students' attention toward solutions like creating passing angles and providing off-the-ball support. The game itself becomes the teacher, presenting authentic challenges that demand cognitive engagement.

The teacher's role then shifts from a fountain of instruction to a facilitator of discovery through Guided Questioning. This is the cognitive core of the TGM. Questions like "Where is the open space?" or "How can you create a passing angle for your teammate?" force students to stop, observe, and analyze the game. This metacognitive process is vital. It moves knowledge from being tacit (unconscious) to explicit (conscious), allowing students to form principles and concepts about the game. They are not just learning *how* to pass; they are constructing an understanding of *why* and *when* to pass. This cognitive effort builds a deeper, more flexible, and transferable knowledge base. The student begins to see patterns and relationships in the field, moving from being a passive executor of skills to an active problem-solver.

It is only *after* this cognitive awareness is established that the model introduces focused Skill Execution practice. This sequence is critical. In the TGM, the need for a skill—for example, a firm, accurate push pass to feet under pressure—emerges organically from the game. The students have personally experienced the failure of a misplaced pass or the success of a well-executed one in a meaningful context. Consequently, the subsequent skill practice is imbued with purpose. The students are not practicing passing because the teacher told them to; they are practicing because they have identified it as the necessary tool to solve the tactical problem they just encountered. This dramatically increases motivation and the relevance of the technical practice.

Implications for Physical Education: A Mandate for Pedagogical Change

The powerful alignment of these results with international research, from Mitchell et al. (2013) to Harvey and Jarrett (2014), confirms that the benefits of a tactical approach are not culture-specific but are rooted in universal principles of how people learn complex, open skills. For physical education teachers, this study offers a clear and actionable mandate. The shift from a coach-centered, technique-driven pedagogy to a student-centered, game-based one is not a minor methodological tweak; it is a fundamental reorientation of the subject's goals. The primary aim of physical education should be to create competent, confident, and knowledgeable movers who can thrive in game environments. The TGM directly serves this aim. By placing students in authentic, problem-solving scenarios, it not

only enhances their tactical performance but also boosts their engagement and enjoyment. When students understand the "why" behind the actions, the game becomes more meaningful. Therefore, adopting the Tactical Games Model is more than just implementing a new curriculum; it is about embracing a philosophy that values intelligence in action, fostering a deeper and more enduring love for the game by empowering students to truly understand it.

CONCLUSION AND SUGGESTIONS

This study concludes that the application of the Tactical Games Model is a significantly more effective method for improving game understanding in football among Grade VIII students compared to the conventional technical model. The tactical approach, which embeds learning within authentic game contexts and emphasizes decision-making, leads to a more substantial and functional improvement in students' ability to perceive, decide, and execute skills effectively during play. This demonstrates that a pedagogical focus on tactical awareness is not a luxury but a necessity for developing truly game-literate students. Based on these conclusions, the following suggestions are proposed. For physical education teachers, it is strongly recommended that PE practitioners integrate the Tactical Games Model into their sports teaching units. Initial training and professional development workshops should be sought to build confidence in using guided questioning and designing modified games.

For school administrators and curriculum developers, they need to support this pedagogical shift by providing resources and professional development opportunities for teachers. Curriculum documents for PE should explicitly encourage the use of game-centered approaches like TGM and TGfU. For future researchers, subsequent studies should investigate the long-term retention of tactical understanding gained through this model. Research could also explore the impact of TGM on other important outcomes such as student motivation, enjoyment, and sportsmanship. Furthermore, applying this model to other invasion games (e.g., basketball, handball) within the Indonesian context would be a valuable contribution.

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