EFFECTS OF TEACHING GAMES FOR UNDERSTANDING ON TACTICAL AWARENESS AND DECISION MAKING IN SOCCER FOR COLLEGE STUDENTS

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Abstract*

Aim. Teaching Games for Understanding (TGFU) is a useful approach for all teachers that enhances skill and technique and transfers practice into competitive-like situations. Teaching games for understanding framework (TGFU)" is very popular international market for over a decade and is the world leader concept in schools and clubs for the mediation of sports games viewed model that called Teaching Games for Understanding (TGfU). It proposes a new way of mediation of sports games, by the development of the "sense of play" by an early immersion of the child in play situations.The purpose of this study was to investigate the effects of teaching games for understanding on tactical awareness and decision makingin soccer for college students.

Methods. Twenty college students were randomly allocated to receive either two months of learning program, the experimental group used Teaching Games for Understanding (TGFU)(n = 10). In addition,the control group learning through the traditional method (n = 10). The data collected before and after the program for the two groups.

Results. Statistical analyses showed that:
- The experimental group had significantly higher than the control group in performance level oftactical awareness and decision-making.

Conclusions. Under the conditions of our study, use of Teaching Games for Understanding (TGFU) in learning for college studentsresulted an improvement in tactical awareness and decision-making. These results have to be taken into account by instructors in order to better understand and implicated of these concepts for technical effects of teaching.

Keywords: Teaching Games for Understanding, Soccer, Tactical Awareness, Decision Making

Introduction

The acquisition of motor skills is the goal of physical education, and learn how to acquire these skills is essential for the planning and control of physical education experiences. The educators in the field of physical education interested in movement learning, and is called a formal Motor learning & psychomotor behavior is the most important physical education teacher tasks is the direct responsibility to help students to learn the skills and then identify whether the learning process has been achieved or not. The teacher must be noted that evidenced by the occurrence of learning about how the changes occurring in the behavior or performance because of the presence of individual the position of a specific tutorial.

This means that information, regardless of its source (visual, auditory or kinesthetic) has been treated.

Nevett, et al., (2001) notes that models for the processing of notifications were designed for the ultimate goal of learning access:
- Sensation and perception, i.e., the translation of the excitatory (decoding).
- Attention to important cues and insignificant associations at the central processes of the brain.
- Decide how to respond with an appropriate strategy based on available notifications and recall previous experiences (association).
- Linking instantaneous notifications of two or more sensory processes dealt with in the cerebral cortex (integration).
- Production of the desired response.
- Use the feedback notifications available from the response to help achieve the appropriate response.

Each element of notifications in the previous model is important. If any system fails at any time, this impedes performance and learning. The most important link in the processing model is said to be encoding. If the performer can sense and recognize verbal and visual evidence and sense of movement, correctly, it speeds up both decisions of how to respond and mental response, because the performer works with the appropriate variables to determine a successful side of the skill.

The space occupied by physical education is very rich in ideas regarding the principles and origins of teaching science and the theories that aim

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to improve the quality and quantity of learning, and despite the breadth of information and theories. it found that it does not meet all desires or may not be related to the subject to be applied to it (Optimal challenge) for its role in enhancing the learning process and setting up an optimal competitive structure (Bunker, Thorpe, 1982) to identify the causes of:

- Low achievement after completing the learning phase.
- Little knowledge about games.
- Technic is unchangeable.
- Inability to make the right decision.
- Rely on the instructor or the teacher in making the decision.
- Low cognitive level of the student.

In order to understand the objectivity of this structure, (Banker, Thrope, 1982) launched a name"Teaching games for understanding framework (TGFU)"

It has been a very popular international market for over a decade and is the world leader concept in schools and clubs for the mediation of sports games viewed model is called Teaching Games for Understanding (TGfU). It proposes a new way of mediation of sports games, by the development of the "sense of play" by an early immersion of the child in play situations. (Bunker et al., 1986)

Reeve (1996) suggests that this method increases the amount and motivation of learning provided that the instructor or teacher who embraces the inclusion method provides the ability to provide the optimal competitive environment for all students. This means that the cognitive level environment of the skill in the capacity to perform duty.

If the duty between two different levels of students in the sport of swimming, we will find that one of them and the owner of the news gets bored for the other student's lack of any known information about this game, which gets tired.

Bredekamp (1992) emphasizes that the objective of (TGFU) is to build skill for all levels of difficulty to suit everyone in terms of (age, cognitive level, ability).

Using the method of inclusion in the educational process by the teacher will guide everyone to succeed in fulfilling the duties assigned to him.

Werner et al., (1996) developed a model of (TGFU)in which we see that the student is in the middle of this model and therefore develop his skills to suitability. Therefore, the first step developed to understand the course and characteristics of the game. The third step concerns the tactical aspect of the game, which activated by doing the duty. the fourth step concerns the ability

to make the right decision and considers the outcome of the previous steps (2,3), followed by the step in which the movements are excluded for performance plus any purification stage to improve the quality of learning within a given skill level down to the achievement as contained in the final stage.

Muska, Sara (1986) states that the teacher in (TGFU) method is supposed to assist the student in choosing the level of entry to the assignment. This level is the middle level that suits the student. This means that the entry level for the job is not easy or difficult.Teaching styles that the method of (TGFU) mainly intended to involve all the students in the class in the performance of the required duty, and in this method, there is no (principle of failure) in the sense that all students are successful in the performance of duty.

Chalip et al., (1984) adds that research in the (TGFU) method stated that in the case of "providing the right option for the duty," the student can assess his / her ability to accomplish the duties and effectiveness, thus the competitive level of effectiveness will be balanced.

Muska & Sara, (2001) considered the reverse modality to be the method of exclusion or exclusion that depends on the liquidation of students to the best students in performance and intelligence, and perhaps the best fit. Each adds that the inclusion style is designed to enable each student or individual participation in the duty, taking into account the principle of individual differences between learners. Where this process is to diversify (by internal or external factors) related skill and to enable everyone to perform the same duty and at the same time and ability to evaluate themselves end of performance.

In an article entitled A Setting suitable learning challenges (1999), the development of standards of learning difficulty to improve learning related to the requirements of the inclusive structure of the teacher and the student and the educational process, this article presented three principles:
1. Prepare appropriate educational levels.
2. Ability to provide a variety of requirements relative to the student's ability.
3. Ability to address the barriers to education and the ability to assess the student or the learning group.

The teacher when planning or teaching in the process of inclusion must consider the three principles. The teacher or the trainer must understand and know the student's ability to enable the teacher to develop a special program and the contents of the program of different levels to suit the expected ability of the teacher;the student allowed choosing the appropriate levels of the assignment. Many emphasize that the space left to

the student (allowing the choice) will increase learning motivation and increase self-confidence.

Theteaching unit in the inclusion method goes through several stages:

a. Pre-Impact Set:

The teacher makes all the decisions at this stage. In order to present the method to a new class, the teacher prepares the idea and reviews its stages, sentences and appropriate questions.

b. The Impact Set:

1. Creating the lesson by presenting the idea and this can be done by explaining, or directing a number of questions to the student lead to the discovery of the idea to be taught.

2. Identify the primary goal of the method - to contain the student in the performance of duty by finding a certain extent in which the performance of duty or duties.

3. Clarifying the student's role that requires:

- Check options.
- Select the initial level of performance.
- Duty performance.
- Evaluate the individual's self-performance in comparison to the required standard.
- Determine whether another level is required or appropriate.

4. Clarifying the teacher's role:

- Answer student questions.
- Initiate communication with the student.

5. Presenting and presenting the subject of the lesson, and description (individual program). That is, determine the factor determining the degree of difficulty.

6. Develop regulatory and administrative procedures and establish the necessary measurements or measurements.

7. At this point, the pupils of the class can spread, start, and engage in their individual roles and duties.

c. The Post Impact Set:

1. Students evaluate their performance using the criterion sheet or criterion sheet.

2. The teacher monitors the students for a period of time, moves between them, communicates with each student individually, and gives feedback about the level of participation and the role of the student.

Muska & Sara (2001) believes that inclusion is one of the most important and effective methods of learning: inclusion ensures success in fulfilling the required assignment and notes that the teacher in this manner decides or gives what is required of duties during the quota as well as explaining the points of skill. The teacher must provide levels of difficulty to the task to be implemented, so that the student can choose the appropriate level of its ability and can summarize the elements that can express the level of difficulty of skill or duty (size - the weight of the trainee - distance - height– body location - the size of work or the quality of achievement).

Muska & Sara (2001) has assigned the student responsibility to determine whether they can move to a more difficult level of duty.

The development of a sports skills training program involves a number of controversial issues, ranging from general aspects that concern parents, physicians, and educators - such as.What is the most appropriate age to begin training in a particular sport? - As well as specific issues constantly discussed by coaches, such as. What is most important to improve players' skills: repetition or variation of movement? How to identify and correct the errors presented in the technical execution of the movements and how to play?

The interest in studying and reflecting on the most appropriate teaching and / or training strategies to help the player improve sports performance has increasingly won new researchers, diversifying the approaches used and the analyzed variables. One of the central themes is the discussion about the influence of the type of activity to be performed and the teaching model adopted to guide the process of acquiring the sports skills.

According to Greco, (1998), the scientific literature "does not yet have a convincing proposal regarding an ideal training model." The limitation of theoretical and methodological options compromises the diversification of initiation programs to sports training and, even, the efficiency of high-level training.

Theresults achieved by the synthetic-analytical model and contrary to the hegemony leading to its indiscriminate use, (Bunker, Thorpe, 1982) use tactical model of education, based on the development of game consciousness and the capacity to take By participating in adapted games (mini-games), rescuing the principles of the global-functional model as opposed to the analytic-synthetic model. From this initiative emerges. According to (Turner, & Martinek, 1999), a new research approach, dedicated to the comparison between models of technical and tactical teaching.

However, there is a lack of scientific research relating to the effective of (TGFU) on soccer skills. Current teachers practice based on tradition, intuition and emulation rather than empirical evidence. The purpose of this study was to investigate the effects of teaching games for understanding tactical awareness and decision making in soccer for college students.

Methods

Forty -five college students were randomly allocated to receive either two months of learning program, the experimental group used Teaching Games for Understanding (TGFU) (n = 24). In addition, the control group learning through the traditional method (n = 21). The data collected before and after the program for the two groups.

Table 1. Shown the age and Anthropometric Characteristics of the Groups (Mean ± SD)

Group	N	Age [years]	Weight [kg]	Height [cm]
Experimental	24	20 ± 1.9	75 ± 2.9	178 ± 3.1
Control	21	20 ± 1.2	73 ± 3.1	179 ± 2.2

Table 1 shown the age and anthropometric characteristics of the subjects. There no significant differences were observed in the anthropometric characteristics for the subjects in the different groups.

Instrument.

Game Performance Evaluation Tool. (G-PET)

A tool was used toPerformance components in the game and the characteristics of the game development. The design for the G-PET (Gutiérrez, 2008) based on instruments designed by (French, Thomas, 1987) and (Nevett, et al., 2001).

The most significant variations with respect to such instruments were the analysis of actions defensive and tactical contexts.

The reliability of theinstrument was established by means of test and with correlation coefficients higher than 0.80. Theinter-observer correlations among observers in all categories ranged from 0.77 to 1.00.

In each execution, the performance of skills such as successful (1) or non-successful (0). Decision-making was analyzed two levels. In both, the correct decision-making was codified as (1), and the wrong one as (0).

The first level evaluated the decision-making in relation to the execution of a skill or movement (for example, a decision-making process) correct (1) would be to pass the ball to an unmarked partner, and an incorrect decision (0) would move to unmarked a space in which an opponent is found). The second level analyzed the adaptation to the tactical context through the evaluation of the tactical intention of the players regarding the tactical context in which each action was. This level is established only for offensive actions.

Threeoffensive tactical contexts: retaining possession of the ball(1A), penetrate the defense (2A), and attack the target (3A). TO coding effects,tactical contexts of labeling such as 1A, 2A or 3A, respectively. When analyzing an action, researchers first assessed in what tactical context the action took place, or situated (could be coded as 1A 2A or 3A and be written first), and then evaluated the player's intent or applied principle (it could be coded also as 1A, 2A or 3A and be written in second place).

When the settled principle and the principle applied agree, the adaptation to the tactical context is correct. An example of correct adjustment to the tactical context would be as follows:

Player is trying to keep possession (passing or driving the ball) in a context of retaining possession of ball. This action was coded as 1A1A.

Example of incorrect adaptation would be as follows: the player is attempting to attack the target (by shooting) in a context of penetrate the defense. This second action (2A3A) is coded as incorrect.

The actions in which the player showed no tactical intent or participation in the gamewere also coded as incorrect. This Behaviorwas labeled as "player-watcher".

Table 2 summarizes and describes the coding categories.

In the technical-tactical skills listed in theleft are evaluated both the decision making first level and the execution of skills. These variables are presented through roles in the game. To be able to compare more clearlythe different aspects of the game, the related variables with technical-tactical skills were grouped into variables (Defense, attack, with ball, and without ball).

The second column includes variables related to the second level of decision-making: adaptation to thetactical context. The player performance in adapting to the tactical context was grouped ina unique variable (performance in adapting to the global context) and was analyzed through the three tactical contexts offensive.

Table 2. Description of the dependent variables for the measurement ofdecision-making

Execution of skills and Decision Making Level 1: selection of technical skills	Level 2 Decision Making: Adaptation to the tactical context
Striker with ball Pass Shot Driving	Performance in adapting to the context global (Overall efficiency over the whole of the game in the adaptation of the actions to the tactical context)
Striker without ball Uncheck	1A1A. Performance in adapting toTactical context for contexts of conservation the possession (efficiency in the selection of actions to preserve the ball when theTactical context is coded as"Context of retainingpossession ofball")
Defender with ball Marking (with ball) Shot blocked Entry Defensive aids (withball)	2A2A. Performance in adapting toTactical context for penetrating contextsIn defense (efficiency in the selection of actions to penetrate the defense when the tactical context is coded as"Penetrate the defense")
Defender without ball Marking (without ball) Interception Defensive aids (withoutball)	3A3A. Performance in adapting to context for contexts of attacking theobjective (efficiency in selectingactions to attempt to annotate when the contextTactic is coded as "context ofAttack target ")
Global Variables Defense / AttackWith ball / without ball	Observer player (a player is coded as an "observer player" when not shows tactical intent or participation inthe game)

Focus on exploration of possibilities in small-sided game play in team sports

Format:
mini-game (adapted/representative) > discussion ("debate of ideas") > regarding constraints and solutions > formulation of action plan > mini-game > observation/feedback/refining of game plan > mini-game >generalization to other team sports

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Statistical analysis

All statistical analyses were calculated by the SPSS statistical package. The results are reported as means and standard deviations (SD). Differences between two groups were reported as mean difference ±95% confidence intervals (meandiff ± 95% CI).Student's t-test for independent samples was used to determine the differences in parameters between the two groups. The $p<0.05$ was considered as statistically significant.

Results;

Table 3. Shown Mean ± SD,change Rate, and "T" sign between Pretests and Posttests for experimental group in execution of tactical skillsand Decision Making (Total)

Variables	Pretests		Posttests		Rate %	T sign
	M	SD	M	SD		
Striker with ball	67.78	11.15	81.66	14.87	20.48	Sign
Striker without ball	58.91	9.56	70	11.13	18.83	Sign
Defender with ball	71.66	14.23	92.34	17.98	28.86	Sign
Defender without ball	51.15	10.56	64.89	12.47	26.86	Sign
Global Variables	71.42	19.42	93.67	22.32	31.15	Sign
Decision Making (Total)	23.58	17.32	45.86	14.56	94.49	Sign

Significant differences, $p< 0.05$

It is clear from Table (3) that a statistically significant differences between the pretests and posttests for the experimental group in all execution of tactical skills and Decision Making.

Table 4. Shown Mean ± SD, change Rate, and "T" sign between Pretests and Posttests for control group in execution of tactical skills and Decision Making (Total)

Variables	Pretests		Posttests		Rate %	T sign
	M	SD	M	SD		
Striker with ball	64.32	14.33	68.98	12.65	7.25	No Sign
Striker without ball	59.56	15.39	63.76	16.43	7.05	No Sign
Defender with ball	73.24	19.76	80	23.21	9.23	NoSign
Defender without ball	54.32	20.55	60.23	19.69	10.88	NoSign
Global Variables	68.39	18.45	73.54	17.99	7.53	NoSign
Decision Making (Total)	21.76	14.74	32.32	13.21	48.53	NoSign

Significant differences, $p < 0.05$

It is clear from Table (4) that nonestatistically significant differences between the pretests and posttests for control group in all execution of tactical skills and Decision Making.

Table 5. Shown Mean ± SD and "T" Test between two Groups (experimental and control) in execution of tactical skills and Decision Making (Total)

Variables	Experimental group		Control group		T sign
	M	SD	M	SD	
Striker with ball	81.66	14.87	68.98	12.65	Sign
Striker without ball	70	11.13	63.76	16.43	No Sign
Defender with ball	92.34	17.98	80	23.21	No Sign
Defender without ball	64.89	12.47	60.23	19.69	No Sign
Global Variables	93.67	22.32	73.54	17.99	Sign
Decision Making (Total)	45.86	14.56	32.32	13.21	Sign

Significant differences, $p < 0.05$

It is clear from Table (5) that a statistically significant differences between the posttests for the experimental and control groups in Striker with ball,Global Variablesand Decision Making (Total). None significant differences in Striker without ball, Defender with ball, Defender without ball.

Discussion

This study assessed the effects of a 10-weeks teaching games for understanding on tactical awareness and decision making in soccer for college students. Experimental results indicated that all variables were improvement in the experimental group only after the teaching games for understanding program.

Simplifythe evaluation process by adapting it to theperiods available to the coach or teacher. Becauseof its complexity, the GPET is not an instrument that used by the students themselves, unlike the TSAP and the GPAI (Roberts, 2009; Speece, & Keogh, 1996; Villa & Thousand, 1992).

Using the TGFU model is based on traditional concepts criticized that there was dominance in the technical briefing and therefore very little real play time. In addition, hardly any connections established between the techniques and the problem, when and how these techniques are applied in the gameshould / can. This ultimately leads to the isolated learned techniques in the game itself "break".

Söll, (1997) emphasizes the teaching economy positively, because by the cross-sporting learning "are compared to many aspects and play situations .The main focus of this concept is the development of the ability to play and not the development of technical and tactical skills, learning process.

Carroll, (1989) identifies two factors that influence the student's learning:
1. Student perseverance.
2. Opportunity available.

The opportunity to learn is the time allowed for learning. At the end of the journey, Bloom was able to combine the long research results with the suggestions of Karon, Combine various elements related to the different relationships between (students - teaching method - achievement) and the three elements of the former (general theory or model).

The best method in the transfer and acquisition of knowledge is the method of TGFU. This method characterized by different qualities that suit the relationship between the student and the learning environment. This applies to the method of learning, which is a technique that uses both time, repetition and feedback to improve the quality and quantity of learning. The acquisition of error before moving to learning new motor skills and conversely, moving to learning new motor skills without correcting the errors in the previous skills will result in the retention of the error.

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