

# The Effects of TGfU, SEM and HTGfU-SEM on Psychomotor Badminton Doubles Game Play Outcome

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## Abstract

The research aimed to investigate the effects of Teaching Games for Understanding (TGfU) as a control group compared to Sport Education Model (SEM) and Hybrid TGfU and Sport Education Model (HTGfU-SEM) as treatment groups on the psychomotor domain in badminton doubles game play. The effectiveness of these models were assessed based on execution skills off serve, forehand, lob shot, drop shot and smash in badminton doubles game play. The research employed Quasi Eksperimental pre-posttest design. The sample involved a total of 96 students aged 13 years old chosen intactly and distributed equally each in three groups with 16 girls and 16 boys. The adopted Game Performance Assessment Instrument (GPAI) was employed to access psychomotor aspect of serve, forehand, lob shot, drop shot and smash. The data were analyzed using Mean, SD, ANOVA, MANOVA, MANCOVA and post-hoc test. MANCOVA analysis results showed that there were significant improvement in serve performance, forehand, lob shot and drop shot via HTGfU-SEM. Therefore HTGfU-SEM is recommended as game play instructional model for future learning skills in badminton.

**Keywords:** *Teaching Games for Understanding, Sport Education Model, Hybrid TGfU-SEM (HTGfU-SEM), psychomotor domain*

## 1. Introduction

The teaching games in physical education (PE) in Malaysia has been transformed into Teaching Games for Understanding (TGfU) in the Malaysian Standard Curriculum and Assessment (DSKP) for the Primary School Curriculum (KSSR) in Malaysia since 2011. Meanwhile in 2017 the TGfU teaching approach has begun to be implemented at Form One pupil level were introduced in Standard Curriculum and Assessment for Secondary School Curriculum (Kementerian Pendidikan Malaysia, 2015). PE teaching approach

using this model is said to be more holistic pedagogical, curriculum and assessment in sports games. In Malaysian schools to certain extent the effectiveness implementation of TGfU in term of psychomotor aspect compared to other models such as Sport Education Model (SEM) and hybrids model yet been tasted or been researched.

The purpose of the study was to compare TGfU model with SEM and Hybrid TGfU-Sport Education Model (HTGfU-SEM) focusing on psychomotor domains on executing badminton skills of serve, forehand, lob shot, drop shot and smash doubles game play. Yet the extent to which the TGfU-based instruction in Physical Education curriculum is implemented from a psychomotor aspect that allows students to perform skills and is applied in modification games, real games and competitions. This gives researchers the opportunity to study between TGfU and SEM.

The TGfU introduced by Bunker and Thorpe in 1982 which is a student-centered game instruction model and the focus game learning process (Nathan, 2014). As TGfU a student-centered approach, it aims to provide students with an understanding of the technical and tactical skills that have achieved success in various types of games as well as creating ongoing involvement (Mandigo & Holt, 2004). The original TGfU model proposed by Bunker & Thorpe (1982) proposes six steps in game instruction namely (i) game, (ii) game appreciation, (iii) tactical awareness, (iv) making appropriate decisions, (v) skill execution and (vi) performance. TGfU under pinns four pedagogical

principles: sampling, representation, exaggeration and tactical complexity (Griffin, Brooker, & Patton, 2005).

Meanwhile The Sport Education Model (SEM) was developed and introduced by Daryl Siedentop in 1994. The SEM is a curriculum and instruction model for the Physical Education (PE) program at the primary, secondary and tertiary level that focuses on students too. The three main goals that guide development in the SEM are to produce competent, literate and enthusiastic students (Siedentop, 1994). According to Siedentop (1994), SEM has six main features: seasons, affiliation, formal competition, culminating event, record keeping and festivities. In this model all students are given a role in learning to become captains, coaches, team managers, trainers, tool managers, statistics, referees, scorers, public officials and sports board members to be seasonal and change (Siedentop, 1994).

Metzler stated that there were eight instructional models designed as an alternative to teachers in PE teaching among them Teaching Games for Understanding (TGfU) and Sports Education Model (SEM) (Metzler, 2011). Teachers using TGfU instruction make cognitive domains as an interest and pupils learn the tactical aspects of the game through small sided game play, real games and modified games according to the student's progress (Harvey & Jarrett, 2014). Although cognitive domains are in importance through the design of teacher skills, technical skills are simultaneously developed in context accordingly (Werner, Thorpe, & Bunker, 1996).

Hastie (1998) states that the advantages of students participating in Sports Education increase their skills and make them more skilled, increase the level of responsibility in the environment of interpersonal behavior and enjoyment with friends and make decisions freely without waiting for the direction of the teacher. The study of step by step game play approach in volleyball performance high school students was conducted by Wallhead et al. (2014) showed an increase in technical and tactical using games performance. Another study by Mesquita, Farias, & Hastie (2012) was aimed at examining the impact of Hybrid Sport Education-Invasion Games Competence Model (SE-IGCM) applied to students in decision-making, The overall performance of the game play during the soccer season indicates improved skill execution, as well as tactical decision making. The study by Hastie &

Curtner-Smith (2006) proved TGfU and SEM are two curriculum models to help students participate in fair and equitable ways and challenge their thinking beyond technical replication and skills. According to Kirk, (2013), SEM is a model based on well-established and evidence-based pedagogy models where teachers focus on student-centered learning through cooperative and controversial pedagogy based on six features of the SE Model. The combination of components contained in TGfU and SEM is processed into Hybrid Teaching Games for Understanding - Sport Education Model (HTGfU - SEM) would be another alternatif instructional model for game teaching as proposal in this study.

So far quite big number of studies utilised TGfU model and tested it effects on psychomotor domain. However limited study investigated the effects of three differences models of TGfU, SEM. HTGfU-SEM in term psychomotor outcome in game play. This gives researchers the opportunity for comparison study between TGfU, SEM and HTGfU-SEM. Therefore the study aimed to answer the following question is: - (i) Are there any instructional effects of TGfU, SEM and HTGfU - SEM towards doing skills for serve, forehand, lob shot, drop shot, and smash in badminton doubles game at the pre-post test? The SEM is aimed at producing competent, literate and passionate students about the game.

## 2. Methodology

### 2.1 Research Design

The main research design in this study employed quasi-experimental pre-posttest with TGfU as control group while treatment group were SEM and HTGfU-SEM. Treatment groups and control group were selected through random sampling technique. The simple random sampling techniques was employed to select a total of 96 students equally divided 48 male and 48 female of students of 13 years old and distributed equally 32 students (16 female; 16 male) into TGfU, SEM and HTGfU-SEM.

### 2.2 Data Collection Process

All subjects were present in the court on the date and time set in the table. All subjects were briefed on badminton double game play executed for seven minutes in one set.

Each set of game play were will recorded with video recording for skills data collections during doubles badminton game play. Upon completion of all the tests (pre and post-test), the data was recorded by the research assistant and analyzed by two encoders (research assistants) based on the specified elements (serve, forehand, lob shot, drop shot, smash) of game observation instrument.

### 2.3 Intervention

The instruction models used in this research were the Teaching Games for Understanding (TGfU) developed by Bunker & Thorpe, (1982), Sport Education Model (SEM) by Siedentop, (1994) and Hybrid Teaching Games for Understanding - SEM (HTGfU-SEM) developed by the researchers. These three instructional models are assessed in term of psychomotor domains (serve, forehand, lob shot, drop shot, and smash) in doubles badminton game play. The teaching component of intervension each game involving five sessions in which each teaching and facilitating session was conducted within an hour (60 minutes). All models based on the Annual Lesson Plan developed from standard curriculum document (DSKP) by Malaysia Education Ministry (Bahagian Pembangunan Kurikulum, 2016).

### 2.4 Data Collection Tools

The administration of intervention for each model begins at second week, after the pretest testing procedures at first week. Briefing and training for instructors to research assistants were carried out before instruction intervention. Each school that has become a researcher's location has different teaching time and session. Intervention begins from second week to fourth week of badminton games. The fifth week was posttest. During the research, researchers ensure that all equipment and facilities that used were in good condition and safe to use to ensure the safety of the students in a controlled manner.

In the study, the Game Performance Assessment Instrument (GPAI) by Mitchell, Oslin and Griffin (Mitchell, Oslin & Griffin, 2013) and modified by Nathan (Nathan, 2014) was used to collect data . This modified instrument was used to assess psychomotor aspects (serve, forehand, lob shot, drop shot, and smash) of badminton games.

### 2.5 Data Analysis

The data were analyzed using Mean, SD, ANOVA, MANOVA, MANCOVA and post-hoc test.

## 3. Findings

Herewith enclosed the effects of TGfU, SEM and HTGfU-SEM in the aspect of doing the skills of serve, forehand, lobs shot, drop shot and smash in a badminton double game play at the pretest and posttest.

The findings of the pretest showed that there were significant differences between instruction based on TGfU-KSSM, SEM and HTGfU-SEM in the overall aspects of the skill component ie performing serve skills, forehand, lob shot, drop shot, and smash in double badminton game play ( $F(10,000, 178.00) = 3.698b$ ,  $p < .05$ ; Wilk's  $\Lambda = .686$ , partial  $\eta^2 = .172$ ). However, based on ANOVA's univariate results for these three models there was no significant difference in badminton serve ( $F(2,93) = 2.045$ ;  $p > .05$ , partial  $\eta^2 = .042$ ), forehand ( $F(2,93) = 1.409$ ;  $p > .05$ , partial  $\eta^2 = .029$ ) and drop shot ( $F(2,93) = 2.109$ ;  $p > .05$ , partial  $\eta^2 = .043$ ) except there was a significant difference in lob shot ( $F(2,93) = 3.291$ ;  $p < .05$ , partial  $\eta^2 = .066$ ) and significant difference smash ( $F(2,93) = 3.658$ ;  $p < .05$ , partial  $\eta^2 = .073$ ).

Table 1: Multivariate test at the badminton game pretest

Effect	V	F	Hyp. df	Error df	Sig.	Partial eta <sup>2</sup>
Wilks'	.686	3.698 <sup>b</sup>	10.000	178.000	.000	.172
Lambda						

Table 2: Univariate test of psychomotor ANOVA on badminton game pretest

Dependent variables	Df	F	Sig.	Partial eta <sup>2</sup>
Serve	2 93	2.045	.135	.042
Forehand	2 93	1.409	.250	.029
Lob shot	2 93	3.291	.042	.066
Drop shot	2 93	2.109	.127	.043
Smash	2 93	3.658	.030	.073

Since the findings of the study were significant at pre-test, the researchers employed multivariate MANCOVA as a covariate test. Based on MANCOVA test analysis, there were significant differences between instruction based on TGfU, SEM and HTGfU-SEM in the overall aspects of the skill component ie performing serve skills, forehand, lob shot, drop shot and smashing in badminton game ( $F(10.000, 168.000) = 3.179a$ ,  $p < .05$ ; Wilk's  $\Lambda = .707$ ,

partial  $\eta^2 = .159$ ). This result further supported by ANOVA's univariate results for these three models there were significant difference in serve ( $F(2,88) = 6.349$ ;  $p < .05$ , partial  $\eta^2 = .126$ ), forehand ( $F(2,88) = 3.532$ ;  $p < .05$ , partial  $\eta^2 = .074$ ), lob shot ( $F(2,88) = 4.436$ ;  $p < .05$ , partial  $\eta^2 = .095$ ) and drop shot ( $F(2,88) = 3.183$ ;  $p < .05$ , partial  $\eta^2 = .067$ ). Except for smashing skill ( $F(2,88) = .804$ ;  $p > .05$ , partial  $\eta^2 = .018$ ) there was no significant difference in all three of these models.

Comparative test results in Post-Hoc comparison based on the adjusted mean Bonferroni for badminton serve indicate too a significant difference; TGfU with HTGfU-SEM,  $p = .013$  ( $p < .05$ ). There is no significant difference between TGfU and SEM,  $p = .791$  ( $p > .05$ ) and HTGfU-SEM with SEM,  $p = .226$  ( $p > .05$ ). There was no significant difference in the results of the forehand of the three instructional models; TGfU with HTGfU-SEM,  $p = .374$  ( $p > .05$ ), TGfU with SEM,  $p = 1.000$  ( $p > .05$ ) and HTGfU-SEM with SEM,  $p = .745$  ( $p > .05$ ). While the TGfU badminton lob shot with HTGfU-SEM,  $p = .066$ , HTGfU-SEM with SEM,  $p = .179$ . and TGfU with SEM,  $p = 1.000$  indicates no significant differences to the three instructional models. Subsequently result for drop shot showed no significant results for all three instruction models; which is TGfU with HTGfU-SEM,  $p = 1.000$  ( $p > .05$ ), TGfU with SEM,  $p = .176$  ( $p > .05$ ) and HTGfU-SEM with SEM,  $p = .108$  ( $p > .05$ ). As for badminton smash results for all three instructional models showed that there was no significant difference between TGfU with HTGfU-SEM,  $p = 1.000$  ( $p > .05$ ), HTGfU-SEM with SEM,  $p = .942$  ( $p > .05$ ) and TGfU with SEM,  $p = 1.000$  ( $p > .05$ ).

Table 3: Multivariate test at the badminton game posttest

Effect	V	F	Hyp. df	Error df	Sig.	Partial $\eta^2$
Wilks' Lambda	.707	3.179 <sup>a</sup>	10.000	168.000	.001	.159

Table 4: Univariate test of psychomotor ANOVA on badminton game pretest

Dependent variables	Df	F	Sig.	Partial $\eta^2$
Serve	2	6.349	.003	.126
	88			
Forehand	2	3.532	.033	.074
	88			
Lob shot	2	4.636	.012	.095
	88			
Drop shot	2	3.183	.046	.067
	88			
Smash	2	.804	.451	.018
	88			

The findings of psychomotor studies in the aspects of performing serve skills, forehand, lob shot, and drop shot in the game of badminton showed significant differences, especially improvement in serve, forehand, lob shot and drop shot individual through HTGfU-SEM model.

#### 4. Discussion

The Finding of the present study showed there was a significant improvement in the psychomotor aspect of skill implementation via HTGfU-SEM in the performance of serves skills, forehand, lobs shot, and drop shot for double badminton game play. The present study findings on skills implementation in line by Wallhead et al., (2014) and Hastie et al., (2009). Based on Wallhead et al. (2014) find a game play approach affects and enhances game performance skills between them and more competitive. Hastie et al. (2009) through skills implementation approach in SEM able to players improve skill in game play.

The present study findings are supported by the findings of Webb, Pearson, & Forrest (2006). As TGfU model lesson able to develop tactical, decision-making, problem solving and developed skills. Result of present findings are consistent with Gagne (1985) stating that persistent skill training during training sessions and game sessions helps to strengthen short-term memory into long-term memory in order to avoid any disruption that causes the absence. Diversity in the formulation of game activities increases the pupil's desire to master something in the game to enable them to join other students playing with fun. TGfU by Bunker and Thorpe suggest ways to enable participants to be taught to appreciate the joy of playing games that lead to the desire to learn techniques to improve game performance (Hopper, 1998). Hence, the mastery of game skills can be enhanced when students are happy and enjoyable to participate in play activities especially after receiving tutor from teammates.

This current study proves that the stimulation through game play in teaching and learning PE time can improve the performance of the skills in the game thus resulting in better performance achievement learning skills in badminton via HTGfU-SEM. The results of the current study are in line with Mesquita et al. (2012) demonstrated the use of TGfU hybrid models and Sports Education to provide students with the opportunity to improve their skills, and to make tactical decisions. The TGfU and SEM share some of the objectives and pedagogical processes (Gil-Arias, Harvey, Cárceles, Práxedes, & Del Villar, 2017) resulting in a positive impact in the improvement of game skill development among students. The TGfU pedagogical process has four things: (i) sampling, (ii) game

representation, (iii) exaggeration and (iv) tactical complexity that support the HTGfU-SEM. Furthermore, using the modified GPAI instrument for teachers in PJ teaching helps in the process of assessing and assessing students in performing psychomotor aspects more effectively. Based on the results of this assessment, it was attributed to the three theories underpinning HTGfU-SEM development. The theories are cognitive theory, constructivism theory and complex learning theory.

Furthermore, the findings of the study on the aspects of performing serve skills, forehand, lob shot, drop shot, smash game badminton are parallel to the study by Pereira, Araújo, Farias, Bessa, & Mesquita (2016) found that SEM is very useful for low-skilled pupils. Therefore, the arrangement of activities with real game modifications and incorporating competition elements encourages pupils to participate and directly improve their skills from a low-skilled person to skilled. SEM places the role of pupils in teaching and learning sessions, such as coaches, team managers produce leadership to help teammates improve skills by direct instruction in the game. One of the key features of the Sports Education Model is team consolidation, giving role to students (Siedentop, 1998). Role given to students in team affiliation makes them more motivated to join teammates in activities without limiting participation even if they are low-skilled.

Siedentop (1998) through his study found that one out of six features in the Sports Education Model were formal competitions. Therefore, the enhancement of badminton psychomotor aspects through SEM and HTGfU-SEM was to develop on specific skills and fitness for a particular sport, appreciate and be able to implement game strategies in sports and participate in a level appropriate to the level of skill upgrades in formal competitions. TGfU by Bunker and Thorpe is the best way to introduce students to the game (Kirk & MacPhail, 2002). Apart from focusing on skill performance, students were taught how to develop their understanding of games from different categories. In the SEM there is a role given to pupils and formal competitions. Mastery of basic skills for each game can be enhanced from low skilled to highly skilled through many game chances of being played from modified games to real games in formal competitions. Hence, in line with the SEM that aims to build pupils into individuals who are competent, literate and enthusiastic students (Siedentop, 1998). Role such as team managers and coaches given to pupils helps them in game interaction to provide guidance to teammates in terms of skills. The incorporation of this element helps in enhancing mastery in the psychomotor aspect of the implementation of skills in the game.

## 5. Conclusion and Future Agenda

This paper investigated the effects of TGfU, SEM dan HTGfU-SEM approach on student psychomotor learning outcomes in doing skills and implementation in game play. The findings of the study showed that TGfU, SEM and HTGfU-SEM indicated important content to cause this model to be used in the future in the game curriculum. SEM reworked with TGfU combination can be too used for learning skills in game. Pupils with difference ability use to perform skills learn from their teammates to increase their skills base on team work. The possibilities of the study have found that SEM can stand alone to assist in the improvement performance skills and implementation in the game. The re-processed SEM with TGfU combination can be used in learning skills. SEM is more flexible and can be combined with another model as one of the instruction models. This current study suggests that SEM is better approach for decision making but the extent to which SEM can be applied across the country allows further studies to be made. Perhaps further studies can use replicate this study to be conducted against SEM compatibility with TGfU and HTGfU-SEM. Therefore HTGfU-SEM is recommended as game play instructional model for future learning skills in game.

## References

- [1] Bahagian Pembangunan Kurikulum. (2016). Pendidikan Jasmani dan Pendidikan Kesehatan (Dokumen Standard Kurikulum dan Pentaksiran) Tingkatan 1. Malaysia: Kementerian Pendidikan Malaysia.
- [2] Bunker, D., & Thorpe, R. (1982). A model for the teaching of games in secondary schools. *Bulletin of Physical Education*, 18.
- [3] Gagne, R. M. (1985). *The conditions of learning and theory of instruction - Robert Mills Gagné - Google Books* (4th ed.). New York: Holt, Rinehart & Winston, Inc.
- [4] Gil-Arias, A., Harvey, S., Cárceles, A., Práxedes, A., & Del Villar, F. (2017). Impact of a hybrid TGfU-Sport Education unit on student motivation in physical education. *PLOS ONE*, 12(6), e0179876. <https://doi.org/10.1371/journal.pone.0179876>
- [5] Griffin, L. L., Brooker, R., & Patton, K. (2005). Working towards legitimacy: two decades of teaching games for understanding. *Physical Education & Sport Pedagogy*, 10(3), 213–223. <https://doi.org/10.1080/17408980500340703>
- [6] 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>
- [7] Hastie, P. (1998). Applied Benefits of the Sport Education Model. *Journal of Physical Education, Recreation & Dance*, 69(4), 24–26. <https://doi.org/10.1080/07303084.1998.10605530>
- [8] Hastie, P. A., & Curtner-Smith, M. D. (2006). Influence of a hybrid Sport Education—Teaching Games for Understanding unit on one teacher and his students. *Physical Education & Sport Pedagogy*, 11(1), 1–27. <https://doi.org/10.1080/17408980500466813>
- [9] Hastie, P. A., Sinelnikov, O. A., & Guarino, A. J. (2009). The development of skill and tactical competencies during a season of badminton. *European Journal of Sport Science*, 9(3), 133–140. <https://doi.org/10.1080/17461390802542564>
- [10] Hopper, T. (1998). Teaching games for understanding using progressive principles of play. *The Journal of Physical Education, Recreation & Dance*.
- [11] Kementerian Pendidikan Malaysia. (2015). Pendidikan Jasmani dan Pendidikan Kesehatan (Dokumen Standard Kurikulum dan Pentaksiran) Tingkatan 1. Malaysia: Kementerian Pendidikan Malaysia.
- [12] Kirk, D. (2013). Educational Value and Models-Based Practice in Physical Education Educational Value and Models-Based Practice in Physical Education. *Educational Philosophy and Theory*, 45(9), 873–986. <https://doi.org/10.1080/00131857.2013.785352>
- [13] 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>
- [14] Mandigo, J. L., & Holt, N. L. (2004). Reading the game: Introducing the notion of games literacy. *Physical and Health Educational Journal*, 70(3), 4–10.
- [15] Mesquita, I., Farias, C., & Hastie, P. (2012). The impact of a hybrid Sport Education-Invasion Games Competence Model soccer unit on students' decision making, skill execution and overall game performance. *European Physical Education Review*, 18(2), 205–219. <https://doi.org/10.1177/1356336X12440027>
- [16] Metzler, M. (2011). *Instructional Model for Physical Education* (3rd ed.). Scottsdale, AZ: Holcomb Hathaway.
- [17] Mitchell, Stephen A. Oslin, Judith L. Griffin, L. L. (2013). *Teaching Sport Concepts and Skills : A Tactical Games Approach for Ages 7 to 18* (3rd ed). Champaign, IL: Human Kinetics.
- [18] Nathan, S. (2014). *Instruksi Model Taktikal Permainan. malaysia: PTS Akademia.*
- [19] Pereira, J., Araújo, R., Farias, C., Bessa, C., & Mesquita, I. (2016). Sport Education and Direct Instruction Units: Comparison of Student Knowledge Development in Athletics. *Journal of Sports Science & Medicine*, 15(4), 569–577.
- [20] Siedentop, D. (1994). *Sport Education: Quality PE Through Positive Sports Experiences.* Human Kinetics Publishers.
- [21] Siedentop, D. (1998). What Is Sport Education and How Does It Work? *Journal of Physical Education, Recreation & Dance*, 69, 19–20. <https://doi.org/10.1080/07303084.1998.10605528>
- [22] Wallhead, T. L., Garn, A. C., & Vidoni, C. (2014). Effect of a sport education program on motivation for physical education and leisure-time physical activity. *Research Quarterly for Exercise and Sport.* Taylor & Francis. <https://doi.org/10.1080/02701367.2014.961051>
- [23] Webb, P. I., Pearson, P. J., & Forrest, G. (2006). Teaching Games for Understanding (TGfU) in primary and secondary physical education, in ICHPER-SD International Conference for Health, Physical Education, Recreation, Sport and Dance, 1st Oceanic Congress, Wellington, New Zealand, 2006.
- [24] Werner, P., Thorpe, R., & Bunker, D. (1996). Teaching Games for Understanding: Evolution of a Model. *Journal of Physical Education, Recreation & Dance*, 67(1), 28–33. <https://doi.org/10.1080/07303084.1996.10607176>

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