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THE EFFECT OF USING TGfU APPROACH IN TEACHING BASKETBALL DURING THE PHYSICAL EDUCATION LESSON ON POSITIVE BEHAVIOR AMONG PRIMARY SCHOOL STUDENTS

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ABSTRACT

The aim of this study is to investigate the impact of teaching basketball using the Teaching Games for Understanding (TGfU) method on positive behaviour in primary school children during physical education classes. The study aimed to assess whether the use of the TGfU approach resulted positive behaviour, understanding the rules and strategies and enjoyment. The TGfU method focuses on developing problem-solving and decision-making skills through sports and gameplay. The study conducted with a total of 60 primary school students from an international school in Malaysia. A group of 30 students who were taught basketball using the TGfU method and a control group of 30 students who were taught using the traditional method. During a two-week teacher training in TGFU, educators were prepared to utilize the TGFU approach for teaching basketball skills to students during a three-week as a part of the school physical education syllabus. Following the teaching, data analysis was performed using Statistical Package for Social Sciences (SPSS) to generate descriptive statistics, incorporating students' School Social Behaviour Scale-2 (SSBS-2) scores for each group. The study used the independent T-test method to examine how TGfU influences students' positive behaviour through comparing the findings between the experimental and control groups. A standardized rating scale is used to assess the children's behaviour, and the results showed that the students who participated in classes taught with the TGfU method demonstrated significantly higher levels of positive behaviour compared to both the control group and the students who were taught with the traditional method. These findings add weight to the idea that the TGfU method is a viable alternative for promoting positive behaviour in physical education classrooms. It is suggested that further research be conducted to gain a better understanding of the long-term effects of the TGfU approach on student behaviour. Additionally, possible future research topics could include the use of the TGfU method in coaching various sports.

Keywords: Teaching Games for Understanding (TGfU), Positive behaviour, Primary school children, Physical education, Problem-solving

INTRODUCTION

Teaching Games for Understanding (TGfU) is an innovative approach in physical education that focuses on using games to enhance students' comprehension of sports concepts, rules, and strategies. Daryl Siedentop introduced this method in the 1980s. Positive behavior is characterized by constructive actions that foster individual and communal well-being, including attributes like respect, responsibility, and cooperation (Clarke, 2021). The link between teaching methods and student behavior is intricate and multifaceted. Certain teaching approaches are shown to promote positive behavior, such as engaging methods with clear expectations and those incorporating positive reinforcement and modeling. Conversely, overly strict, or punitive methods can lead to negative behavior (Clarke, 2021). Childhood significantly shapes personality, forming habits, preferences, skills, and values. Physical, mental, psychological, social, and emotional development are influenced by the local environment's social, cultural, health, and educational components. Attitudes are intricate yet potent drivers of human behavior. Childhood attitudes impact our inclination towards an active or sedentary lifestyle. These attitudes develop through evaluative reactions, often underemphasized in physical education (Yeung, 2019).

Spectrum International School's (SIS) Physical Education (PE) classes are led by certified teachers with a training and probation period. While no specific teaching style is mandated, most teachers employ traditional methods. SIS PE teachers aim to engage students using diverse strategies. However, improvement and consistent training are needed to address issues with positive behavior, like peer relations and cooperation. Despite blaming home situations, extensive research correlates school quality with academic outcomes and behavior. School traits influence behavior and academic achievement more than home factors (Li et al., 2022). Physical activities and sports equipment are proven to enhance physical capacity, social behavior, and mental skills (Yılmaz, 2018). The study focuses on a specific sport due to limited time for the basketball module at SIS according to the PE syllabus. Prior research indicates that three weeks can impact behavior (Vahabzadeh, 2018).

A PE lesson refers to a class designed to develop physical skills, fitness, and overall health. PE lessons encompass sports, games, and exercises to improve physical abilities and well-being. Positive behavior includes communication, cooperation, and self-control, fostering individual and communal well-being. Understanding basketball rules denotes grasping game regulations, positions, fouls, and scoring methods. Enjoyment and engagement pertain to students' interest and enthusiasm during basketball lessons.

TGfU emphasizes understanding game principles over mere skill acquisition. Prior studies highlight its positive impact on behavior, like enhanced teamwork. Past research focused on TGfU's short-term effects in basketball instruction. There's a gap in understanding its long-term influence on behavior (Dyson et al., 2021). A study applied TGfU to primary basketball instruction, showing improved attitudes and behavior, emphasizing teamwork and participation (Zach, 2020). Despite these promising findings, more research is required to comprehensively explore TGfU's impact on students' positive behavior during basketball instruction.

This research seeks to investigate the effects of TGfU application in basketball instruction during PE on primary school students' positive behavior. There are three objectives of this Study. The objectives are to compare positive behavior during PE lessons between TGfU and control groups. To assess students' comprehension of basketball rules and strategies between TGfU and control groups. To analyze students' engagement and enjoyment in basketball activities between TGfU and control groups. This research utilizing TGfU in PE can proactively influence elementary students' positive behavior and nurture their holistic development. The study's findings could prevent undesirable behavior and its consequences during this formative phase. It's an opportunity to enhance students' essential positive behaviors and overall growth.

METHODOLOGY

Research design

The researcher used a quasi-experimental design to conduct this research. A naturalistic observation quantitative methodology used based on a control group and an experiment group to observe the student's behaviour after using teaching games for an understanding approach for 3 weeks in teaching basketball during the physical education lesson. The observational design allowed the researchers to explore answers to questions where a randomized controlled trial would honestly behave without other influences, to provide accurate results to answer the research questions (Siebert, 2019). In this research, student behaviour was served as the dependent variable. This design was suitable to observe the effect of the independent variable (using TGfU approach in teaching basketball during the PE lesson) on the student's behaviour.

Population and sample

The study conducted with a total of 60 primary school students from an international school in Malaysia. Random sampling was used to select the participants in order to ensure a representative sample from a database of student records. 30 primary school students who were learning basketball during the physical education lesson using the TGFU approach at school were randomly selected as the experiment group, and the other 30 students are learning basketball during the physical education lesson using the instructional approach to be the control group. All the data on the 4^{th} to 6^{th} graders came straight from the district's data coordinator and superintendent. A stratified random sample ensures that all relevant demographic subgroups are included (García-Castejón 2021). This strategy was chosen to make sure there were as many males as female participants.

Data Collection Procedure

The process started with teachers training in TGFU. The teachers attended two training sessions to ensure that the teachers have a good understanding of using the TGFU approach and enhance their experience and explain to them the process takes part for the coming three weeks (García-Castejón 2021). The teachers used the TGFU approach to teach the students certain skills of basketball during the physical education lesson for three weeks, two sessions a week for one hour each session. A naturalistic observation quantitative methodology used based on the control group and the experiment group to observe the student's behaviour after using TGFU approach for 3 weeks. The study focuses on a specific sport due to limited time for the basketball module at SIS according to the PE syllabus.

Intervention schedule

Week	Control Group	Experimental Group
Week one	The teacher teaches the students to dribble the basketball during the physical education session two sessions a week, one hour each session, using the traditional instructional approach.	The teacher teaches the students to dribble the basketball during the physical education session two sessions a week, one hour each session, using the TGfU approach.
Week Two	The teacher teaches the students to pass and receive the basketball during the physical education session two sessions a week, one hour each session, using the traditional instructional approach.	The teacher teaches the students to pass and receive the basketball during the physical education session two sessions a week, one hour each session, using the TGfU approach.
Week Three	The teacher teaches the students to shoot the basketball during the physical education session two sessions a week, one hour each session, using the traditional instructional approach.	The teacher teaches the students to shoot the basketball during the physical education session two sessions a week, one hour each session, using the TGfU approach.

Instrument

The School Social Behaviour Scale-2 (SSBS-2) used by the PE teachers in Spectrum international school to assess students' positive behaviours such as communication skills, cooperation, and self-control, and to measure the students' enjoyment and engagement during the PE lesson. The SSBS-2 measures a variety of social behaviours such as cooperation, assertion, and responsibility. The scale consists of two sections, with one section assessing the student's behaviour and the other section assessing the perceptions of teachers. The SSBS-2 contains 32 items in each section. There are two overall scores reported: Social competence, Antisocial behaviour. And there are six sub scores: Peer relations, Self-management/Compliance, Academic behaviour, Hostile/Irritable, Anti-social/Aggressive, and Defiant/Disruptive.

The SSBS-2 has been found to have good reliability, with high test-retest and internal consistency reliability coefficients. Its validity has also been established through research showing a positive correlation between scores on the SSBS-2 and other measures of social behaviour and academic performance. Evidence is based on teacher ratings of 1,858 students in grades K-12 from 22 different public-school districts. Reliability evidence internal consistency was estimated for the overall scales (0.98) and the six subscales (ranged from 0.94 to 0.96). Test-retest reliability was estimated over a three-week interval, and estimates ranged from 0.60 to 0.82. Inter-rater reliability was estimated by correlating teacher ratings with classroom aide ratings (0.53-0.83) (Merrell, 1993). Validity evidence initial development of the SSBS-2 was based on the literature review of behavioural descriptors and a review of existing instruments. These descriptors and items were reviewed by teachers, graduate students, and parents of children in grades K-12 (Merrell, 1993). SSBS-2 scores correlated in the expected directions with scores on similar scales on the Waksman Social Skills Ratings Scale, the Connors Teacher Ratings Scale, and the Walker-McConnell Scale of Social Competence and School Adjustment. SBSS-2 scores correlated significantly with independent behavioural observations (Merrell, 1993). Separate studies have found evidence that scores of special education students diverged from regular education students (Merrell, 1993)

Data Analysis

Statistical Package for Social Sciences (SPSS) version 28 used to analyze the data and generate descriptive statistics. Students SSBS-2 scores was entered into SPSS for each group under the study questions, and differences in group means were analysed for its reliability and validity values. The independent samples t-test was used to determine whether there is a statistically significant difference in student behavior before and after the teaching game and identified any trends or patterns in the data, such as whether certain types of students respond better to the teaching game than others.

RESULTS

The results of the independent T-test showed that there was a statistically significant difference between the experimental and control groups. The experimental group that used the TGfU technique had significant primary effects on social competence ($F(1,58) = 6.417$, $p<.001$), understanding the rules and strategies ($F(1,58) = 18.831$, $p<.001$), and pair relation and enjoyment ($F(1,58) = 18.831$, $p<.001$). Additionally, the study found a statistically significant difference in terms of antisocial behaviour ($F(1,58) = -22.558$, $p<.001$). The findings demonstrate that the use of TGfU has a positive impact on students' overall learning outcomes compared to the traditional skill approach.

Table 1 Mean and standard deviation of social competence and antisocial behavior score

Group Statistics					
	Group	**N**	**Mean**	**Std. Deviation**	**Std. Error Mean**
Social Competence	Experimental Group	30	142.63	12.89	2.35
	Contol Group	30	86.20	21.31	3.89
Antisocial Behavior	Experimental Group	30	50.13	10.62	1.94
	Contol Group	30	127.73	15.56	2.84

Table 2 Independent samples test for social competence and antisocial behaviour

		Levene's Test for Equality of Variances		**t-test for Equality of Means**			
						Significance	
		F	**Sig.**	**t**	**df**	**One-Sided p**	**Two-Sided p**
Social Competence	Equal variances assumed	6.417	.014	12.411	58	<.001	<.001
	Equal variances not assumed			12.411	47.718	<.001	<.001
Antisocial Behaviour	Equal variances assumed	1.079	.303	-22.558	58	<.001	<.001
	Equal variances not assumed			-22.558	51.211	<.001	<.001

According to the findings in tables 1 and 2, there was a statistically significant difference between the experimental and control groups in terms of the positive behaviour measured by the post-test total score ($F(1,58) = 6.417$, $p<.001$). This finding demonstrated that the experimental group that used the TGfU technique had significant primary effects on the positive behaviour when compared to the standard traditional approach.

Table 3 Mean and standard deviation of academic behavior understanding score

Group Statistics					
	Group	**N**	**Mean**	**Std. Deviation**	**Std. Error Mean**
Academic Behavior Understanding	Experimental	30	63.93	4.87	.89
	Control	30	36.93	11.07	2.021

Table 4 Independent samples test for academic behaviour understanding

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	**Sig.**	**t**	**df**	**Significance One-Sided p**	**Significance Two-Sided p**
Academic Behaviour Understanding	Equal variances assumed	18.831	<.001	12.228	58	<.001	<.001
	Equal variances not assumed			12.228	39.821	<.001	<.001

According to the findings in tables 3 and 4, there was a statistically significant difference between the experimental and control groups in terms of the understand the rules and strategies measured by the post-test total score ($F(1,58) = 18.831$, $p<.001$). This finding demonstrated that the experimental group that used the TGfU technique had significant primary effects on the positive behaviour when compared to the standard traditional approach.

DISCUSSION

The purpose of this study was to investigate the impact of the TGfU strategy on positive behaviour, understanding the rules and strategies, and enjoyment of primary students during physical education classes. The independent T-test was used to compare the experimental group, who received instruction using the TGfU approach, with the control group, who received instruction using the traditional skill approach. The results showed that there was a statistically significant difference between the two groups in terms of the positive behaviour, understanding of rules and strategies, and enjoyment of physical education, as measured by the post-test total scores.

The positive behaviour scores of the experimental group were significantly higher than those of the control group, demonstrating the effectiveness of the TGfU approach in promoting positive behaviour among students. Additionally, the results showed that students in the experimental group had a better understanding of the rules and strategies of the games compared to those in the control group, which suggests that the TGfU approach is more effective in promoting students' understanding of rules and strategies than the traditional skill approach. The results also showed that the students in the experimental group had a higher level of enjoyment in physical education compared to those in the control group. This suggests that the TGfU approach is more effective in promoting enjoyment among students compared to the traditional skill approach.

Positive Behaviour Among Students

The study reveals that using the TGfU technique positively impacted students' behavior compared to the traditional method. This strategy improved social skills. Previous studies found identical effects regarding enhancing emotions and behaviours when the students participate as team members in a game. Playing as a team member enhances emotions and behaviours such as dealing with children, supporting

others, empathy, being courteous to colleagues and friends, following play rules, and being respectful (Turan et al., 2020). This study emphasizes the importance for PE teachers to use TGfU to create a positive environment, boost confidence, and promote well-being. Regular playing and practicing motor activities play a vital part in giving chances for balanced and appropriate development. (Yeung, 2019). Additionally, TGfU enhances overall health by encouraging physical activity and fostering inclusivity. The results highlight TGfU's effectiveness in promoting positive behavior and social competence among students. In the playing environment, many behaviours and norms are evaluated and mastered (Sallis et al., 2019). According to the researchers, children's behavioural-cognitive skills increased as a result of their social involvement in play. (Nalkran, 2021). The findings show that children's social participation in play improved their behavioural-cognitive abilities.

Understanding of The Rules and Strategies

The study reveals that students trained with TGfU had better tactical knowledge and decision-making skills, demonstrated through their improved performance and understanding of the game. The research also aligns with prior studies by Wang, Wang, and Jiang, emphasizing the effectiveness of progressively coupling strategic elements. TGfU engages the pupil in a gaming environment where tactics, decision-making, problem-solving, and skill are all taught concurrently. (Wang & Wang, 2018). This study compared the effects of using the TGfU approach versus a traditional skills-based approach in teaching basketball to primary students. The researchers found that students who were taught using the TGfU approach showed greater improvement in their understanding of the underlying principles of the game, as well as increased cooperation and teamwork. (Jiang, 2022). The study findings show that TGfU enabled students to apply learned offensive and defensive strategies to various scenarios, fostering problem-solving and competitiveness within modified game setups. Notably, students taught using TGfU excelled in decision-making, surpassing those instructed through traditional skills. The study contributes to the body of knowledge supporting TGfU's positive impact on students' learning outcomes and understanding of game rules and strategies, enhancing their engagement and collaborative learning experience.

The Students' Enjoyment and Engagement

The TGFU group in this study displayed increased engagement and motivation compared to the other group. The study draws on Yeung's research (2019) indicating that Childhood attitudes can influence whether we choose to be active or sedentary in our daily life. Stating that pupils' attitudes may potentially impact physical activity engagement. It is critical to understand students' attitudes toward physical education. In this study competence was fostered through active participation, allowing them to feel in control and exhibit mastery. Group games facilitated communication and idea sharing. Relatedness, or a sense of belonging, results from group activities. Students who develop negative attitudes are less likely to engage in regular physical exercise (Yeung, 2019). The recent study's findings aligned with the prior one, illustrating TGFU's role in problem-solving and self-analysis through engagement in relevant activities.

CONCLUSION

In conclusion, the findings of the research suggest that the implementation of the TGfU approach in basketball instruction can lead to improved student behaviour, understanding of the game, and engagement in physical activity. The results indicate that the use of TGfU can result in improved levels of self-regulation, cooperative behaviour, and problem-solving skills among students in elementary schools. Additionally, the study found that TGfU has the potential to motivate students to develop positive attitudes toward sports and physical exercise and become more physically active.

The implications of this research are far-reaching and could have a significant impact on physical education in primary schools. The findings of this research may inform the decisions of educators and administrators in terms of incorporating the TGfU approach in physical education programs and

educational policy. Moreover, the results of this research could also influence the decisions of parents and primary caregivers when it comes to choosing physical education programs for their children.

However, it is important to note that this research is subject to limitations, such as a small sample size, which may affect the external validity of the findings. It is recommended that future studies be carried out with a larger sample size to increase the validity of the findings and to better understand the long-term effects of the TGfU approach on student behaviour and performance.

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