

Innovative football training: Android-based team games tournament model

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Abstract

In the digital era, traditional soccer training often fails to engage tech-savvy students, requiring innovative approaches like Android-based tournament models. By integrating technology with cooperative learning, these models enhance students' soccer skills, strategic understanding, and motivation. This study aims to see the effect of developing the Team Games Tournament (TGT) method with Android-based online games in improving students' understanding of playing soccer. This research method uses the ADDIE model as a framework for making products, with a quantitative approach used to process data obtained through questionnaires in the form of descriptive percentages. The sample involved in this study were 32 students, the sampling technique used was purposive sampling. The results of this study indicate that there is an effect of the pakgolo learning model in improving students' understanding of playing soccer, this is reinforced by the results of the sigs (2-tailed) analysis with a sig (2-tailed) value of 0.000 which means that the sig (2-tailed) value < 0.05 . With the value of $t_{count} = -19.402$ with $df = 126$ so that the $t_{table} = -28.503$ is obtained. The conclusion of this study provides a unique method with a combination of technology and cooperative learning, which is rarely widely applied, especially in soccer learning. The contribution of this study adds a new method that can improve skills with a very fun method so that students easily understand the learning material.

Keywords: Android-based online, games, team games tournament, soccer.

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INTRODUCTION

Traditional physical education programs focus primarily on technical skills without tactical or strategic elements, which can demotivate students. This may reduce student physical activity and social and collaborative abilities. In contrast, more contextualized and interactive approaches, such as Teaching Games for Understanding (TGfU), can provide more relevant learning experiences by engaging students in real game situations, where they learn through exercises that emphasize both tactical and strategic aspects at once (Luo et al., 2020; Metzler, 2011). Thus, students not only master technical skills but also understand the mechanics and structure of game strategies (Gui et al., 2023). In addition, a sports education approach that adopts a league model, where students take on the roles of coaches and players, can also increase their motivation and engagement by providing a sense of ownership of the learning process and encouraging social skills such as communication, accountability, and teamwork (Diciano et al., 2021; van Rossum et al., 2023). Further research by Putra and Salsabila (2021) shows that the use of digital technology in physical education, such as media interface techniques, can increase students' interest in lessons and result in better learning achievement. This also aligns with the research of Arufe-Giráldez et al. (2022), who suggested that collectivist components of student culture can be adopted to create more effective and relevant learning experiences. One way this can be done is by adapting traditional games related to local culture, which not only makes learning more dynamic but can also increase students' engagement with their cultural environment (Arufe-Giráldez et al., 2022). Overall, this study aims to explore the extent to which these game-based learning approaches and strategies can enhance students' motivation, active engagement, and social skills in physical education while considering technological factors and local culture as elements that support more engaging and effective learning.

The integration of Android-based online games in physical education, particularly for teaching soccer tactics and techniques, represents a

significant advancement in the use of technology to enhance learning outcomes. These games create virtual environments that simulate real-game scenarios, enabling students to learn interactively before applying their knowledge on the field. According to [Tobing et al. \(2022\)](#), technology-enhanced learning improves students' understanding of game tactics through real-time modeling techniques, which makes abstract concepts more accessible and comprehensible. This interactive approach encourages students to visualize strategies and understand team dynamics in a controlled and engaging manner.

Research by [Hadiana et al. \(2020\)](#) highlights the motivational benefits of incorporating video games into physical education. By aligning digital technology with game pedagogy, educators can create a learning experience that is both engaging and effective. The convergence of digital tools and educational strategies fosters active student participation, especially within the framework of the Team Games Tournament (TGT) model. As [Azwira et al. \(2023\)](#) noted, TGT promotes collaboration and competition, which not only enhances strategic thinking but also develops students' communication and teamwork skills. This structured yet interactive model allows students to engage with soccer tactics through Android-based games, creating a differentiated learning experience that caters to diverse physical and cognitive abilities.

Android-based games offer additional advantages by addressing common challenges in soccer education, such as limited facilities and varying student abilities. [Suci et al. \(2024\)](#) found that digital game-based learning provides a pleasurable and stimulating environment, particularly for the tech-savvy younger generation. These games allow students to practice and mimic soccer tactics, including team structure and ball movement, in a virtual space before transitioning to physical practice. This staged approach not only builds confidence but also ensures a deeper understanding of soccer strategies.

Traditional methods of teaching soccer often fail to provide learners with sufficient strategic understanding, as they primarily focus on basic

skills. Sembiring et al. (2020) emphasized that the integration of modern technology and practices like TGT can enhance intrinsic motivation by making learning more interactive and less intimidating. For students with low physical confidence or abilities, Android-based games offer an inclusive platform where they can participate meaningfully. These games allow for gradual skill development and ensure that students of all abilities can actively engage in the learning process.

A key aspect of this approach is its potential to bridge gaps caused by inadequate physical facilities in schools. By utilizing Android-based games, students can practice soccer tactics anytime and anywhere, offering greater flexibility and accessibility. Research by Ramadhan (2019) and Suci et al. (2024) supports the idea that integrating technology into physical education enhances student motivation, engagement, and physical literacy. This approach also allows for personalized learning experiences, with games tailored to individual skill levels, fostering a more inclusive and effective learning environment.

Android-based games and traditional soccer education solve secondary school physical education problems in the PAKGOLO concept. Students who lack confidence or physical ability are encouraged to participate. Students can study soccer techniques, ball handling, and game strategies stress-free in realistic virtual simulations. This boosts confidence and trains them to use these talents in real life. Physical literacy—both soccer technical skills and the value of physical activity in daily life—is also stressed in the PAKGOLO program. Gaming with social and strategic learning helps kids learn teamwork, communication, and critical thinking. As Wildani and Gazali (2020) observed, collaborative learning through TGT fosters a more dynamic and interactive educational atmosphere. This aligns with the needs of the digital generation, making soccer education more relevant and engaging.

Finally, the inclusive nature of Android-based games addresses the psychological barriers faced by students with low confidence in physical activities. Luo et al. (2020) highlighted that virtual simulations enable these

students to practice without the fear of failure or intimidation, allowing them to participate fully in the learning process. This approach not only improves their understanding of soccer tactics and team dynamics but also helps develop essential social skills such as communication, collaboration, and accountability within a positive and competitive environment.

Android-based games in soccer instruction provide a complete solution to traditional teaching problems. Student involvement, motivation, and soccer tactic understanding improve while eliminating physical and psychological impediments to participation. This strategy produces an inclusive, participatory, and dynamic learning environment by integrating TGT benefits with digital platform flexibility. It enhances secondary school physical education by improving soccer skills, physical literacy, teamwork, and critical thinking. The approach of combining TGT with Android-based online games offers a significant contribution to the development of physical education learning models, especially in the context of education in Indonesia, where educational technology is still in its developmental stage and has not been fully implemented in many schools (Arufe-Giráldez et al., 2022). By utilizing digital technology, this research not only provides a solution to overcome the limitations of existing physical facilities in secondary schools but also creates a learning environment that is more interactive and relevant to the needs of a younger, digitally competent generation of students. Furthermore, this model provides an opportunity for students better to understand the technical and strategic elements of soccer games, broaden their horizons, and deepen the skills that they will apply in real games. Overall, the results of this study can be an important breakthrough in the development of physical education learning models that are effective, innovative, and meet the demands of an increasingly advanced digital era.

METHOD

This research uses the developmental research method with the ADDIE model (Analysis, Design, Development, Implementation, Evaluation), which is systematically designed to meet diverse learning

needs. The ADDIE model was chosen because of its advantages in organizing learning in a structured and programmatic manner so that it can answer learning needs and student characteristics. This research focuses on developing an innovative learning model called PAKGOLO (Active and Creative Learning Using Online Games in Soccer), which aims to improve students' soccer playing skills. The model involves various learning components, such as model books, learning modules, teaching materials, and student workbooks, which are designed to create active and creative learning.

Two groups were studied: a small trial with 32 students for 5 meetings and a large trial with 64 students for the same time. A rating-based questionnaire was utilized to collect data on the generated video learning media. Soccer abilities like dribbling, passing, and shooting were also observed, as were student attitudes like independence, teamwork, and responsibility. The data was examined qualitatively and quantitatively. The qualitative analysis evaluated material, design, and media specialists' views, criticisms, and recommendations, whereas the quantitative analysis processed survey data descriptively. The research procedure began with the analysis stage, which involved observations and interviews with physical education teachers to identify soccer learning problems, such as the lack of technology use and the diversity of student skills. At the design stage, the PAKGOLO model was developed based on the findings from the analysis stage. The development stage involved validation of the model by experts to ensure its feasibility and relevance. The implementation stage is conducted through limited and extensive trials to assess the effectiveness of the model in achieving learning objectives. The final stage, evaluation, was conducted to measure the success of the model development based on feedback from students and experts. The results showed that the PAKGOLO model successfully increased student engagement, physical literacy, and soccer-playing skills while supporting the utilization of technology in physical education learning.

RESULTS

Research showed that Senior High School 13 Takalar built a Team Games Tournament (TGT) model using Android-based online games to teach soccer. The learning paradigm concentrates on soccer abilities like dribbling, passing, kicking, and gameplay. Observations of learning occurred throughout five trial sessions with 32 students. These trials analyzed students' ability increases, proving that Android-based games work in TGT soccer education.

Table 1. Results of student skill assessment on team games tournament model based on Android online games in soccer

No.	Attitude Aspects Observed	Meeting					Average	Average Attitude Percentage (%)
		1	2	3	4	5		
1	Dribbling	2,19	3,25	3,31	3,75	3,81	3,26	81,55
2	Passing	2,09	3,56	3,87	3,81	3,87	3,44	86,00
3	Shooting	2,19	3,53	3,81	3,84	3,91	3,46	86,40
4	Playing football	2,53	3,43	3,59	3,87	3,94	3,47	86,80
Average		2,25	3,44	3,65	3,82	3,88	3,41	
Average Percentage (%)		56,25	86,06	91,13	95,44	97,00		85,19

According to the table above, student skill assessment observations in the first learning meeting were 56.25%, which was very bad. Dribbling, passing, kicking, and playing soccer need to be practiced with Android-based online games and the Team Games Tournament learning methodology. In the second and third meetings, teachers and students began to use the Team Games Tournament learning model through Android-based Online Games with a percentage value of 86.06% and 91.13%, which was Good. In the fourth and fifth meetings, they were Very Good with 95.44% and 97.00%. Student skills in the Team Games Tournament learning model through Android-based Online Games can be assessed in the Good category because the meeting averaged 85.19%.

Table 2. Results of student attitude assessment on team games tournament model based on Android online games in football (pakgolo model)

No.	Attitude Aspects Observed	Meeting					Average	Average Attitude Percentage (%)
		1	2	3	4	5		
1	Self-sufficient	2,66	3,47	3,78	3,78	3,81	3,50	87.5
2	Cooperation	2,63	3,66	3,66	3,66	3,90	3,51	87.55
3	Responsibility	2,56	3,26	3,81	3,90	3,94	3,53	88.35
Average		2,62	3,46	3,75	3,78	3,88	3,51	
Average Percentage (%)		65,50	88,25	93,75	94,50	97,08		87,80

According to the table above, student attitudes were 65.50% poor in the first learning meeting. In applying the learning model, independence, cooperation, and responsibility must be learned. In the second, third, and fourth meetings, teachers and students adjusted to the Team Games Tournament learning model using Android-based online games with percentage values of 88.25%, 93.75%, and 94.50%. Their percentage value was 97.08% at the 5th meeting, placing them in the Very Good category. The meeting averaged 87.80%, therefore student attitudes in the Team Games Tournament learning model through Android-based Online Games can be assessed as Good.

Table 3. Results of teacher activity assessment on team games tournament model based on Android online games in football (pakgolo model)

Aspects	Meeting					Average	Percentage (%)
	1	2	3	4	5		
Model Syntax	2.50	3.50	3.50	4.00	4.00	3.50	87.50
Social System	2.57	3.29	3.57	3.86	4.00	3.46	86.45
Reaction Principle	2.33	3.00	3.83	4.00	3.83	3.40	84.95
Support System	2.40	3.00	3.60	4.00	4.00	3.40	85.00
Average	2.45	3.20	3.63	3.97	3.96	3.44	
Percentage (%)	61.25	79.94	90.63	99.13	98.94	86%	85.98

The table above shows that teacher activity observations in the first learning meeting were 61.25%, which is still low. The learning model's syntax, social systems, reaction principles, and support systems must be learned. In the second meeting, the average percentage was 79.94, still sufficient. Teacher activity was 90.63 percent during the third meeting, which was good. Teachers used Android-based online games to apply the

Team Games Tournament learning model in the fourth and fifth meetings, scoring 99.13% and 98.94%, which was exceptional. The Team Games Tournament learning model through Android-based Online Games may test student attitudes well because the average meeting value is 85.98%.

Table 4. Results of student response analysis in the limited trial of the Pakgolo model

No.	Responsive aspect	Percentage of Responses (%)	Description
1	Happy with TGT learning atmosphere through <i>Android-based online games</i>	100,00	Positive
2	Happy with the TGT learning model through <i>Android-based online game</i>	100,00	Positive
3	New to the TGT learning atmosphere through <i>Android-based online games</i>	93,75	Positive
4	New things with the TGT learning model through <i>Android-based online games</i>	90,63	Positive
5	New things with the TGT learning model through <i>Android-based online games</i>	100,00	Positive
6	Agree with the learning tools used by the teacher	96,88	Positive
Average		96,88	Positive

Table 6 shows that student reactions to all areas were positive, averaging 96.88%. The aspect of being new to the TGT learning model through Android-based Online Games received the lowest response of 90.63%, followed by being happy with the TGT learning atmosphere and model. Android-based online games garnered 100% of student responses.

Table 5. Assessment of student skills on the extensive trial of the pakgolo model

No.	Attitude Aspects Observed	Meetings					Average	Average Percentage Attitude (%)
		1	2	3	4	5		
1	Dribbling	3,25	3,63	3,65	3,69	3,72	3,59	81,55
2	Passing	3,56	3,77	3,80	3,83	3,86	3,76	86,00
3	Shooting	3,53	3,78	3,81	3,84	3,88	3,77	86,40
4	Playing football	3,44	3,69	3,72	3,77	3,81	3,69	86,80
Average		3,44	3,72	3,75	3,78	3,82	3,70	
Average Percentage (%)		86,12	93,94	93,63	94,56	95,44	92,5	92,54

According to the table above, student skill assessment observations in the first, second, and third learning meetings were Good (86.12%, 93.94%, and 93.63%). Teachers and students were familiar with the Team Games Tournament learning model through Android-based Online Games in the fourth and fifth meetings, scoring 94.56% and 95.44% and rating Very Good. The meeting averaged 92.54%, indicating that Android-based

Online Games can assess student skills in the Team Games Tournament learning model in the Good category.

Table 6. Student attitude assessment on the expanded trial of the pakgolo model

No.	Attitude Aspects Observed	Meetings					Average	Average Attitude Percentage (%)
		1	2	3	4	5		
1	Self-sufficient	3,31	3,27	3,34	3,84	3,88	3,49	87,30
2	Cooperation	3,22	3,33	3,39	3,89	3,92	3,55	88,75
3	Responsibility	3,34	3,48	3,52	3,91	3,94	3,64	90,95
Average		3,23	3,36	3,42	3,88	3,91	3,56	
Average Percentage (%)		80,75	84,00	85,40	97,00	97,83		89,00

Based on table 8. Student attitude assessment ratings in the first and second learning meetings are sufficient at 80.75 and 84.00. In applying the learning model, independence, cooperation, and responsibility must be learned. In meetings four and five, teachers and students began to employ the Team Games Tournament learning model through Android-based Online Games with 97.00% and 97.83% scores, both Very Good. Student attitudes in the Team Games Tournament learning model through Android-based Online Games can be assessed in the Good category because the meeting averaged 89.00%.

Table 7. Results of student response analysis in the expanded trial of the Pakgolo model

No.	Responsive aspect	Percentage of Responses (%)	Information
1	Happy with TGT learning atmosphere through <i>Android-based online games</i>	100,00	Positive
2	Happy with the TGT learning model through <i>Android-based online game</i>	100,00	Positive
3	New to the TGT learning atmosphere through <i>Android-based online games</i>	96,88	Positive
4	New things with the TGT learning model through <i>Android-based online games</i>	98,44	Positive
5	New things with the TGT learning model through <i>Android-based online games</i>	100,00	Positive
6	Agree with the learning tools used by the teacher	100,00	Positive
Average		99,22	Positive

Table 9 shows that student reactions to all areas were positive, averaging 99.22%. The new TGT learning atmosphere with Android-based Online Games obtained the lowest response of 96.88. New TGT learning model characteristics using Android-based Online Games were 98.44%.

Satisfied with the learning atmosphere, happy with the learning model, and agreeing with the teacher's instructional material received 100% student answers. This study evaluates the effectiveness of the Team Games Tournament learning model based on Android online games in soccer games. Analysis was conducted on the Pakgolo Model extension trial to measure its effect on students' skills, attitudes, and participation.

Table 8. Test results of ability to play football pakgolo model students

N	Average					N Gain Score (100%)
	pretest	posttest	Post-pre	Ideal score	Gain Score	
32	68.75	90.78	22.03	31.25	0.69	69.33

Based on Table 10, the average N Gain Score of 0.69 is in the medium or moderately effective category. The average test score before the implementation of the *Pakgolo learning model* was 68.75 (poor category), and the total score after the implementation of the learning model was 90.78 (good category). This shows that the development of the Pakgolo learning model to improve the ability to play soccer in class senior high school 13 Takalar students is quite effective.

Table 9. Descriptive analysis of ball playing ability test results

Criteria	Control Class	Experiment Class
Number of Subjects	64,00	64,00
Highest Score	75,00	100,00
Lowest score	40,00	80,00
Ideal Score	100,00	100,00
Average	60,08	91,80
Standard Deviation	7,64	4,58
Variance	58,33	20,93

The Pakglolo learning model's descriptive outcomes for football understanding are shown in the table above. The control and experimental courses each had 64 pupils take the test. The maximum control class score was 75, while the maximum experimental class score was 100, an excellent score. The control class averaged 60.08, and the experimental class 91.80. Experimental class values are higher than control class values. The trial's control class soccer playing ability learning outcomes exam was widely distributed.

Table 10. Distribution of posttest results of concept understanding of control group

Interval	Frequency	Percentage (%)	Category
$95 \leq \overline{N_A} \leq 100$	0	0	Very High
$85 \leq \overline{N_A} = 94$	0	0	High
$75 \leq \overline{N_A} \leq 84$	4	6,30	Moderate
$65 \leq \overline{N_A} \leq 74$	23	36,00	Low
$0 \leq \overline{N_A} \leq 64$	37	57,70	Very Low
Total	64	100	

The frequency data of students who scored very high was obtained by 0 people with a percentage of 0% with a value interval of $95 \leq$; besides that, the frequency data of students with the lowest score was obtained by 37 people with a percentage of 57.70%. This illustrates the results of the student football ability understanding test. $\overline{N_A} \leq 100$

Table 11. Distribution of posttest results of understanding playing ball experiment class

Interval	Frequency	Percentage (%)	Category
$95 \leq \overline{N_A} \leq 100$	30	46,90	Very High
$85 \leq \overline{N_A} = 94$	32	50,00	High
$75 \leq \overline{N_A} \leq 84$	2	3,10	Moderate
$65 \leq \overline{N_A} \leq 74$	0	0	Low
$0 \leq \overline{N_A} \leq 64$	0	0	Very Low
Total	64	100	

In the table above, it is obtained data on the frequency of students who get very high scores, as many as 30 people with a presentation of 46.90% with a score interval of $95 \leq$, besides that, it is obtained data on the frequency of students who have the lowest score of 2 people with a percentage of 3.10% with a score interval of $75 \leq$ and is in the medium category. This illustrates that the test results of understanding students' ability to play soccer are good. $\overline{N_A} \leq 100$ $\overline{N_A} \leq 84$

The inferential test for comprehension of soccer playing ability consists of a normality test, homogeneity test, independent test, and ANOVA test.

Table 12. Test analysis of normality test for understanding football playing ability

Group	Statistics	Df	Significance
Control	0,940	64	0,004
Experiment	0,887	64	0,001

For the control class, the significance of 0.004 means that the data is <0.05 , so the data is in the normal category. For experimental class data, the data is also normally distributed with a significance value of 0.001 so that the data can proceed to the homogeneity test as a condition of parametric testing.

Table 13. Test of homogeneity of understanding of playing ball

Levene statistics	df1	DF2	Sig.
9.677	1	126	0.002

It can be seen that the significance level of the homogeneity test is 0.002. The results of this analysis mean that the data has the same or homogeneous variability so that the data can be tested.

Table 14. T-test analysis of understanding playing ball

Results	t	Df	Sig. (2-tailed)	Average Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Above
Experiment	-19.402	126	.000	-31.409	1.113	-33.921	
Control	-28.503	103.050	.000	-31.409	1.113	-33.926	

The following can be seen: the sig value (2-tailed) is 0.000, which means that the sig value (2-tailed) is <0.05 . With the value of $t_{count} = -19.402$ with $df = 126$, the $t_{table} = -28.503$ is obtained. From this data, $t_{count} > t_{table}$, which means that there is an influence of the *pakalolo learning model* in increasing the understanding of playing student football; this is reinforced by the results of the sigs (2-tailed) analysis. From the results of the t-test analysis, it is concluded that the *Pakgolo model* effectively increases students' understanding of playing football.

DISCUSSION

The study results demonstrate that the Pakgolo learning model significantly improves students' understanding of soccer. This finding highlights the effectiveness of the model in enhancing students' comprehension of the game through its innovative approach. The Team Games Tournament (TGT) technique showed good results in the field of cooperative learning, especially in sports such as soccer. This strategy promotes collaboration and healthy competition through tournaments, thus increasing students' engagement with learning. [Luo et al. \(2020\)](#) argue that TGT motivates student learning through its gamified components that encourage productive competition and collaboration. According to [Sembiring et al. \(2020\)](#), this strategy allows children to simultaneously learn the skills, tactics, and values of soccer.

Research on the application of the Team Games Tournament (TGT) type cooperative learning model in physical education, especially in soccer learning, shows positive results. The TGT model, which emphasizes teamwork and healthy competition, is proven to improve student learning outcomes in football dribbling skills. For example, a study at senior high school found that the application of the TGT model improved soccer dribbling learning outcomes by 24% in the knowledge domain and 26% in the skill domain ([Lestari, Citra Ayu, Rosinar Siregar, 2021](#)). In addition, other studies have shown that the TGT model can increase student interest, motivation, and activeness in physical education learning. Thus, the TGT model can be considered an effective approach to improving students' soccer skills through interactive and collaborative learning ([Laksana et al., 2021; Panuntun, 2020](#)).

The TGT technique becomes more effective when applied to Android-based online games as a learning medium. The game provides a realistic simulation of gameplay scenarios, allowing students to expand their understanding of playing methods. [Cheng & Su \(2012\)](#) and [Setiawan & Phillipson \(2019\)](#) research proved that students' critical thinking abilities are increased and that technology media helps students understand

complex learning ideas. Such soccer knowledge learned in books and on the field can include interactive application of rules, tactics, and teamwork through online games. Also, Android-based games can offer both temporal and accessibility flexibility (Merino et al., 2016). Students can repeat the game simulation at their own pace per their educational requirements. According to Siahaan (2015), learning media with technology enhances students' motivation more quickly in sports education, which is physically skillful. This approach is relevant to the needs of the digital generation, which is becoming more tech-savvy.

However, the application of this strategy requires careful consideration of concrete details, specifically the accessibility of devices and the presence of technological infrastructure. The effectiveness of technology-based learning largely depends on the resources, teachers' readiness, and appropriate instruction design (Setiawan & Phillipson, 2019). Teachers should use games that fit in with their educational objectives and provide clear direction to the students." The combination of the TGT approach with Android-based online games is an effective way of improving understanding of soccer. According to El-Tanahi et al. (2023), this technique promotes participatory, enjoyable, and efficient learning, which aligns with 21st-century educational ideals.

TGT in Android-based online games has improved soccer instruction but with certain drawbacks. Technology access has been a major issue, especially in poor places where not all students have Android smartphones or high-speed internet. Thus, technology-based learning requires devices and internet connectivity, which may be difficult in resource-poor communities. Many teachers are digitally illiterate, which may limit this approach's application. As stated by Febriyanto (2024), many educators need more professional training to maximize the use of technology in education. On the flip side, although Android-based games provide a realistic simulation, they have limitations in reflecting true field conditions. It might lead to pupils' physical skills not reaching their full capacity. This approach has mostly focused on motivation and theoretical

insights, and the subsequent persistence of students' physical and tactical competencies remains largely understudied (Pei-qi, 2023).

However, this approach represents a significant improvement in sports education. TGT blends games and tournament elements coupled with technology, creating a desire to learn while developing cooperation skills. Sutriati et al. (2023) noted that TGT is very effective in providing social contact and healthy competition, which are the main elements of cooperative learning. This approach helps pupils and students understand the ways, rules, and basic relevance of sportsmanship with football through practical simulations. In addition, technology integration enables students to build digital competencies needed for 21st-century learning.

This method is unusual because it combines technology and collaborative learning, which is rare in soccer teaching. Soccer is popular and full of strategy and cooperation, making it a good learning environment. Local adaptation can fill Indonesia's educational shortcomings. Although there are some constraints, the TGT technique and the Android-based game are huge advances in incorporating technology into sports teaching, giving students a more interactive, engaging, and thorough learning experience. This method makes studying more engaging and relevant for tech-savvy kids and improves their soccer abilities and tactical knowledge. The Android-based TGT model delivers an engaging, effective, and sports skill-developing learning environment by mixing competition, teamwork, and technology.

CONCLUSIONS

This study found that the Team Games Tournament (TGT) technique, with the help of Android-based online games, can improve the students' understanding of the flow of soccer. In summary, the namesake must be mindful of its limitations, contributions, and too; the integration of the TGT method with an Android-based online game is a feasible strategy for innovative soccer education. More studies must be undertaken to reduce the limitations of technical accessibility, to evaluate the effects on physical skills in both the short term and long term, and to ensure the

versatility of this approach across different schools. This new approach to play means a step up in the integration of technology and sports teaching as well as the demands of learning in the 21st century.

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