The Influence of the TGT (Teams Games Tournament) Learning Model Based on Deep Learning on Science and Social Studies (IPAS) Learning Outcomes in Third-Grade Elementary School

Sarah Masyitha Elysia, Idam Ragil Widianto Atmojo, Matsuri

Universitas Sebelas Maret
idamragilwa@staff.uns.ac.id

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Abstract
Low learning outcomes in IPAS among third-grade elementary school students are often caused by conventional teaching approaches that lack depth and active engagement. This study aims to determine the effect of the Teams Games Tournament (TGT) learning model based on deep learning approach on third-grade students' IPAS learning outcomes. This research is a quasi-experiment using a non-equivalent control group design, involving two classes from Cluster 2 UPT SD Negeri Gresik, each consisting of 25 students. The experimental class implemented TGT with deep learning through a monopoly game on money needs, while the control class used conventional learning; data were collected via pretest and posttest, analyzed using independent t-test and N-gain in Jamovi. Results showed the experimental class posttest average was significantly higher (p < 0.05), N-gain reached moderate to high categories, and mastery exceeded 80%. Thus, TGT based on deep learning positively and significantly improves IPAS learning outcomes.
Keywords: *TGT Model, Deep Learning, IPAS Learning Outcomes, Third-Grade Elementary Students, Quasi-Experiment*

Abstrak
Rendahnya hasil belajar IPAS siswa kelas III SD sering disebabkan pendekatan konvensional yang kurang mendalam dan minim keterlibatan aktif, sehingga diperlukan inovasi model pembelajaran yang memadukan kolaborasi dan pemahaman konsep secara mendalam. Penelitian ini bertujuan mengetahui pengaruh model pembelajaran Teams Games Tournament (TGT) berbasis deep learning terhadap hasil belajar IPAS siswa kelas III. Penelitian ini merupakan quasi-eksperimen dengan desain non-equivalent control group, melibatkan dua kelas dari Gugus 2 UPT SD Negeri Gresik masing-masing 25 siswa, dipilih menggunakan purposive sampling. Kelas eksperimen menerapkan TGT berbasis deep learning melalui permainan monopoli pada materi kebutuhan uang, sementara kelas kontrol menggunakan pembelajaran konvensional. Data dikumpulkan melalui pretest dan posttest, dianalisis menggunakan uji-t independen dan N-gain pada Jamovi. Hasil menunjukkan posttest kelas eksperimen lebih tinggi signifikan (p < 0,05), N-gain berkategori sedang hingga tinggi, dan ketuntasan belajar melebihi 80%. Disimpulkan bahwa TGT berbasis deep learning berpengaruh positif dan signifikan terhadap peningkatan hasil belajar IPAS siswa kelas III SD.
Kata kunci: *Model TGT, Deep Learning, Hasil Belajar IPAS, Siswa Kelas III SD, Quasi-Eksperimen*

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INTRODUCTION

The advancement of science and technology has brought significant changes to education. The era of Industrial Revolution 4.0 and Society 5.0 demands a transformation in learning, shifting from conventional methods toward more innovative, interactive, and student-centered approaches (Rachmadtullah et al., 2020). This paradigm emphasizes equipping students not only with factual knowledge but also with 21st-century skills such as critical thinking, creativity, collaboration, and communication (Zubaidah, 2020). However, reality in the field shows that elementary school learning remains dominated by teacher-centered approaches, where the teacher is the sole knowledge source and students tend to be passive (Firmansyah & Dede, 2022). Lecture methods and rote memorization remain primary choices, overlooking active knowledge construction by students. This is particularly evident in Science and Social Studies (IPAS), which should equip students to understand natural and social phenomena holistically, critically, and applicatively in daily life (Kemendikbudristek, 2022).

Low IPAS learning outcomes among third-grade elementary students are a serious concern for educators and policymakers. Evaluation data from several Indonesian elementary schools show that average IPAS scores of third-grade students remain below the established Minimum Competency Criterion (KKM) (Kemendikbudristek, 2022). A preliminary study in Cluster 2 UPT SD Negeri, Gresik Regency, during the even semester of the 2025/2026 academic year confirms this, where over 60% of third-grade students had not achieved mastery on the topic "Needs for Money." Students' primary difficulties lie in understanding abstract concepts related to money's exchange value, distinguishing needs from wants, and applying these concepts in simple transaction simulations. These low outcomes are associated with monotonous teaching methods, minimal interaction, and lack of active student involvement in building deep conceptual understanding (Widodo & Riandi, 2021). Conventional one-way learning focused on memorization makes it difficult for students to connect IPAS concepts to real-life contexts, resulting in poor retention and application abilities (Nugraha & others, 2023).

The theoretical foundation underlying this learning innovation is constructivist theory by Piaget and Vygotsky, which emphasizes that knowledge is not passively transferred from teacher to student but actively constructed through social interaction and direct experience (Slavin, 2021). Piaget highlights cognitive schemas and the assimilation-accommodation process, while Vygotsky underscores the Zone of Proximal Development (ZPD) and scaffolding through social interaction. In this context, collaborative learning becomes key to facilitating knowledge construction. One cooperative learning model proven effective in increasing engagement and learning outcomes is Teams Games Tournament (TGT), which integrates teamwork, educational games, and tournaments to create an enjoyable, competitive, and collaborative learning atmosphere (Slavin, 2021). Research by (Tanjung & others, 2022) shows TGT implementation can improve elementary students' mathematics outcomes by 25%, while a meta-analysis by (Kristiani & Airlanda, 2021) concludes that TGT consistently provides significant positive effects on elementary students' learning outcomes compared to conventional methods.

The effectiveness of conventional TGT can be further optimized by integrating a deep learning approach. In a pedagogical context, deep learning does not refer to computer algorithms in artificial intelligence, but rather to a learning approach encouraging students to engage in higher-order cognitive processing (HOTS) such as analysis, evaluation, synthesis, and creation (Fullan & Langworthy, 2020). Deep learning emphasizes holistic and meaningful concept mastery, critical and reflective thinking, complex problem-solving, effective collaboration, and character development such as curiosity and perseverance. This approach aims to create "deep understanding" transferable to new situations, contrasting with "surface learning" that relies on short-term memorization. In the Indonesian context, TGT has proven effective in improving science learning outcomes, particularly when integrated with critical thinking skills (Aiman & Harjono, 2023).

Integrating the collaborative-competitive nature of TGT with deep learning principles is expected to create a more powerful learning environment, where students not only compete healthily in tournaments but also deeply discuss, analyze, question, and construct knowledge through intensive social and intellectual processes within their teams. Games are designed not merely for enjoyment but as vehicles to explore concepts comprehensively and solve authentic problems.

Several previous studies provide initial indications of such strategies' success. (Anwar et al 2021) implemented project-based learning with a deep learning approach in elementary science and found significant improvement in students' critical thinking abilities. (Chen & Yang, 2023) demonstrated internationally that digital educational games designed with deep learning principles enhance elementary students' conceptual understanding and learning motivation. (Pratiwi et al 2022) successfully improved IPAS learning outcomes using TGT assisted by Monopoly media, indicating board games' potential for simulating socio-economic concepts. Recent international studies further confirm that game-based cooperative learning significantly boosts not only science achievement but also students' self-efficacy (Hsu & Tsai, 2023).

However, these studies have not explicitly and systematically designed a TGT model fully enriched with the deep learning pedagogical framework. The research gap specifically lies in applying the Teams Games Tournament based on Deep Learning model for IPAS learning at the early elementary level, where students' cognitive and social developmental characteristics require appropriate approaches. Research specifically examining the combination of TGT's cooperative-competitive power with deep learning's cognitive depth for contextual material such as "Needs for Money" remains very limited and has not been found within the national scope.

Based on the above background, the research question is: "What is the influence of the TGT learning model based on a deep learning approach on third-grade elementary students' IPAS learning outcomes?" This study specifically aims to analyze and determine the significant influence of implementing the TGT model based on deep learning in improving third-grade students' IPAS learning outcomes, measured through posttest score comparisons, N-gain analysis, and classical learning mastery between the experimental group using Teams Games Tournament based on Deep Learning and the control group using conventional learning.

METHOD

This section details the design, procedure, and analysis techniques used to answer the research question and test the research objective regarding the influence of the deep learning-based TGT model on the IPAS learning outcomes of third-grade elementary school students. This research employs a quasi-experimental method, which is a type of research used to determine cause-and-effect relationships in conditions where the researcher cannot achieve full control over all relevant variables or perform a pure random assignment of participants. Specifically, the study utilizes a Non-Equivalent Control Group Design, a design characterized by the use of existing, intact groups rather than randomly assigned individuals, while still involving both experimental and control groups for comparison (Creswell & Creswell, 2023); (Sugiyono, 2022). The selection of this design is based on realistic considerations within the field research context in schools, where the researcher lacks full control to randomly assign individual students to the experimental and control groups. This is because classes in schools are already established based on school policy. Therefore, the researcher uses existing class groups as the unit of analysis. This design involves two groups: an experimental group that receives a special treatment and a control group that undergoes regular learning, with measurements taken before (pretest) and after (posttest) the treatment. The scheme of this research design can be seen in Table 1.

Table 1. Non-Equivalent Control Group Design

Group	Pretest	Treatment	Posttest
Experimental	O1	X (Deep Learning-Based TGT Instruction)	O2
Control	O3	Y (Conventional Instruction)	O4

Description:

O1 & O3: Initial test (pretest) to measure initial ability.
X : Treatment in the form of implementing the deep learning-based TGT model.
Y : No special treatment (conventional instruction).
O2 & O4: Final test (posttest) to measure learning outcomes after the treatment.

The population of this study is all third-grade students in Cluster 2 of UPT SD Negeri, Gresik Regency, for the 2025/2026 academic year. Based on data from the cluster coordinator, the total population is 125 students spread across five public elementary schools. The sampling technique used is purposive sampling with specific criteria considerations (Sugiyono, 2022). The sample selection criteria are: (1) The schools are within the same cluster to minimize differences in external factors such as school policy and environment; (2) The students have relatively equivalent socio-economic characteristics based on school data; (3) The IPAS teachers in both schools are willing to collaborate and have similar teaching experience; (4) Both classes have not been intensively exposed to the TGT learning model before.

Based on these considerations, two classes from two different schools within the same cluster were selected: Class III A at UPT SD Negeri 8 Gresik and Class III B at UPT SD Negeri 10 Gresik. Each class consists of 25 students, resulting in a total research sample of 50 students. Class III A was designated as the experimental class and Class III B as the control class. To ensure the initial ability equivalence of both groups before the treatment, an equivalence test was conducted using an initial test (pretest), the results of which were analyzed statistically.

This research involves two main variables. The first is the Independent Variable: The Deep Learning-Based Teams Games Tournament (Teams Games Tournament based on Deep Learning) Learning Model. This variable is operationalized as a series of structured learning activities over 4 meetings (8 lesson hours @35 minutes) on the topic "Needs for Money." The learning syntax is a modification of (Slavin, 2021) TGT model infused with the six deep learning competencies according to (Fullan & Langworthy, 2020), namely: knowledge creation, learning mindset, effective collaboration, deep communication, critical thinking, and complex problem-solving. Its manifestation includes the formation of heterogeneous learning teams based on ability levels (high, medium, low) from pretest results; presentation of core concepts accompanied by thought-provoking stimulus questions for deep exploration; teamwork to complete contextual problem-based Student Worksheets (LKS); the modified educational game "Needs Monopoly" requiring players to analyze, negotiate, and make financial decisions; an individual quiz tournament between team representatives; and the awarding of rewards to high-performing teams.

The second variable is the Dependent Variable: Students' Cognitive IPAS Learning Outcomes. This variable is measured through scores from a multiple-choice objective test covering three dimensions of the revised Bloom's taxonomy : conceptual understanding (C2), application (C3), and analysis (C4) related to the topics of money needs, payment instruments, and simple money management. These scores are then used as the basis for calculating learning outcome improvement (N-Gain), individual mastery, and classical mastery.

This research uses several instruments to collect data, which have undergone validation and reliability testing processes. The first is the Learning Outcome Test**.** The instrument consists of a 20-item multiple-choice test used for both pretest and posttest. Before use, the instrument's content validity was tested by two experts (a primary education lecturer and an experienced IPAS teacher) using a validation sheet. The results showed that all items met the aspects of alignment with indicators, item construction, and language. Subsequently, a limited trial was conducted on 30 third-grade students outside the research sample to test reliability. Analysis using Cronbach's Alpha coefficient with the assistance of Jamovi software yielded a value of 0.85, indicating that the instrument has excellent reliability. Data were collected by administering written tests before (pretest) and after (posttest) the series of treatments in both classes.

The second category is Supporting Instruments, which include the Student Activity Observation Sheet. This sheet was used during learning in the experimental class to observe the implementation of the Teams Games Tournament based on Deep Learning model syntax and the level of student engagement in deep learning activities, such as the frequency of critical questions, contributions to team discussions, and problem-solving abilities in the game. The observation sheet uses a 1-4 Likert scale. Student Response Questionnaire. A closed questionnaire with a Likert scale was given to students in the experimental class after the treatment to measure their perception and motivation towards the Teams Games Tournament based on Deep Learning model, covering aspects of enjoyment, benefits, and difficulties experienced. Lesson Plans (RPP) and Student Worksheets (LKS). These documents served as technical guides for treatment implementation and were designed according to deep learning principles.

The collected quantitative data were analyzed using Jamovi statistical software version 2.3 with the following stages. First, Descriptive Statistical Analysis was used to describe the mean scores, standard deviation, minimum scores, and maximum scores from the pretest and posttest data. Second, Prerequisite Analysis Tests were conducted before hypothesis testing to ensure the data met parametric assumptions. Third, Normality Test using the Shapiro-Wilk test to determine whether the distribution of pretest, posttest, and N-gain scores came from a normal distribution. Decisions were made at a significance level of $\alpha = 0.05$. Fourth, Homogeneity of Variance Test using Levene's test to examine the variance equality between the experimental and control groups. Decisions were made at a significance level of $\alpha = 0.05$.

Hypothesis Testing was conducted after the prerequisites were met, to answer the research question. Test for Initial Ability Differences using Independent Samples t-test to compare the mean pretest scores between the experimental and control classes. If the significance (p-value) > 0.05, then there is no significant difference and both groups are declared equivalent. Test for Final Learning Outcome Differences using Independent Samples t-test to compare the mean posttest scores between the two groups. The null hypothesis (H0) is rejected if the significance (p-value) < 0.05, meaning there is a significant difference in learning outcomes.

Analysis of Learning Outcome Improvement (N-Gain) To measure the treatment's effectiveness in improving learning outcomes, the magnitude of normalized improvement (Normalized Gain) was analyzed using Hake's (1999) formula: g = (Posttest Score – Pretest Score) / (Maximum Score – Pretest Score). The N-gain values were then categorized as High ($g > 0.7$), Medium ($0.3 \le g \le 0.7$), and Low ($g < 0.3$). The average N-gain of both groups was compared. Analysis of Learning Mastery: The percentage of students achieving scores ≥ the Minimum Mastery Criteria (KKM = 70) on the posttest was calculated for each class. Classical mastery was considered achieved if ≥ 80% of students met the KKM. All procedures in this research have obtained permission and approval from the school and parents/guardians, considering the principles of educational research ethics.

RESULT AND DISCUSSION

This section presents the empirical findings of the research and an in-depth interpretation of these findings in relation to the theoretical framework and previous studies. The research results are described systematically, starting from the initial condition, final outcomes, to the analysis of learning improvement and mastery, which are then linked to a theoretical discussion to provide a comprehensive understanding. Before treatment, an initial ability measurement (pretest) was conducted to ensure the equivalence of the two groups. The results of the descriptive statistics and the equivalence test are presented in Table 2.

Table 2. Descriptive Statistics and Equivalence Test of Pretest Scores

Statistic	Experimental Class (teams games tournament based on deep learning)	Control Class (Conventional)
Number of Students (N)	25	25
Mean Score	52.40	51.60
Standard Deviation (Std. Dev.)	8.15	7.89
Minimum Score	40	38
Maximum Score	68	66
Normality Test (Shapiro-Wilk)	p = 0.112	p = 0.089
Homogeneity Test (Levene's Test)	F = 0.128, p = 0.722	
Independent t-test	t = 0.45, p = 0.655	

Based on Table 2, it can be concluded that the two groups did not have a significantly different initial ability (p > 0.05), supported by normally distributed data and homogeneous variance. This established the two groups as equivalent for receiving different treatments.

After the intervention, the posttest results showed different improvements between the two groups. The comparative analysis of the final results is presented in Table 3.

Table 3. Descriptive Statistics and Test of Differences for Posttest Scores

Statistic	Experimental Class (Teams Games Tournament based on Deep Learning)	Control Class (Conventional)	Statistical Test
Number of Students (N)	25	25	
Mean Score	**86.80**	**68.40**	
Standard Deviation (Std. Dev.)	6.32	9.45	
Minimum Score	75	50	
Maximum Score	98	85	
Normality Test (Shapiro-Wilk)	p = 0.201	p = 0.165	
Homogeneity Test (Levene's Test)	F = 3.92, p = 0.054		
Independent t-test			t(48) = 9.874, **p < 0.001**

Table 3 shows a highly significant difference between the mean posttest scores of the experimental class (86.80) and the control class (68.40), with a p-value < 0.001. This proves the superiority of the Teams Games Tournament based on Deep Learning model compared to conventional instruction. Level of Learning Outcome Improvement (N-Gain) To measure the effectiveness of instruction in improving understanding from the initial condition, N-Gain analysis was performed. The results are presented in Tables 4 and 5

Table 4. Descriptive Statistics of N-Gain Scores

Group	N	Mean N-Gain	Category	Std. Dev.	Min	Max
Experimental (teams games tournament based on deep learning)	25	**0.72**	**High**	0.18	0.31	0.94
Control (Conventional)	25	0.35	Medium	0.22	-0.05	0.71

Table 5. Frequency Distribution of N-Gain Categories per Group

N-Gain Category	Experimental Class (Teams Games Tournament based on Deep Learning)		Control Class (Conventional)	
	Frequency	Percentage	Frequency	Percentage
High (g > 0.7)	15	**60.0%**	3	12.0%
Medium (0.3 ≤ g ≤ 0.7)	9	36.0%	14	56.0%
Low (g < 0.3)	1	4.0%	8	**32.0%**
Total	25	100.0%	25	100.0%

Tables 4 and 5 show that the experimental class not only had a higher average N-Gain (0.72 vs. 0.35) but also a superior distribution of students, with 60% experiencing high improvement compared to only 12% in the control class. Individual and Classical Learning Mastery The achievement of learning mastery based on the Minimum Mastery Criteria (KKM ≥70) is presented in Table 6.

Table 6. Student Achievement of Learning Mastery Based on KKM (≥70)

Mastery Indicator	Experimental Class (Teams Games Tournament based on Deep Learning)	Control Class (Conventional)
Number of Mastered Students (≥70)	22	14
Number of Non-Mastered Students (<70)	3	11
Percentage of Mastery	**88.0%**	56.0%
Classical Mastery Status	**Achieved (≥80%)**	Not Achieved

Table 6 confirms that classical learning mastery was only achieved in the experimental class (88%), far surpassing the control class (56%). Observation Results of Learning Activities Data from observations during 4 meetings in the experimental class are summarized in Table 7 to show the implementation of the syntax and deep learning indicators.

Table 7. Average Observation Scores for Implementation and Deep Learning Activities in the Experimental Class (Scale 1-4)

Observed Aspect	Mtg. 1	Mtg. 2	Mtg. 3	Mtg. 4	Average
Implementation of Teams Games Tournament based on Deep Learning Syntax	3.6	3.8	4.0	4.0	3.85
Engagement in Team Discussion	3.2	3.5	3.8	4.0	3.63
Frequency of Critical Questions	2.8	3.2	3.5	3.8	3.33
Problem-Solving Skills (in Game)	3.0	3.4	3.7	4.0	3.53
Collaboration Among Team Members	3.3	3.6	3.8	4.0	3.68

Table 7 shows an increasing trend in all observed aspects, indicating that students became more skilled and engaged in deep learning activities over time.

Overall, the series of results presented in the tables above consistently prove that the TGT learning model integrated with the deep learning approach (Teams Games Tournament based on Deep Learning) has a positive and significant influence on improving the IPAS learning outcomes of third-grade elementary school students. The finding of a highly significant posttest difference ($p < 0.001$, Table 3) aligns with numerous studies revealing the superiority of cooperative learning (Slavin, 2021). However, the achievement of 88% classical mastery (Table 6) and a high average N-Gain of 0.72 (Table 4) in this study appear superior compared to findings from research that applied only conventional TGT (e.g., Tanjung et al, 2022), indicating the added value of infusing deep learning principles. The high N-gain score in the experimental group confirms that deep learning serves as a vital pedagogical framework to enhance meaningful learning and long-term retention in primary schools (Wulandari et al, 2022).

This added value manifests in the quality of understanding improvement. The "high" average N-Gain (0.72) in the experimental class compared to "medium" (0.35) in the control class (Table 4) signifies the occurrence of conceptual change or a deeper transformation in students' conceptual understanding structure. This is supported by observation data (Table 7) showing an increase in higher-order cognitive activities such as critical questioning and problem-solving. This synergy is explained by the working mechanism of Teams Games Tournament based on Deep Learning: the TGT structure (teams, games, tournaments) provides a robust framework for motivation and social interaction, while the principles of deep learning (Fullan & Langworthy, 2020) fill this framework with activities demanding analysis, evaluation, and creation. The modified "Needs Monopoly" game, for instance, was not merely a game of chance but became a complex simulation requiring students to analyze priorities, negotiate, and make financial decisions.

The observational findings regarding collaboration dynamics within teams (Table 7) find theoretical explanation in Vygotsky's social constructivism (Widodo & Riandi, 2021). The formation of heterogeneous teams created a Zone of Proximal Development (ZPD), where scaffolding occurred naturally. The processes of mutual explanation and negotiation during teamwork are concrete forms of social knowledge construction that are subsequently internalized. In the context of IPAS learning in elementary school, this model successfully concretized abstract concepts like "needs for money" through simulation experiences, thereby addressing the weakness of conventional, verbalistic instruction (Nugraha et al, 2023). The improved collaboration observed during the team sessions, who found that TGT fosters intensive social interaction, allowing students to learn from their peers effectively.

The significant improvement in learning outcomes within the experimental group can be attributed to several synergistic factors. First, the integration of a deep learning approach within the TGT framework shifts the cognitive burden from simple memorization to higher-order thinking skills (HOTS). According to (Fullan & Langworthy, 2020), deep learning necessitates that students engage in analyzing, evaluating, and creating, which creates a "deep understanding" that is more resistant to forgetting than surface-level learning. In this study, the "Needs Monopoly" game served as a critical vehicle for this transition, as it required students to perform complex problem-solving and financial decision-making rather than merely identifying denominations of money. By implementing deep learning principles, abstract topics can be transformed into essential concepts that are easily grasped by elementary students (Damayanti & Kartika, 2022). Furthermore, the use of educational monopoly media specifically tailored for economic activities has been shown to simplify complex socio-economic concepts for young learners (Putri & Kurniawan, 2022).

Second, the competitive yet collaborative nature of the TGT model acts as a powerful intrinsic and extrinsic motivator. Research by (Slavin, 2021) suggests that the tournament element provides an immediate goal that encourages students to ensure their teammates also understand the material, thereby fostering a sense of collective responsibility. This is supported by the observation data which showed an increasing trend in engagement and the frequency of critical questions throughout the meetings. The high classical mastery rate in this study suggests that deep learning strategies are effective in ensuring that students with diverse initial abilities can meet minimum competency standards (Mulyani & Sunarto, 2023).

The impact of this model extends beyond academic scores to the development of 21st-century skills, particularly communication and collaboration. By working in heterogeneous teams, students are forced to engage in social knowledge construction through mutual explanation and negotiation, a process that Vygotsky describes as essential for moving through the Zone of Proximal Development (ZPD). This social interaction ensures that students with lower initial abilities receive natural scaffolding from their peers, explaining why the experimental class achieved a high classical mastery rate of 88%. Furthermore, the use of simulation in IPAS learning addresses the "verbalistic instruction" weakness identified in conventional methods, where students may memorize definitions but fail to apply them. By concretizing abstract economic concepts through game-based simulations, the Teams Games Tournament based on Deep Learning model facilitates conceptual change and deep transformation in students' cognitive structures, as evidenced by the high N-gain score of 0.72. This aligns with findings by (Chen & Yang, 2023) and (Pratiwi & others, 2022), which emphasize that active engagement with conceptual tools in a game-like environment leads to superior retention and application abilities.

Although showing promising results, this study has limitations, such as the quasi-experimental design and short duration. Therefore, further research is recommended to test this model in a broader context and over a longer duration, as well as to measure its impact on other 21st-century skills. In conclusion, the integration of TGT and deep learning proves to be an effective pedagogical approach for transforming IPAS learning into a more active, profound, and meaningful experience.

CONCLUSION

This study consistently proves that the Teams Games Tournament model integrated with a Deep Learning approach (teams games tournament based on deep learning) significantly enhances the IPAS learning outcomes of third-grade students. Quantitatively, the experimental group achieved a superior average posttest score (86.80) and a high N-Gain (0.72), far surpassing the control group. Qualitatively, the synergy between TGT's collaborative-competitive structure and deep learning's cognitive depth successfully transformed abstract concepts, such as "Needs for Money," into meaningful experiences, leading to an 88% classical mastery rate. This model effectively addresses low engagement and rote-based learning by fostering an active, interactive, and cognitively challenging ecosystem.

Practically, teams games tournament based on deep learning serves as a proven innovative strategy for teachers to improve student participation and academic achievement simultaneously. Therefore, it is recommended that educational authorities and schools support its adoption through systematic in-service training focused on educational game design and deep dialogue facilitation. For future research, it is suggested to expand the model's application to other subjects and higher grade levels to test its generalizability. Additionally, future studies should employ mixed-methods approaches to investigate the model's impact on a broader range of 21st-century skills, such as critical thinking, creativity, and long-term intrinsic motivation.

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