

# **Cooperative Games in Boosting Engagement in Physical Education Classes of TESDA Students at Philippine Institute for Technical Education, Inc.**

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## **Abstract**

This study explores the effects of cooperative games on student engagement in Physical Education (PE) classes among TESDA learners at the Philippine Institute for Technical Education, Inc. (PITE) during the School Year 2025- 2026. It examines changes in students' interest, class participation, and teamwork before and after the integration of cooperative game-based activities. The research also investigates the benefits of cooperative games on learners' physical fitness and social skills, as well as the challenges encountered during their implementation.

The study used a mixed method approach and included 50 first-year college students enrolled in PE. Findings showed that before the introduction of cooperative games, some students exhibited low motivation, limited participation, and hesitation in group-based tasks. After the implementation, notable improvements were observed in students' enthusiasm, willingness to participate, and ability to collaborate with peers. Learners also reported enhanced strength, endurance, communication skills, and confidence during activities. However, several challenges remained, including miscommunication among team members, unequal participation, limited equipment, and personal factors such as shyness, pressure, and physical limitations.

To address these challenges, the study recommends the regular integration of cooperative games in PE classes, provision of adequate resources, use of inclusive instructional strategies, teacher training on cooperative learning, and establishment of structured monitoring and feedback systems. These measures aim to strengthen engagement, promote collaboration, and support the holistic development of students in Physical Education.

**Keywords:** *Cooperative Games, Physical Education, Student Engagement, Teamwork, Physical Fitness, Social Skills, Collaborative Learning*



## Introduction

Physical Education (PE) plays an important role in the holistic development of learners as it enhances physical fitness, social interaction, and personal discipline. However, in technical-vocational institutions such as TESDA, students tend to prioritize technical skills over PE, resulting in low engagement and participation. Traditional PE activities often focus on competitive sports, where only skilled students actively participate, while others become passive or disengaged. This limits opportunities for learners to develop both physically and socially.

To address this concern, cooperative games are introduced as an alternative approach in PE. These activities emphasize teamwork, shared responsibility, and mutual support, allowing all students to participate regardless of skill level. Cooperative games help improve communication, motivation, and collaboration, creating a more inclusive and engaging learning environment compared to competitive approaches.

In the Philippine setting, although PE is a required subject, many students still perceive it as less important than their technical courses. As a result, participation remains limited, affecting students' physical development and social skills. Moreover, there is limited research on the use of cooperative games in PE within technical-vocational settings, indicating a need for strategies that can effectively improve student engagement.

This study investigates the effects of cooperative games on the engagement of TESDA students in Physical Education classes. Specifically, the study sought to answer the following questions:

1. What are the effects of cooperative games on students' engagement in Physical Education classes in terms of interest level, class participation and team collaboration?
2. What are the benefits of integrating cooperative games in Physical Education with regard to physical fitness and social skills?
3. What challenges do students encounter in participating in cooperative games during Physical Education classes?
4. Based on the findings of the study, what cooperative game-based activities may be proposed to enhance students' engagement and participation?

## Methodology

### Research Design

This study employed a mixed-method research design to determine the effectiveness of cooperative games in enhancing student engagement in Physical Education (PE) classes. The quantitative component was utilized to measure changes in students' participation, motivation, and teamwork before and after the implementation of cooperative games. Meanwhile, the qualitative component was employed to explore students' experiences, perceptions, and challenges encountered during the intervention. The integration of these approaches enabled a more comprehensive analysis of both measurable outcomes and subjective insights, thereby making the design appropriate for examining the multifaceted nature of student engagement.



## Participants

The participants of the study consisted of 50 TESDA students enrolled at the Philippine Institute for Technical Education, Inc. during the School Year 2025–2026. The selection of participants was based on the relevance of Physical Education as a subject that requires active participation, collaboration, and social interaction. These students served as appropriate respondents in providing data on the influence of cooperative games on engagement, teamwork, and interpersonal skills within a practical learning environment.

## Research Instrument

Data were gathered using three primary instruments. First, a **researcher-developed questionnaire** was utilized to assess students' levels of engagement, motivation, participation, and teamwork, as well as their perceptions regarding the effectiveness of cooperative games. The instrument consisted of Likert-scale items and underwent expert validation to ensure content validity, clarity, and reliability.

Second, a **performance rubric** was employed to evaluate students' actual participation during cooperative activities. The rubric measured specific criteria, including active involvement, cooperation, communication skills, and task performance.

Third, **semi-structured interviews** were conducted to collect qualitative data, enabling participants to articulate their experiences, challenges, and insights regarding the implementation of cooperative games in PE classes.

## Data Collection Procedure

Prior to data collection, the researcher secured permission from the school administration and obtained informed consent from the participants. An orientation was conducted to explain the purpose and procedures of the study.

A **pre-survey** was administered to determine the students' initial level of engagement, motivation, and teamwork. This was followed by the implementation of **cooperative games**, including team-building activities, group challenges, and collaborative physical tasks designed to promote participation and inclusivity.

After the intervention, a **post-survey** was conducted to measure any changes in student engagement. In addition, selected participants were involved in **semi-structured interviews** to provide deeper insights into their experiences. All data were collected face-to-face and handled with strict confidentiality in accordance with ethical standards.

## Data Analysis

The collected data were analyzed using both quantitative and qualitative techniques. Quantitative data obtained from the questionnaires were statistically treated using **frequency, percentage, composite mean, ranking, and weighted mean** to determine patterns, trends, and changes in student engagement and participation.

Qualitative data derived from the interviews were analyzed using **thematic analysis**, which involved the systematic identification, organization, and interpretation of recurring themes related to students' experiences, perceptions, and challenges. The integration of quantitative and qualitative findings

facilitated a comprehensive interpretation of the impact of cooperative games on student engagement in Physical Education.

## Results

### Section 1: Effects of Cooperative Games on Students' Engagement in Physical Education Classes

**Table 1.1**

**Effects of Cooperative Games on Students' Engagement in Physical Education Classes**

Interest Level	WM	VI	Rank
1. I am interested in joining PE activities.	3.76	Strongly Agree	1
2. I feel motivated to perform well in PE class.	3.36	Agree	4
3. I enjoy learning different sports and exercises.	3.70	Strongly Agree	2
4. I look forward to attending PE classes regularly.	3.40	Agree	3
5. I am eager to improve my physical skills.	3.58	Strongly Agree	5
<b>Composite Mean</b>	<b>3.56</b>	<b>Strongly Agree</b>	

*Legend: WM – Weighted Mean; VI – Verbal Interpretation*

Table 1.1 shows that respondents have a high level of interest in Physical Education classes when cooperative games are integrated, with a composite mean of 3.56 (Strongly Agree). The highest-rated item, “*I am interested in joining PE activities*” (WM = 3.76), indicates increased enthusiasm and willingness to participate. Students also strongly agreed that they enjoy learning different sports and exercises (WM = 3.70), suggesting that cooperative games make PE more engaging.

Other indicators, such as looking forward to attending PE classes (WM = 3.40) and feeling motivated to perform well (WM = 3.36), were rated as Agree, showing sustained motivation. Additionally, students expressed eagerness to improve their physical skills (WM = 3.58). Overall, the findings suggest that cooperative games effectively enhance students' interest, motivation, and engagement in Physical Education.

**Table 1.2**

**Level of Students' Engagement in Physical Education Classes in terms of Class Participation**

Class Participation	WM	VI	Rank
1. I actively participate in all PE class activities.	3.46	Agree	3
2. I am willing to volunteer in physical tasks or demonstrations.	3.21	Agree	5
3. I complete the activities assigned during PE.	3.45	Agree	4
4. I listen and follow the instructions of the teacher carefully.	3.52	Strongly Agree	2
5. I join class discussions about PE topics.	3.61	Strongly Agree	1
<b>Composite Mean</b>	<b>3.45</b>	<b>Agree</b>	

*Legend: WM – Weighted Mean; VI – Verbal Interpretation*

Table 1.2 indicates that respondents exhibit a generally positive level of class participation in Physical Education when cooperative games are integrated, reflected by a composite mean of 3.45 (Agree). The highest-rated indicator, “I join class discussions about PE topics” (WM = 3.61), suggests that cooperative games foster active communication, idea sharing, and engagement during classroom discussions.

In addition, respondents strongly agreed that they carefully listen to and follow teacher instructions (WM = 3.52), implying that cooperative activities contribute to improved attentiveness and classroom discipline. Other aspects, including active involvement in activities (WM = 3.46), task completion (WM = 3.45), and volunteering in demonstrations (WM = 3.21), were also rated as Agree, reflecting generally favorable participation, though some learners may still show reluctance in performance-based tasks.

Overall, the results suggest that the integration of cooperative games enhances students’ participation, focus, and engagement, contributing to a more interactive and collaborative learning environment in Physical Education.

**Table 1.3**  
**Level of Students’ Engagement in Physical Education Classes in terms of Teamwork and Collaboration**

Teamwork and Collaboration	WM	VI	Rank
1. I enjoy working with my classmates during group activities.	3.57	Strongly Agree	1
2. I cooperate with my peers to accomplish tasks in PE.	3.40	Agree	4
3. I respect and support my teammates during activities.	3.50	Strongly Agree	2
4. I share ideas that can help the group succeed.	3.44	Agree	3
5. I value teamwork as an important part of PE class.	3.50	Strongly Agree	2
<b>Composite Mean</b>	<b>3.48</b>	<b>Agree</b>	

**Legend:** WM – Weighted Mean; VI – Verbal Interpretation

Table 1.3 presents TESDA students’ perceptions of teamwork and collaboration in PE classes when cooperative games are integrated. The highest-rated item, “I enjoy working with my classmates during group activities” (WM = 3.57, Strongly Agree), indicates strong appreciation for the social aspect of cooperative games.

Similarly, “I respect and support my teammates” and “I value teamwork in PE class” (WM = 3.50, Strongly Agree) reflect positive attitudes toward cooperation and group work. Meanwhile, “I share ideas to help the group” (WM = 3.44) and “I cooperate with peers” (WM = 3.40) were rated Agree, suggesting moderate but slightly less active participation in group contributions.

Overall, the composite mean of 3.48 (Agree) suggests that cooperative games enhance teamwork and collaboration in PE, though some students still need encouragement to be more active in group tasks.

This is supported by Freund and Engels (2020), who found that cooperative games improve social relatedness and group collaboration.

## Section 2: Effects of Cooperative Games on Students' Engagement in Physical Education Classes

**Table 2.1**  
**Benefits of Cooperative Games in Physical Education Classes in terms of Physical Fitness**

Physical Fitness	WM	VI	Rank
1. Cooperative games help me improve my strength and endurance.	3.54	Highly Beneficial	1
2. I become more active and energetic during PE activities.	3.38	Beneficial	3
3. My coordination and balance improve through cooperative games.	3.28	Beneficial	5
4. I develop better flexibility and movement skills.	3.30	Beneficial	4
5. I feel healthier and more physically fit because of cooperative games.	3.32	Beneficial	2
<b>Composite Mean</b>	<b>3.36</b>	<b>Beneficial</b>	

*Legend: WM – Weighted Mean; VI – Verbal Interpretation*

Table 2.1 analyzes students' assessment of the benefits of cooperative games in physical fitness during Physical Education classes. The highest-rated item, "Cooperative games help me improve my strength and endurance" (WM = 3.54, Highly Beneficial), suggests that students experience gains in muscular strength and stamina through these activities.

Other indicators such as "I become more active and energetic during PE activities" (WM = 3.38), "I feel healthier and more physically fit" (WM = 3.32), and "I develop better flexibility and movement skills" (WM = 3.30) were rated as Beneficial, indicating improvements in overall activity level, energy, and flexibility. "My coordination and balance improve through cooperative games" (WM = 3.28) also reflects gradual development of motor skills.

Overall, the composite mean of 3.36 (Beneficial) indicates that cooperative games positively contribute to students' physical fitness, particularly in strength, endurance, flexibility, energy, and coordination.

Smith and Jones (2021) support this, noting that cooperative physical activities improve fitness, motor skills, and student engagement in PE.

**Table 2.2**  
**Benefits of Cooperative Games in Physical Education Classes in terms of Social Skills**

Social Skills	WM	VI	Rank
1. Cooperative games help me communicate better with my classmates.	3.44	Beneficial	3
2. I develop respect and understanding toward my peers.	3.48	Beneficial	2
3. I learn to handle winning and losing in a positive way.	3.46	Beneficial	4
4. I build stronger friendships through teamwork and interaction.	3.54	Highly Beneficial	1
5. I become more confident in social situations because of group activities.	3.36	Beneficial	5
<b>Composite Mean</b>	<b>3.46</b>	<b>Beneficial</b>	

*Legend: WM – Weighted Mean; VI – Verbal Interpretation*

Table 2.2 highlights the perceived impact of cooperative games on students' social skills in Physical Education. The highest-rated indicator, "I build stronger friendships through teamwork and

interaction” (WM = 3.54, Highly Beneficial), indicates that cooperative games strengthen peer relationships and classroom connections.

Other items, including “I develop respect and understanding toward my peers” (WM = 3.48), “I learn to handle winning and losing positively” (WM = 3.46), and “Cooperative games improve my communication with classmates” (WM = 3.44), were rated as Beneficial, reflecting improvements in communication, empathy, and sportsmanship.

The statement “I become more confident in social situations” (WM = 3.36) suggests a positive but slightly lower impact on self-confidence.

Overall, the composite mean of 3.46 (Beneficial) indicates that cooperative games enhance students’ social skills, particularly in building relationships, communication, and confidence. This supports Kang and Lee (2020), who found that cooperative game-based learning improves interpersonal skills and promotes positive classroom interaction.

### Section 3: Students Challenges in Participating in Cooperative Games

**Table 3**  
**Challenges Encountered by Students in Participating in Cooperative Games**

Statements	WM	VI	Rank
1. I find it difficult to cooperate with some classmates during group games.	2.88	Challenging	5
2. Lack of equipment limits our participation in cooperative activities.	2.84	Challenging	6
3. Some teammates do not actively participate, which affects group performance.	2.92	Challenging	4
4. I sometimes feel shy or hesitant to join group games.	2.58	Challenging	9
5. Miscommunication among members causes confusion during activities.	3.00	Challenging	3
6. Time constraints prevent us from fully enjoying cooperative activities.	2.86	Challenging	7
7. Conflicts sometimes arise among teammates during group tasks.	2.90	Challenging	6
8. Physical limitations make it hard for me to perform well in some games.	2.78	Challenging	8
9. The weather or space conditions sometimes make cooperative games difficult.	2.88	Challenging	5
10. I feel pressured when my team expects me to perform well.	2.60	Challenging	10
<b>Composite Mean</b>	<b>2.82</b>	<b>Challenging</b>	

*Legend: WM – Weighted Mean; VI – Verbal Interpretation*

Table 3 identifies the challenges encountered by TESDA students in participating in cooperative games during Physical Education classes. The highest-rated item, “Miscommunication among members causes confusion during activities” (WM = 3.00, Challenging), indicates that ineffective communication among group members affects coordination and task execution.

Other identified challenges include “Some teammates do not actively participate, which affects group performance” (WM = 2.92) and “I find it difficult to cooperate with some classmates during group games” (WM = 2.88), both interpreted as Challenging. These findings suggest that unequal participation and interpersonal differences hinder the attainment of effective teamwork outcomes.

Additional concerns were also noted, including time constraints (WM = 2.86), lack of equipment (WM = 2.84), and physical limitations (WM = 2.78), which may restrict students' full engagement in cooperative activities. Furthermore, "I feel pressured when my team expects me to perform well" (WM = 2.60) indicates that performance anxiety, although less pronounced, still affects some learners' participation.

Overall, the composite mean of 2.82 (Challenging) implies that while cooperative games support engagement and collaboration, various interpersonal, logistical, and personal factors may limit optimal participation. This finding is consistent with Gutiérrez and Pérez (2021), who emphasized that communication barriers, unequal participation, and resource constraints can reduce the effectiveness of cooperative learning in physical education contexts.

## Section 4: Proposed Intervention Activities to Enhance Cooperative Game-Based Learning in Physical Education Classes

### Proposed Intervention Activities to Enhance Cooperative Game-Based Learning in PE Classes

While cooperative games improve students' interest, participation, teamwork, and physical fitness, challenges such as unequal participation, communication barriers, limited equipment, and personal constraints remain. Addressing these issues is essential to maximize the effectiveness of cooperative learning in PE. The following intervention plan outlines five targeted strategies to strengthen student engagement and optimize learning outcomes.

Intervention Activities	Description	Implementation	Expected Outcome
1. Structured Team Formation	Organize students into balanced teams considering skill levels and personalities.	Teacher assigns teams; rotate members regularly	Enhanced collaboration, reduced conflict, and increased participation
2. Clear Instructions and Rules	Provide explicit guidelines and expectations before each game.	Use visual aids, demonstrations, and checklists	Reduced miscommunication, smoother game flow, and improved focus
3. Inclusive Game Design	Develop activities suitable for varying physical abilities and skill levels.	Modify tasks or roles according to student needs	Greater participation, improved physical engagement, and reduced frustration
4. Confidence-Building Activities	Incorporate warm-up or low-risk games to reduce shyness and anxiety.	Gradually increase complexity of activities; provide positive reinforcement	Enhanced self-confidence and higher willingness to participate
5. Recognition and Reward System	Acknowledge efforts, teamwork, and improvement in PE activities.	Monthly awards, certificates, or verbal recognition	Increased motivation and reinforcement of positive behaviors



## Discussion

The results of the study indicate both strengths and challenges in the implementation of cooperative games in Physical Education (PE) classes as perceived by TESDA students. Overall, the findings show that cooperative games positively influence student engagement, social interaction, and physical fitness. The highest-rated item, “I am interested in joining PE activities” (WM = 3.76), suggests a strong level of enthusiasm among students. This is supported by high ratings for enjoying sports and exercises (WM = 3.70) and actively participating in class discussions (WM = 3.61), indicating that cooperative games promote active involvement and learning in PE.

In addition, students showed favorable attitudes toward teamwork and collaboration, as reflected in their agreement that they respect and support their teammates (WM = 3.50) and value teamwork in PE activities (WM = 3.50). In terms of physical fitness, cooperative games were perceived as highly beneficial in improving strength and endurance (WM = 3.54), along with positive effects on coordination, flexibility, and overall energy. Socially, the results suggest improvements in communication, peer relationships, and sportsmanship among students.

However, several challenges were also identified. These include miscommunication among teammates (WM = 3.00), uneven participation (WM = 2.92), limited equipment (WM = 2.84), and time constraints (WM = 2.86). Personal factors such as shyness (WM = 2.58), performance anxiety (WM = 2.60), and physical limitations (WM = 2.78) were also noted as barriers that may affect student participation and engagement.

Overall, the findings suggest that while cooperative games are effective in enhancing engagement, social interaction, and physical development, addressing issues related to communication, participation equity, and resources is necessary to fully maximize their effectiveness in PE instruction.

## Conclusions

The study concludes that the integration of cooperative games in Physical Education (PE) classes has a positive and significant impact on students’ engagement, participation, teamwork, and overall development. Cooperative activities increased learners’ motivation and interest by promoting enjoyment, collaboration, and shared success, which resulted in more active participation and improved classroom dynamics. Moreover, these activities enhanced students’ physical fitness, including strength, endurance, coordination, and flexibility, while also developing essential social skills such as communication, respect, empathy, and cooperation. They further contributed to building students’ self-confidence and sense of belonging within a group.

However, despite these positive outcomes, several challenges were identified, including miscommunication among group members, unequal participation, limited resources and facilities, and emotional barriers such as shyness and performance anxiety. These findings indicate that while cooperative games are effective, their implementation requires careful planning and structured support.

Therefore, it is recommended that teachers consistently integrate cooperative games into



the PE curriculum to sustain student engagement and motivation. Schools should provide adequate resources, facilities, and safe learning environments to support these activities. Teachers are also encouraged to implement inclusive participation strategies, such as assigning roles and promoting peer support, to ensure equitable involvement among learners. In addition, professional development programs should be conducted to enhance teachers' competencies in managing cooperative learning. Lastly, the establishment of monitoring and feedback mechanisms is essential to continuously assess student progress and improve instructional practices.

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