



Implementing storytelling and physical activity in literature teaching to enhance physical education students' active participation

Implementación de la narración y la actividad física en la enseñanza de la literatura para mejorar la participación activa de los estudiantes de educación física

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Abstract

Introduction: This study analyzed the integration of storytelling and physical activity in literature teaching to improve active participation among Physical Education students at Universitas Muhammadiyah Palembang, through a more interactive and meaningful learning approach.

Objective: To determine the effectiveness of integrating storytelling and physical activity in literature teaching in enhancing students' active participation.

Methodology: A mixed-methods approach with a quasi-experimental design was used, involving an experimental group and a control group. The sample consisted of 120 Physical Education students, divided equally into two groups through simple random sampling. The experimental group received instruction based on storytelling and physical activity, while the control group used traditional teaching methods. Data were collected through observation, questionnaires, pre-test, post-test, and semi-structured interviews with five students. Quantitative data were analyzed using an independent samples t-test in SPSS, while qualitative data were analyzed using thematic analysis.

Results: The findings showed that the experimental group achieved a significantly higher increase in active participation compared to the control group. Post-test results revealed significant differences, while qualitative data indicated improvements in students' motivation, engagement, and cognitive, emotional, and physical participation.

Conclusion: It is concluded that the integration of storytelling with physical activity significantly enhances students' active participation and promotes a more dynamic and interactive learning environment.

Keywords

Storytelling; physical activity; literature teaching; active participation; mixed methods.

Resumen

Introducción: El presente estudio analizó la integración del *storytelling* y la actividad física en la enseñanza de la literatura con el propósito de mejorar la participación activa de los estudiantes de Educación Física de la Universidad Muhammadiyah Palembang, mediante un enfoque de aprendizaje más interactivo y significativo.

Objetivo: Determinar la eficacia de la integración del *storytelling* y la actividad física en la enseñanza de la literatura para incrementar la participación activa de los estudiantes.

Metodología : Se utilizó un enfoque de métodos mixtos con un diseño cuasiexperimental, que incluyó un grupo experimental y un grupo de control. La muestra estuvo conformada por 120 estudiantes de Educación Física, distribuidos equitativamente en dos grupos mediante un muestreo aleatorio simple. El grupo experimental recibió una intervención basada en *storytelling* y actividad física, mientras que el grupo de control siguió un método de enseñanza tradicional. Los datos se recopilaron mediante observación, cuestionarios, pretest, postest y entrevistas semiestructuradas realizadas a cinco estudiantes. Los datos cuantitativos se analizaron mediante la prueba *t* para muestras independientes utilizando SPSS, mientras que los datos cualitativos se examinaron mediante análisis temático.

Resultados: Los resultados mostraron que el grupo experimental obtuvo un incremento significativamente mayor en la participación activa en comparación con el grupo de control. Los resultados del postest evidenciaron diferencias estadísticamente significativas, mientras que los datos cualitativos revelaron mejoras en la motivación, el compromiso y la participación cognitiva, emocional y física de los estudiantes.

Conclusiones: Se concluye que la integración del *storytelling* con la actividad física mejora significativamente la participación activa de los estudiantes y promueve un entorno de aprendizaje más dinámico, interactivo y significativo.

Palabras clave

Storytelling; actividad física; enseñanza de la literatura; participación activa; métodos mixtos.



Introduction

In contemporary educational contexts, pedagogical approaches are continuously evolving to respond to the dynamic needs of students and the increasing demand for active and meaningful learning experiences. Traditional teacher-centered methods are increasingly being replaced by student-centered approaches that emphasize engagement, interaction, and experiential learning (Susilo et al., 2024). This paradigm shift reflects a broader transformation in education, where learners are positioned as active participants who construct knowledge through meaningful experiences rather than passively receiving information. In this regard, the effectiveness of teaching is no longer measured solely by knowledge transmission but also by the extent to which students are actively involved in the learning process. Such developments are particularly relevant in higher education, where critical thinking, reflection, and engagement are essential competencies for students. Consequently, educators are required to design innovative instructional strategies that can foster active participation and deeper learning. Without such innovation, learning environments risk becoming disengaging and ineffective. Therefore, the need for pedagogical approaches that integrate cognitive, emotional, and experiential dimensions becomes increasingly urgent.

This transformation is particularly significant in the field of Physical Education, where active participation is not only a learning outcome but also a fundamental component of the learning process itself (Purnomo et al., 2024; Lucas-Moreira et al., 2025; Padial-Ruz et al., 2022). Physical Education students are expected to develop not only physical competence but also cognitive and reflective abilities in understanding movement, health, and sport-related concepts (Kirk, 2019; Azevedo et al., 2022; De Koning et al., 2020). However, previous studies indicate that student participation in learning activities often remains passive, particularly when instructional strategies fail to connect with students' interests and lived experiences (Siedentop & Mars, 2022; Makmun et al., 2020; Firmansyah et al., 2021). This lack of engagement can negatively impact both learning outcomes and students' motivation to participate in physical activities. Furthermore, passive learning environments limit opportunities for students to develop critical thinking and reflective skills, which are essential in higher education contexts. As a result, there is a growing need for innovative pedagogical strategies that can actively involve students in both cognitive and physical dimensions of learning. Addressing this issue requires approaches that are not only interactive but also meaningful and contextually relevant. Therefore, integrating interdisciplinary methods into Physical Education becomes a promising direction for enhancing student engagement.

One such innovative approach is the integration of storytelling into educational practices. Storytelling has long been recognized as an effective pedagogical tool that facilitates understanding, stimulates imagination, and enhances emotional engagement (Rusiyono & Apriani, 2020; Ilmonen, 2020; Robin, 2016). In literature teaching, storytelling plays a central role in helping students interpret texts, construct meaning, and develop critical thinking skills (Wilkins et al., 2024; Robin, 2019). Moreover, storytelling enables students to connect learning materials with personal experiences, thereby making learning more meaningful and engaging. Through narrative structures, students are encouraged to explore ideas, express perspectives, and engage in reflective thinking. This process not only enhances comprehension but also supports the development of communication skills. In addition, storytelling creates an interactive learning environment where students actively participate through discussion and interpretation. As such, storytelling represents a powerful pedagogical strategy for fostering both cognitive and emotional engagement. However, its application in interdisciplinary contexts, particularly in Physical Education, remains limited.

In parallel, the incorporation of physical activity into learning processes has been shown to positively influence students' motivation, attention, and overall engagement (Whitehead, 2019; Sember et al., 2020; Goveia et al., 2025). Movement-based learning allows students to experience concepts physically, thereby strengthening both cognitive and kinesthetic understanding. In Physical Education contexts, integrating movement with other academic disciplines creates opportunities for interdisciplinary learning that enhances both physical and intellectual development (Panjaitan & Fardana, 2023; Downie & Proulx, 2022; Park, 2024). Such integration supports holistic learning by engaging multiple domains simultaneously, including cognitive, affective, and psychomotor aspects. Furthermore, physical activity can increase students' enthusiasm and reduce learning monotony, making the learning process more dynamic. It also provides opportunities for experiential learning, where students learn by doing rather



than merely observing. Despite these advantages, the integration of physical activity with non-physical subjects such as literature is still relatively underexplored. This gap presents an opportunity to develop innovative teaching strategies that combine movement and academic content. Therefore, combining physical activity with storytelling offers a promising interdisciplinary approach.

Despite the recognized benefits of storytelling and physical activity independently, their combined application in literature teaching within Physical Education contexts remains underexplored. Integrating storytelling with physical activity offers a unique pedagogical approach that simultaneously engages students cognitively, emotionally, and physically. This approach enables students not only to understand literary content but also to embody and experience it through movement, thereby fostering deeper engagement and active participation. By connecting narrative elements with physical actions, students can internalize learning in a more meaningful and memorable way. Additionally, this integration supports active learning environments where students are directly involved in the learning process. It also encourages collaboration, creativity, and interaction among students. As a result, students are more likely to develop positive attitudes toward both literature and physical activity. Therefore, this approach has the potential to transform traditional learning into a more engaging and effective experience.

Furthermore, active participation is a critical factor influencing learning outcomes in higher education. Students who actively participate in learning activities tend to demonstrate higher levels of motivation, better comprehension, and improved academic performance (Ardiyani & Puspitaloka, 2025; Singh et al., 2019). Active participation also promotes deeper learning, as students engage more critically with the material and contribute to discussions. In Physical Education, participation is particularly important because it directly relates to both physical engagement and cognitive involvement. However, fostering active participation requires well-designed instructional strategies that encourage student involvement. Without such strategies, students may remain disengaged and fail to achieve optimal learning outcomes. Therefore, educators must adopt innovative approaches that promote both interaction and engagement. In this context, integrating storytelling and physical activity provides a meaningful solution to enhance participation. This integration aligns with contemporary educational goals that emphasize active and student-centered learning.

Given these considerations, the integration of storytelling and physical activity in literature teaching represents an innovative strategy to address the challenges of student passivity and limited engagement. This approach offers a holistic learning experience that combines cognitive, emotional, and physical dimensions. It also aligns with current educational trends that emphasize interdisciplinary and experiential learning. By implementing this strategy, educators can create more dynamic and engaging learning environments. Furthermore, this approach has the potential to improve both participation and overall learning outcomes. Therefore, it is important to empirically investigate its effectiveness in educational settings. This study aims to explore how such an integrated approach can enhance active participation among Physical Education students. Therefore, the researcher is interested in conducting a study entitled "Implementing Storytelling and Physical Activity in Literature Teaching to Enhance Physical Education Students' Active Participation."

Research Objectives

The objectives of this research are:

1. To examine the implementation of storytelling and physical activity integration in literature teaching among Physical Education students.
2. To analyze the effect of the integration of storytelling and physical activity on students' active participation.
3. To explore how storytelling combined with physical activity supports students' engagement and interaction in literature learning.

Hypotheses

H₀₁: Storytelling and physical activity integration does not significantly affect the active participation of Physical Education students.



H_{a1}: Storytelling and physical activity integration significantly affects the active participation of Physical Education students.

Method

Research Design

The approach used in this study is a mixed methods design, which combines the collection and analysis of both quantitative and qualitative data (Neuman, 2019; Creswell & Plano Clark, 2023). This approach provides a comprehensive understanding of the effectiveness of the intervention by integrating statistical analysis of numerical data with an examination of students' experiences and perceptions, thereby offering a more comprehensive understanding of the learning process.

This approach is appropriate for examining the impact of implementing storytelling and physical activity in literature learning, as well as understanding students' responses and experiences throughout the learning process (Byrne & Soundy., 2020).

The research design employed is a quasi-experimental design with an experimental group and a control group. This design was selected because full randomization was not feasible in a classroom setting, while still allowing the researchers to examine cause-and-effect relationships between variables. In this study, the experimental group received literature instruction integrated with storytelling and physical activity, while the control group followed conventional literature instruction.

In addition to quantitative data, this study also used questionnaires and observation sheets, as well as semi-structured interviews to obtain qualitative data regarding students' learning experiences.

Participants

The population of this study consisted of fourth-semester students of the Physical Education Study Program at Universitas Muhammadiyah Palembang, with a total of 120 students. The sample was selected using simple random sampling to ensure that every student had an equal chance of being included in the study. After the selection process, the participants were divided into two equal groups, namely 60 students in the experimental group and 60 students in the control group. The participants were aged between 18 and 22 years and had relatively homogeneous academic characteristics because they were in the same semester level, which helped to ensure comparability between the two groups. In addition, a number of students were selected purposively to participate in interviews in order to obtain in-depth qualitative data regarding their experiences and perceptions of storytelling- and physical activity-based learning.

Inclusion Criteria:

- 1) Active fourth-semester students of the Physical Education Study Program
- 2) Regular attendance during the study period
- 3) Willingness to participate in the research (informed consent)

Exclusion Criteria:

- 1) Students with medical conditions that limit physical activity
- 2) Absence from more than 20% of learning sessions
- 3) Incomplete research instruments

Research Procedure

The study was conducted over 16 weeks, with one meeting per week, each lasting 90 minutes. In the experimental group, students participated in literature learning that was integrated with storytelling and physical activity. During the learning process, students were involved in various activities such as role-playing characters in stories, expressing narrative sequences through body movements, and discussing the meaning and content of literary texts. Each session was designed based on different narrative themes to enhance students' cognitive, emotional, and physical engagement. Meanwhile, the control



group received conventional literature instruction without the integration of storytelling and physical activity.

Research Instruments

The instruments used in this study consisted of two main tools:

1. Active Participation Observation Sheet

This instrument was used to measure students' level of engagement during the learning process. The observation focused on several indicators, including attention, participation in discussions, responsiveness, and participation in physical activities (Van Maanen, 1980). Students' scores were classified according to the criteria presented in Table 1.

2. Active Participation Questionnaire

A Likert-scale questionnaire was used to measure students' perceptions of their engagement, motivation, and participation during the learning process. This instrument aimed to capture students' subjective experiences regarding the implemented instructional approach.

3. Semi-Structured Interviews

Semi-structured interviews were conducted with five selected students to explore their experiences, perceptions, and meanings related to storytelling- and physical activity-based learning. The interviews aimed to obtain in-depth qualitative data regarding how students perceived the learning process, their engagement during activities, and the meaning they derived from integrating storytelling with physical movement in literature learning.

Table 1. Classification of Active Participation

No	Classification	Score
1	Very High	81-100
2	High	66-80
3	Moderate	56-65
4	Low	41-55
5	Very Low	0-40

Validity and Reliability

Before being used, the research instruments were tested for validity and reliability. Content validity was conducted through expert judgment involving three experts in Physical Education, language teaching, and educational assessment. The experts evaluated the relevance, clarity, and appropriateness of each instrument item. Based on their feedback, revisions were made to improve the quality of the instruments.

A pilot test was conducted with students outside the research sample. The results were analyzed using Pearson Product Moment correlation to test item validity and Cronbach's Alpha to assess reliability. The analysis showed that all items met the validity criteria ($r > 0.30$) and demonstrated good reliability with Cronbach's Alpha values above 0.70. These results indicate that the instruments are valid and reliable for use in this study. The results of the validity and reliability analysis are presented in Table 2.

Table 2. Validity and Reliability Results of Research Instruments

Instrument	Number of Items	Item Validity (r-value)	Criteria	Cronbach's Alpha	Interpretation
Active Participation Observation Sheet	20	0.41 – 0.78	$r > 0.30$	0.86	Reliable
Active Participation Questionnaire	15	0.45 – 0.80	$r > 0.30$	0.89	Reliable
Semi-Structured Interview Guide	5	0.43 – 0.75	$r > 0.30$	0.83	Reliable

Source: Processed research data

The results presented in Table 2 indicate that all research instruments met the required validity criteria, with item correlation values (r) exceeding 0.30. This confirms that all items are appropriate and measure the intended constructs. In addition, all instruments demonstrated good reliability, as indicated by



Cronbach's Alpha values above 0.70. The highest reliability was found in the Active Participation Questionnaire (0.89), followed by the Observation Sheet (0.86) and the Interview Guide (0.83). These findings confirm that all instruments are valid and reliable, and therefore suitable for use in the main study.

Data Analysis

Quantitative data were analyzed using SPSS version 22. Descriptive statistics were used to describe the data characteristics, while inferential analysis using an independent samples t-test was conducted to compare differences between the experimental and control groups.

In addition, effect size was calculated to determine the magnitude of the intervention effect. The significance level was set at $p < 0.05$. Normality (Kolmogorov–Smirnov test) and homogeneity of variance (Levene's test) were conducted to ensure statistical assumptions were met.

Qualitative data from interviews were analyzed using thematic analysis to identify patterns in students' experiences of the implemented learning approach.

Results

The implementation of storytelling and physical activity in literature teaching was conducted over sixteen weeks in the Physical Education Study Program at Universitas Muhammadiyah Palembang. The learning activities were designed to enhance students' active participation through role-playing, body movement based on narrative sequences, and group discussions to interpret literary texts. During the process, students actively engaged in storytelling-based learning through brainstorming, performing stories, and collaborative reflection, which encouraged cognitive, emotional, and physical involvement in learning.

The findings show that the integration of storytelling and physical activity positively contributes to students' active participation in literature learning. The results of the normality and homogeneity tests are presented in Table 3. The Shapiro–Wilk test indicates that all variables have significance values greater than 0.05, meaning the data are normally distributed. In addition, the Levene's test also shows significance values greater than 0.05, indicating that the data are homogeneous. Therefore, the data meet the assumptions required for further parametric statistical analysis.

Table 3. The Result of Normality and Homogeneity Test of Research Data

Variables	Group	Test	Sig. of Saphiro-Wilk Test	Levene tatictic
Active Participation	Exp. group	Pre-test	0.134	0.612
		Post-test	0.118	
	Cont. group	Pre-test	0.097	
		Post-test	0.156	

Table 3 presents the results of the normality and homogeneity tests conducted to determine whether the research data met the assumptions required for parametric statistical analysis. The Shapiro–Wilk test results show that the significance values for the pre-test and post-test of active participation in both the experimental group (0.134 and 0.118) and the control group (0.097 and 0.156) are greater than 0.05. This indicates that the data are normally distributed.

Furthermore, the Levene's test result (0.612) is also greater than 0.05, indicating that the variances between the experimental and control groups are homogeneous. Since the data meet the assumptions of normality and homogeneity, further analysis was conducted using parametric statistical tests, specifically the independent samples t-test through IBM SPSS version 22, to examine whether there are significant differences in students' active participation between those who received storytelling and physical activity integration in literature teaching and those who followed conventional instruction.

A comprehensive analysis of students' active participation was conducted using the Independent Samples t-test based on the data presented in Table 4. This analysis aimed to examine the implementation of storytelling and physical activity in literature teaching and its impact on enhancing Physical Education students' active participation.



Table 4. Independent Samples t-test Results of Students' Active Participation

NO	Variables	Pre-test		Post-test		Mean Difference Pre- and Post-test Exp. Within	T-Value Pre- and Post within Exp. (Sig.)	Mean different Pre and Post-test within Cont	Pre- and Post-test within Cont. (Sig.)	Mean Difference Pre- and Post-test between Exp. & Cont.	T-Value Post-test between Exp. & Control (Sig.)
		Mean Exp	Mean Cont	Mean Exp	Mean Cont						
1	Active Participation (Observation Sheet)	55.10	54.80	78.30	61.20	23.20	4.12	6.40	1.88	17.10	3.40
a	Very High	0.00	0.00	12.40	3.10	12.40	3.00	2.95	0.85	14.15	2.95
b	High	14.80	15.20	30.10	18.40	15.30	3.40	3.10	1.05	11.70	2.75
c	Moderate	23.10	22.60	27.50	24.90	4.40	2.10	2.30	0.90	3.10	1.35
d	Low	13.20	12.80	7.50	10.50	-6.10	1.60	-2.40	0.75	-3.40	1.10
e	Very Low	4.00	4.20	1.20	3.20	-2.80	2.05	-0.90	0.55	-2.10	1.25
2	Active Participation (Questionnaire)	57.80	58.10	82.40	66.30	24.60	4.60	8.20	2.10	16.10	3.35
a	Engagement	20.90	21.10	38.20	27.10	17.30	3.90	6.00	1.95	11.10	3.25
b	Motivation	26.00	25.80	30.40	28.60	4.40	1.35	2.80	0.85	1.80	1.10
c	Participation	10.90	11.20	4.10	10.60	-6.80	2.60	-0.60	0.45	-6.50	2.05

Based on the results shown in Table 4, the experimental group demonstrated a substantial improvement in active participation after participating in literature learning integrated with storytelling and physical activity. The mean score of the observation sheet increased from 55.10 in the pre-test to 78.30 in the post-test, resulting in a mean difference of 23.20. The t-test analysis produced a t-value of 4.12, indicating a statistically significant improvement in students' participation levels.

In contrast, the control group showed only a moderate improvement in active participation. The mean score increased from 54.80 in the pre-test to 61.20 in the post-test, with a mean difference of 6.40. The t-test result ($t = 1.88$) indicates that this improvement was not as strong as in the experimental group.

Furthermore, the comparison of post-test scores between the experimental and control groups revealed a mean difference of 17.10, with a t-value of 3.40. These findings indicate that students who experienced storytelling and physical activity integration in literature learning demonstrated significantly higher active participation compared to those who received conventional instruction.

Similar patterns were observed in the questionnaire results. The experimental group showed a significant increase in active participation from 57.80 to 82.40, while the control group only increased from 58.10 to 66.30. The t-test results ($t = 3.35$) further confirmed that the difference between both groups was statistically significant.

The improvement in students' active participation can be attributed to the integration of storytelling and physical activity, which created an interactive and meaningful learning environment. Through role-playing, narrative expression, and movement-based interpretation of literary texts, students were more engaged cognitively, emotionally, and physically. This approach encouraged students to actively participate in discussions, respond more effectively during learning activities, and become more involved in physical expression of narratives.

Moreover, storytelling allowed students to connect literary content with real-life and physical experiences, making the learning process more enjoyable and relatable. As a result, students were more motivated to participate actively in both cognitive and physical learning tasks, leading to higher engagement levels in the experimental group.

Based on the results of the Independent Samples t-test analysis, it can be concluded that the implementation of storytelling and physical activity in literature teaching significantly enhances Physical Education students' active participation. Therefore, the hypothesis testing results indicate that:

The null hypothesis (H_{01}), which states that storytelling and physical activity integration does not significantly affect students' active participation, is rejected.

The alternative hypothesis (H_{a1}), which states that storytelling and physical activity integration significantly affects students' active participation, is accepted.



This study demonstrates that integrating storytelling and physical activity into literature teaching is an effective pedagogical strategy to enhance student engagement and participation in Physical Education learning contexts.

Next, related to the findings of the semi-structured interviews conducted with 5 students, the results provide a more in-depth perspective regarding the implementation of a storytelling-based learning strategy combined with physical activity in literature instruction. The interview findings revealed various perceptions related to the feasibility, effectiveness, challenges, engagement, and sustainability of the strategy in enhancing the active participation of Physical Education students at Universitas Muhammadiyah Palembang.

First, regarding the feasibility of the learning strategy, all students (5 out of 5) stated that integrating storytelling with physical activity in literature learning is a feasible and interesting approach to be implemented. They considered that stories delivered through storytelling were able to create a more lively, contextual, and meaningful learning atmosphere, thereby helping students to better understand literary content when connected with physical movement. However, some students also emphasized that the implementation of this strategy requires more flexible time management as well as well-structured lesson planning so that the storytelling process and physical activities can be carried out in a balanced manner without reducing the essence of each component. The details are presented in Table 5.

Table 5. Feasibility of the learning strategy according to students

Student	Perception of Strategy Feasibility	Comment
Student 1	Feasible and interesting	"Storytelling combined with physical activity makes learning more lively and easier to understand."
Student 2	Feasible, but requires time management	"Sufficient time is needed to balance storytelling and physical activity."
Student 3	Feasible and interactive	"The combination of storytelling and physical activity greatly helps understanding."
Student 4	Feasible and enjoyable	"Learning becomes less boring and more varied."
Student 5	Feasible, but requires good planning	"Careful planning is needed so activities can run effectively and in an organized manner."

Source: Research data

In the context of the effectiveness of the learning strategy, all students agreed that the storytelling approach combined with physical activity was effective in enhancing their active participation during the learning process. They expressed that the use of engaging stories, particularly those containing life values, emotional experiences, and connections to the world of sports, was able to increase their engagement across cognitive, affective, and psychomotor domains. In addition, the students also stated that this strategy not only improved learning motivation but also created a more interactive, collaborative, and less monotonous classroom atmosphere, thereby making the overall learning experience more meaningful. The details are presented in Table 6.

Table 6. Effectiveness of the learning strategy according to students

Student	Perception of Strategy Effectiveness	Comment
Student 1	Effective in increasing participation	"I became more active in learning activities and more willing to get involved."
Student 2	Effective in increasing motivation	"This collaboration made me more enthusiastic and interested in literature learning, especially because as Physical Education students we are used to outdoor activities during learning."
Student 3	Effective in increasing engagement	"I became more focused and involved in the learning activities."
Student 4	Effective and enjoyable	"Learning became more interesting, not boring, and more interactive."
Student 5	Effective in increasing physical activity	"I moved more and became more active during this learning process."

Source: Research data

Although this strategy was considered effective, the students also identified several challenges in its implementation. The main challenge was the difficulty in aligning the storyline with relevant physical activities, as well as the limited variety of movements that could be directly integrated with the literary content. In addition, differences in students' levels of understanding when responding to the narrative were also observed, which required a more adaptive and inclusive teaching approach to ensure that all participants could fully engage in the learning process. The details are presented in Table 7.



Table 7. Challenges experienced by students in the implementation of the strategy

Student	Challenges experienced	Comment
Student 1	Synchronization between story and activity	"Sometimes the story does not directly match the physical activity being performed."
Student 2	Differences in understanding	"Not all classmates understand the content of the story at the same speed."
Student 3	Relevance of materials	"It is difficult to find physical activities that truly match the story."
Student 4	Limited variety of activities	"The activities sometimes feel less varied and repetitive."
Student 5	Teacher creativity	"High creativity from the instructor is needed to connect storytelling with movements."

Source: Research data

Furthermore, the students were also asked about their level of active engagement during the learning process. The majority of students stated that the storytelling strategy combined with physical activity significantly increased their engagement, both in terms of participation in discussions, responses to the stories, and direct involvement in physical movements. They felt that this approach provided a more holistic learning experience because it not only required them to understand the material cognitively but also involved their emotions and physical activity simultaneously. The details are presented in Table 8.

Table 8. Students' active engagement in learning

Student	Level of Engagement	Comment
Student 1	High	"I felt very active and involved in every learning session."
Student 2	High	"More involved compared to conventional learning methods."
Student 3	Moderate-High	"Fairly active in discussions and physical activities."
Student 4	High	"I enjoyed every session because it was very interactive."
Student 5	High	"I moved more and participated actively in this learning process."

Source: Research data

Finally, regarding the sustainability of this learning strategy, all students stated that the storytelling approach combined with physical activity in literature learning has strong potential to be continuously implemented and further developed in the future. They argued that this strategy would become more optimal if supported by systematic lesson planning, high teacher creativity, and adequate learning facilities. In addition, some students also suggested that this strategy could be further enhanced through the integration of digital learning media, educational games, and more varied collaborative activities, so that the learning experience becomes richer, more engaging, and more adaptive to students' needs. The details are presented in Table 9.

Table 9. Sustainability of the learning strategy according to students

Student	Perception of Strategy Sustainability	Comment
Student 1	Sustainable	"This strategy is very interesting and worth continuing in learning."
Student 2	Sustainable with support	"It would be more effective if supported by media and sufficient time."
Student 3	Sustainable	"Very suitable for active and interactive learning."
Student 4	Sustainable and innovative	"It can be further developed with other methods and media."
Student 5	Sustainable	"It makes learning more meaningful and not boring."

Source: Research data

Overall, the findings of this study indicate that the implementation of storytelling combined with physical activity in literature learning has a significant positive impact on enhancing students' active participation. This strategy not only increases physical engagement but also strengthens students' intrinsic motivation, attention, and emotional involvement in the learning process, thereby creating a more holistic, interactive, and meaningful learning experience within the context of modern education.

Discussion



The present study demonstrates that the integration of storytelling and physical activity in literature learning significantly enhances Physical Education students' active participation. The quantitative findings indicate that students in the experimental group showed a considerably higher level of participation compared to those in the control group, as reflected in both observation and questionnaire results. This improvement suggests that combining narrative-based instruction with physical engagement creates a more interactive and meaningful learning environment. These findings are consistent with previous research indicating that active and experiential learning strategies can significantly increase student engagement and participation (Herreid, 2020; Erniwati et al., 2022).

Storytelling in educational contexts serves as a powerful pedagogical tool that facilitates meaning-making and emotional connection to learning content. Through narrative structures, students are able to relate abstract concepts to real-life experiences, making learning more accessible and engaging. In this study, storytelling was not only used as a linguistic or literary tool but also as a trigger for physical expression. This combination enabled students to interpret stories through movement, role-play, and group activities, thereby strengthening both cognitive and kinesthetic involvement. This aligns with Byrne and Soundy (2020), who emphasized that narrative thinking plays a central role in how individuals construct meaning and organize experiences.

The addition of physical activity further reinforced the learning process by transforming passive comprehension into embodied learning experiences. According to embodied cognition theory, cognitive processes are deeply rooted in bodily interactions with the environment (Padial-Ruz et al., 2022). In this study, students physically enacted narratives, which helped them internalize story content more effectively. This supports the idea that learning becomes more meaningful when students are physically engaged in the construction of knowledge rather than merely receiving information.

The qualitative findings also revealed that students experienced increased motivation, engagement, and emotional involvement during the learning process. These outcomes can be explained through Self-Determination Theory, which states that intrinsic motivation is enhanced when learning activities support autonomy, competence, and relatedness (Deci & Ryan, 2019). Storytelling created emotional and contextual relevance, while physical activities provided opportunities for active participation and collaboration. Together, these elements fostered a learning environment that supported intrinsic motivation and sustained engagement.

Furthermore, the challenges identified in this study such as difficulty synchronizing storytelling with physical activities, limited movement variations, and differences in student comprehension are consistent with previous studies on integrated and interdisciplinary learning approaches. Bereczki and Kárpáti (2021) noted that curriculum integration often presents implementation challenges due to the need for alignment between different domains of knowledge. In this context, teacher creativity and instructional flexibility become essential factors in ensuring the effectiveness of the strategy.

The findings regarding increased student engagement are also supported by active learning literature. Lucas-Moreira et al. (2025) argue that active learning strategies significantly improve student involvement and retention compared to traditional lecture-based methods. In this study, the combination of storytelling and physical activity functioned as an active learning model that engaged students cognitively, emotionally, and physically, resulting in higher participation levels.

Finally, the sustainability findings suggest that students perceive this strategy as highly applicable for long-term use, provided that adequate planning, resources, and instructional support are available. This is consistent with Xu and Margeviča-Grinberga (2021) view that educational innovation requires systemic support, continuous teacher development, and institutional commitment to ensure long-term implementation. Students' suggestions for integrating digital media and more varied activities also indicate the need for continuous pedagogical innovation.

Based on the students' suggestions, this study proposes an innovative digital learning model that integrates storytelling, physical activity, and interactive educational technologies for literature instruction in Physical Education. The proposed model may include the use of digital storytelling platforms, QR code-based storytelling trails, gamified learning applications, and short video assignments that encourage students to interpret literary narratives through physical movement. In addition, collaborative digital tools such as Padlet, Google Classroom, or interactive quiz platforms can be incorporated to facilitate reflection, peer feedback, and collaborative storytelling activities. Such an innovation would address the



challenges identified by students, including the need for greater teacher creativity, more varied learning activities, and better synchronization between storytelling and physical movement. By combining narrative learning with digital media and embodied learning experiences, this proposed model has the potential to create a more engaging, flexible, and sustainable learning environment that is aligned with the demands of twenty-first-century education.

The findings of this study highlight that storytelling combined with physical activity is an effective pedagogical approach to enhance active participation in literature learning within Physical Education contexts. By integrating narrative interpretation with embodied learning experiences, this strategy promotes deeper engagement, higher motivation, and more meaningful learning outcomes. It also demonstrates the potential of interdisciplinary and experiential approaches in creating holistic and student-centered learning environments.

Conclusions

The present study concluded that the implementation of storytelling combined with physical activity in literature teaching had significantly improved Physical Education students' active participation at Universitas Muhammadiyah Palembang. The findings indicated that students in the experimental group achieved higher levels of engagement, motivation, and participation compared to those in the control group, as evidenced by the significant differences between pre-test and post-test results as well as the positive perceptions obtained from the interviews. It was also concluded that the strategy had been feasible and effective in creating a more interactive, meaningful, and student-centered learning environment, where students became more cognitively, emotionally, and physically involved in the learning process. Although several challenges were identified, such as the alignment of storytelling with physical activities and differences in student comprehension, these difficulties were considered manageable through better planning, instructional creativity, and adequate learning resources. Overall, the study had contributed to the development of an innovative pedagogical approach that integrated narrative learning and physical engagement, and it was suggested that future studies further explore its application in other contexts and enhance its implementation through digital media and more varied instructional designs.

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