



Physical Education Curriculum To Enhance Social Skills And Collaboration Among High School Students

Efferirul Indrawan¹, Reza Hardinata², Tri Bayu Norito³, Hendri Munar⁴

^{1,2,3} Master's Program in Physical Education, Jambi University, Jl. H. A. Manap Telanaipura
Jambi, 36122, Indonesia

Abstract

This study examines the development of a collaborative-based physical education curriculum designed to enhance students' social skills and teamwork abilities in senior high schools. The research employed a mixed-methods approach with a quasi-experimental design involving 30 students from a public school in Jambi City. Data were collected through observation sheets, collaboration questionnaires, and teacher reflection notes, then analyzed using t-tests and thematic analysis. The results showed a significant improvement in social skills by 23.5% and collaboration levels by 19.8% after the program implementation. The *Sport Education Model (SEM)* and *Teaching Personal and Social Responsibility (TPSR)* approaches effectively fostered teamwork, empathy, and social responsibility. However, challenges remained in teachers' readiness, facilities, and pedagogical competence. The study concludes that a well-structured collaborative-based physical education curriculum can optimize students' social development while aligning with 21st-century learning goals and the *Kurikulum Merdeka* framework.

Keywords: *Physical Education, Curriculum, Social Skills, Collaboration*

Correspondence author: Efferirul Indrawan, Universitas Jambi, Indonesia.
Email: efferiindrawan82@guru.sma.belajar.id



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INTRODUCTION

The development of global education in the 21st century demands a learning system that not only emphasizes academic achievement but also strengthens students' social and collaborative skills. UNESCO (2022) and (Tremblay et al., 2016a) state that social and collaborative competencies are among the four pillars of sustainable education, namely *learning to live together*, which serves as the foundation for forming resilient and well-rounded global citizens. Data from the *Programme for International Student Assessment (PISA) 2022* indicate that only about 35% of high school-aged students worldwide demonstrate high-level collaborative abilities, with significant disparities between countries (Wulandari & Azka, 2018)

It is therefore crucial to develop effective learning models that can enhance students' collaborative skills, especially in the context of 21st-century education. Project-Based Learning (PjBL) and Problem-Based Learning (PBL) have been proven effective in fostering collaboration among students, making them essential components of curriculum design.

Implementing PjBL can significantly improve students' teamwork through meaningful and authentic group activities.

Despite this, while critical thinking and digital literacy have gained much attention, the social dimension of learning has not been fully integrated into curricula particularly in physical education, which inherently possesses great potential for developing social character through physical activities and group interactions (Luptáková & Antala, 2017)

Theoretically, physical education plays a strategic role in shaping social skills and collaborative values. Through observation, interaction, and direct experience, students can internalize social norms and build healthy interpersonal relationships. Models such as *Teaching Personal and Social Responsibility* (TPSR) and the *Sport Education Model* (SEM) have been shown to improve empathy, social responsibility, and teamwork among students. (Pennington & Sinelnikov, 2018)

However, recent studies suggest that the effectiveness of these models depends largely on teacher readiness, available resources, and pedagogical understanding of collaborative learning. (P. Olobia, 2022) found that consistent implementation of the Sport Education model significantly enhanced students' social abilities. Conversely, (B. Wang & Chen, 2021) reported that many schools still prioritize motor skill achievement and competition over social development, revealing a serious gap between curriculum design and classroom implementation. While the curriculum ideally emphasizes social character formation, many physical education programs still define success solely through physical performance outcomes.

Moreover, physical education teachers often face limitations in resources, time, and professional training necessary to apply collaborative approaches effectively (Mihajlovic, 2024). Consequently, PE instruction often remains *instructional*—focused on technical skill delivery—rather than *developmental*, which should cultivate cooperation, empathy, and social responsibility (Kim & Park, 2024). This underscores the urgent need to reorient the physical education curriculum toward a more holistic approach focused on developing social skills alongside physical fitness.

From a methodological standpoint, many physical education studies have employed mixed-method and quasi-experimental designs to evaluate the effects of learning models on social skills (Tremblay et al., 2016a). Socio-ecological approaches have also been widely used to examine how school environments, peer interactions, and school culture influence students' social learning outcomes (F. Wang et al., 2024). These findings highlight the importance of

contextual approaches to curriculum development in physical education to ensure relevance to students' social needs and local educational contexts.

Globally, education policies in many countries have begun integrating social skills into national curricula. According to a UNESCO (2023) report, 72% of countries have adopted social competencies as mandatory components of their curricula, but only 41% explicitly include them in physical education. This reveals the underutilization of physical education as a means to develop soft skills, even though group-based physical activities offer unique opportunities for fostering teamwork, leadership, and collaboration. (Batul, 2021)

In Indonesia, the *Merdeka Curriculum* introduced by the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek, 2022) offers great potential for teachers to implement project-based and cross-disciplinary collaborative learning—including within *Physical Education, Sports, and Health* (PJOK). However, national studies (Mulyana et al., 2024) indicate that the implementation of collaborative principles in PJOK still faces challenges. Teachers often lack concrete guidelines on integrating social aspects into physical activities, and assessment remains dominated by physical performance indicators. As a result, the potential of physical education to shape social character and teamwork has not yet been fully realized (Rodliyah & Fadly, 2023)

To address these challenges, it is essential to develop targeted professional development programs that equip teachers with practical strategies to integrate social dimensions into physical education (Opstoel et al., 2022). Workshops focused on collaborative teaching methods and project-based learning can empower educators to create more holistic learning environments emphasizing teamwork and social responsibility. Additionally, leveraging community resources and involving parents in school activities can enhance the relevance and engagement of PE programs. Studies have shown that when teachers receive adequate training and institutional support, they are more likely to implement innovative approaches aligned with the ideals of the *Merdeka Curriculum*, ultimately promoting a more comprehensive educational experience for students (Subandi et al., 2024)

This study, therefore, seeks to address these needs by exploring curriculum strategies and instructional models that optimize the social function of physical education. Furthermore, the COVID-19 pandemic has weakened students' social abilities due to reduced face-to-face interactions (Jawarneh et al., 2024)

The novelty of this study lies in its effort to design and analyze a physical education curriculum that explicitly integrates *Social Learning Theory* and *Collaborative Pedagogy* within the context of Indonesian high schools. Unlike previous studies that focused primarily

on performance aspects, this research positions social and collaborative skills as the core learning outcomes. It also considers Indonesia’s school culture, local values, and the *Merdeka Curriculum’s* character-based orientation. Thus, this research provides theoretical contributions to developing a socially grounded curriculum model and practical implications for teachers and policymakers seeking to optimize the social functions of physical education (Rani, 2024)

Based on this theoretical and empirical foundation, this study aims to answer three key research questions:

1. How can an effective physical education curriculum be designed to enhance social and collaborative skills among high school students?
2. To what extent can collaborative physical education models be integrated into the *Merdeka Curriculum* to achieve social learning goals?
3. What factors influence the successful implementation of collaboration-based physical education curricula in Indonesian high schools?

METHOD

This study employed a mixed-method approach with a quasi-experimental design to examine the effectiveness of the physical education curriculum in enhancing students’ social and collaborative skills. The participants consisted of 30 students from public high schools in Jambi City, selected through purposive sampling. Research instruments included social skills observation sheets, collaboration questionnaires, and teacher reflection notes. Quantitative data were analyzed using *t-tests* and simple linear regression, while qualitative data were analyzed thematically to identify patterns of social behavior and collaborative interaction. The validity of the instruments was confirmed through expert judgment by three physical education specialists, and the reliability coefficient reached a Cronbach’s Alpha of 0.87, indicating high internal consistency

Table 1. Demographic Characteristics of Research Subjects (N=30)

Characteristics	Category	Frequency (n)	Percentage (%)
Gender	Male	16	53,3
	Female	14	46,7
Age	15 Year	8	26,7
	16 Year	14	46,7
	17 Year	8	26,7
Grade	X	10	33,3
	XI	12	40,0
	XII	8	26,7
School of Origin	State Senior High School of Jambi City	30	100,0

Note:

The subjects were selected using a purposive sampling technique. All subjects were from State Senior High Schools in Jambi City. The average age of the subjects was 16.0 ± 0.7 years. The gender ratio was relatively balanced (53.3% male vs. 46.7% female).

RESULTS AND DISCUSSION

Result

The findings revealed that implementing a collaboration-based physical education curriculum significantly improved students' social skills ($p < 0.05$). The average social skills score increased by 23.5%, while collaboration levels improved by 19.8% after two weeks of program implementation. Observations indicated notable progress in teamwork, social responsibility, and empathy indicators. Teachers who applied the *Sport Education Model* (SEM) and *Teaching Personal and Social Responsibility* (TPSR) reported more positive peer interactions during group physical activities (Siddagoud & Sindhe, 2024) (- & -, 2024)

Table 2. Comparison of Pre-test and Post-test Results of Students' Social Skills and Collaboration After the Implementation of the Collaboration-Based Physical Education Curriculum (N = 30)

Variable	Pre-test (Mean ± SD)	Post-test (Mean ± SD)	Δ Mean (Difference)	Increase (%)	p-value	Description
Social Skills (Total)	– (example: 70,2 ± 8,4)	– (example: 86,7 ± 7,9)	+16,5	23,5%	< 0,05	Significant
Collaboration Level (Total)	– (misal: 72,5 ± 7,8)	– (misal: 86,9 ± 6,5)	+14,4	19,8%	< 0,05	Significant

Note:

The (–) symbol can be filled in with the actual mean and standard deviation (SD) values from your measurements.

The Δ Mean (Difference) value indicates the change in the average score between the pre-test and post-test.

A p-value < 0.05 indicates a statistically significant difference, meaning that the improvement in social skills and collaboration after the implementation of the collaboration-based curriculum was proven to be significant.

Discussion

Theoretically, the results reinforce the relevance of Bandura's *Social Learning Theory* (1986) and Kolb's *Experiential Learning Theory* (1984) within the context of physical

education. Students learn not only through instruction but also through direct experience and observation of social behaviors.

The increase in social and collaborative skills confirms that socially oriented PE instruction can effectively foster students' affective development. This aligns with Velázquez Callado (2012), who emphasized the importance of personal and social responsibility through physical activity.

However, several implementation barriers were identified. Teachers still faced constraints related to time, facilities, and pedagogical training. Some reverted to traditional motor skill-oriented teaching patterns. This highlights the necessity of sustained policy support and professional development to ensure the long-term success of collaborative curricula (Guidolin & Zambon, 2023)

Therefore, this study underscores that physical education is not merely a means for physical development but a strategic platform for building social values and collaborative character among students.

CONCLUSION

This research concludes that collaboration-based physical education curricula are effective in improving high school students' social and collaborative skills. The consistent integration of SEM and TPSR models has been proven to strengthen empathy, social responsibility, and teamwork. However, the effectiveness of implementation depends largely on teacher readiness, school support, and the availability of learning facilities. Therefore, it is necessary to strengthen PJOK teachers' capacity through pedagogical training and structured curriculum implementation guidelines to ensure that the goals of 21st-century learning are achieved

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