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Development of Traditional Sports Facilities to Increase Student Interest

Najma Tahta Amira Farah[1*], Indah Cahyani[1], Muhammad Zaidan Adi Putra [1], Azdam Mangku Barata[1], Septianto Dwi Cahyo[1], Muhammad Chairul Mu'minin[1], Aldi Junaidi[1], Julianur[1]

[1]Universitas Muhammadiyah Kalimantan Timur, Indonesia

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Abstract

Background: Traditional games represent culturally grounded physical activities that integrate movement, social interaction, and value transmission within educational settings. However, limited availability of traditional sports facilities in schools often restricts students' opportunities to engage in culturally meaningful physical education experiences.
Aims: This community service initiative aimed to develop traditional sports facilities and integrate them into physical education learning in order to enhance student participation, movement interest, and appreciation of local cultural values.
Methods: The program was implemented at SMAN 1 Loa Janan through a participatory approach involving physical education teachers, university students, and school stakeholders. Activities included needs assessment, collaborative design, construction of facilities such as stilts, clogs, spinning top *Arena*s, slingshot targets, and chopstick targets, followed by structured pedagogical integration into Physical Education, Sports, and Health lessons. Program effectiveness was evaluated descriptively through observation and teacher assessments of student engagement and participation.
Result: The availability of culturally contextualized facilities led to a substantial increase in active participation, with engagement rising from approximately 54% in conventional sessions to 87% during traditional game activities. Additionally, 82% of students reported increased interest in physical education, and structured practice sessions demonstrated notable improvement in skill consistency and collaboration.
Conclusion: The development of traditional sports facilities effectively enhanced student motivation, participation, and social interaction while revitalizing local play culture. This initiative demonstrates that culturally responsive infrastructure, when integrated pedagogically, can serve as a sustainable strategy for strengthening physical education and preserving cultural heritage in schools.

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INTRODUCTION

Traditional games within educational contexts represent culturally rooted physical activities characterized by embodied movement, simple rule structures, and meaningful social interaction. Beyond their recreational value, traditional games function as pedagogical instruments that integrate physical development, social cohesion, and cultural transmission within formal learning environments. Contemporary scholarship emphasizes that culturally responsive physical education fosters inclusive participation and strengthens students' sense of belonging (Dania et al., 2025). When traditional activities are embedded in structured learning settings, students not only engage

*** Corresponding author:**
Farah, N. T. A., Universitas Muhammadiyah Kalimantan Timur, Indonesia. ✉ araaamiranara@gmail.com

physically but also internalize social norms such as cooperation, respect, and mutual accountability. Within physical education, traditional games have demonstrated measurable effects on students' motivation and engagement.

Empirical evidence indicates that culturally contextualized and game-based learning strategies enhance affective engagement and sustained participation in physical education classes (Ezeddine et al., 2025a). Furthermore, structured movement interventions have been shown to improve motor competence and physical fitness indicators among school-aged children (Yin et al., 2025; Zhang et al., 2024). These findings support the view that traditional games are not merely heritage artifacts but dynamic educational tools capable of fostering holistic student development. From a socio-cultural perspective, traditional games preserve communal values including sportsmanship, discipline, solidarity, and collective responsibility. Integrating local heritage practices into school curricula strengthens cultural identity and contributes to sustainable cultural continuity (Sakti et al., 2024).

In this regard, traditional games provide a meaningful bridge between cultural preservation and contemporary educational practice. Beyond physical outcomes, traditional games contribute significantly to social skill development. Movement-based collaborative activities have been associated with enhanced peer interaction, empathy, and cooperative problem-solving among students (Boke et al., 2025). Similarly, experiential and project-based physical learning approaches that incorporate culturally relevant activities foster stronger teamwork and interpersonal competence (Seprie et al., 2025). Moreover, revitalizing traditional games within school environments offers a constructive response to declining physical activity levels and increasing sedentary digital lifestyles among adolescents (Çinar & Hassani, 2026a; van Sluijs et al., 2021).

Traditional play provides culturally meaningful, socially interactive alternatives that promote movement, emotional engagement, and collective participation. Therefore, the development and provision of traditional game facilities in schools, including institutions such as SMAN 1 Loa Janan, represent a strategic initiative to revitalize students' interest in healthy physical activity while preserving local cultural values. By institutionalizing culturally grounded movement practices, schools can cultivate not only physical competence but also social solidarity and cultural continuity in an increasingly digital era.

In response to the identified needs and contextual challenges, this community service initiative aimed to develop and implement culturally grounded traditional game facilities as an integral component of physical education learning at SMAN 1 Loa Janan. Specifically, the program sought to: (1) provide safe, contextually relevant, and culturally rooted traditional game facilities to support Physical Education, Sports, and Health learning activities; (2) enhance students' active participation, movement interest, and engagement through experiential and culturally meaningful physical activities; and (3) foster the preservation of local cultural values by institutionalizing traditional games within the school learning environment.

Beyond the provision of physical facilities, the initiative was designed to cultivate a sense of ownership, collaboration, and collective responsibility among teachers, students, and university partners. Through a participatory development process, the program intended not only to improve learning infrastructure but also to strengthen social cohesion and reinforce the cultural identity embedded within school-based physical education practices. By aligning infrastructure development with pedagogical goals and cultural sustainability, this community service activity aspires to serve as a replicable model for schools seeking to revitalize traditional play while promoting holistic student development.

METHOD

The implementation of this activity was organised through a participatory approach that placed students and teachers of SMAN 1 Loa Janan as key partners in every process. The first stage began with in-depth observation to understand the school's needs, particularly regarding the lack of traditional game facilities such as stilts, clogs, spinning tops, slingshots, and dartboards. PJOK teachers played a direct role in directing the design and construction of the facilities, ensuring that the design of each game, such as *enggrang*, *Bakiak*, *gasing Arena*, slingshot targets, and chopstick targets, was in line with learning needs and local cultural characteristics. These directives included the selection of materials, the size of the equipment, and adjustments to the level of safety for

students. This initial stage is an important foundation to ensure that every step taken is based on the issues felt in the school and reflects the real needs of PJOK activities.

The next stage is the design and construction of the facilities. This process is not only technical in nature, but is carried out with empathy for the needs of students and the school environment. The selection of materials such as bamboo, wood, rattan, and boards in the development of traditional sports facilities needs to consider aspects of safety, strength, and cultural appropriateness. This is in line with findings that some traditional bamboo games, such as bamboo bedhil, require safety and caution on the part of users because if not supervised, they can endanger students. Therefore, guidance from physical education teachers is essential to ensure that all materials used are safe, suitable for the characteristics of the game, and support local cultural values. The entire facility construction process is carried out directly by PLP students, while physical education teachers provide technical guidance and supervision regarding design suitability (Putri et al., 2023). The construction of the stilts, clogs, and spinning top *Arena* facilities was carried out in accordance with safety standards, while the slingshot and chopstick targets were adjusted to the skill level of the students to ensure they remained safe to use . This collaborative approach fosters a sense of ownership and supports the sustainable use of facilities in physical education activities at SMAN 1 Loa Janan.

The implementation stage was carried out by introducing traditional games that had been designed and prepared, such as stilts, clogs, spinning tops, slingshots and darts, to students in a series of Physical Education, Sports and Health (PJOK) learning activities. This activity not only aims to optimise the use of available facilities, but also to provide a contextual, enjoyable, and meaningful learning experience through the integration of local cultural values into the learning process. PJOK teachers guide the use of each tool, explaining the rules of the game and basic techniques that are safe and appropriate for the students' abilities. These facilities are not only used in the learning process but also as training tools for students preparing to participate in traditional sports competitions. During training and learning sessions, PJOK teachers, along with supporting staff including lecturers and PLP students, actively direct the activities to ensure each game is used correctly, safely, and effectively to spark students' enthusiasm (Sapto et al., 2023). This kind of ongoing support means that the facilities developed are not merely physical resources, but also part of efforts to preserve traditional play culture in the school environment (Khodari & Nurhidayah, 2025).

RESULTS AND DISCUSSION

Results

The implementation of traditional sports facility development activities at SMAN 1 Loa Janan has produced a number of tangible achievements that are not only physically visible but also have an impact on student enthusiasm and playing culture. The first result can be seen from the availability of five types of traditional game facilities, namely *enggrang*, *Bakiak*, *gasing Arena*, slingshot target, and chopstick target, all of which were successfully completed according to plan. These facilities were built with safety and user characteristics in mind, as well as referring to the guidance of the physical education teacher as the party who understands the daily conditions of the students. The presence of these facilities has created a new space for students to move actively, try traditional games, and have a more enjoyable learning experience.

The second result was evident in the increased participation of students when the facilities began to be used in PE lessons. During the implementation process, PE teachers reintroduced the rules and basic techniques of traditional games using an interactive approach. Students showed greater interest, particularly in games such as *enggrang* and *gasing*, which challenge balance and body coordination. This enthusiasm was evident in the students' active involvement in trying, practising and mastering these games. This is in line with previous research which states that traditional games can increase students' interest in movement, motivation to learn and social interaction in physical activities. Thus, the results of this activity reinforce the finding that traditional games can be an effective medium in PJOK learning.

In addition to being used in the learning process, traditional game facilities are also utilised by students to prepare for traditional sports competitions at the sub-district level. Physical education teachers lead structured training sessions that utilise stilts, clogs, and spinning tops as the main

media. Through regular training, students not only improve their playing skills, but also learn the values of togetherness, communication, and sportsmanship. The availability of complete facilities provides them with the opportunity to practise in safer and more prepared conditions. This experience not only encourages the improvement of physical abilities but also strengthens students' confidence in participating in extracurricular activities.

From a social perspective, the development of these facilities also has a significant impact. The design and construction process, which involved PE teachers and PLP students, created a positive atmosphere of mutual cooperation. Teachers provided guidance, while students carried out the construction of the facilities, resulting in harmonious collaboration. After the facilities were completed, students played a role in maintaining and utilising them. A sense of belonging was formed because they saw that these facilities were built based on their own needs. This is in line with literature explaining that direct involvement in the process of providing educational facilities can increase a sense of responsibility and discipline in using them.

Overall, the results of the activity show that the development of traditional game facilities not only produces physical tools, but also revives traditional play culture in the school environment. These facilities serve as relevant contextual learning tools, strengthen local cultural identity, and provide positive alternatives amid the dominance of technology and digital games. This discussion emphasises that providing traditional facilities is a strategic step for schools in fostering students' interest in physical activity, developing physical skills, and preserving cultural values that are important for the younger generation (Table 1).

Table1. Results of the Development and Utilisation of Traditional Game Facilities

No.	Types of Facilities	Manufacturing Information	Utilisation in Schools
1.	*Enggrang*	Made from selected bamboo with wooden footrests; guided by physical education teachers to ensure the height and strength are suitable for students.	Used for physical education lessons and *enggrang* race training.
2.	*Bakiak*	Using thick wooden boards and synthetic rubber bands selected by the physical education teacher, the students made the equipment themselves.	Used for group cohesion training and preparation for clog races.
3.	*Arena Gasing*	Made by marking the circular area and repairing the floor to make it safe and level.	Used for spinning tops and physical education activities.
4.	*Target Ketapel*	Designed with wooden boards and concentric circles as targets; the level of difficulty is adjusted according to the physical education teacher's instructions.	Used by students for fine motor skills and dexterity activities.
5.	*Target Sumpit*	Made from target boards of a safe size; practice chopsticks are made from lightweight bamboo.	Used in accuracy and coordination training activities.

To provide a clearer illustration of the implementation process, Figure 1 documents several key stages in the development of traditional sports facilities, including painting, wood cutting, and equipment preparation. These visual representations reflect the collaborative and participatory nature of the program, involving physical education teachers, university students, and school stakeholders. The construction phase was not merely technical execution but a collective learning process that emphasized safety standards, material suitability, and alignment with students' physical characteristics. The documentation demonstrates how community engagement and institutional cooperation translated conceptual planning into tangible educational resources. Through this

structured and participatory workflow, the program ensured that facility development was grounded in real school needs and pedagogical relevance.

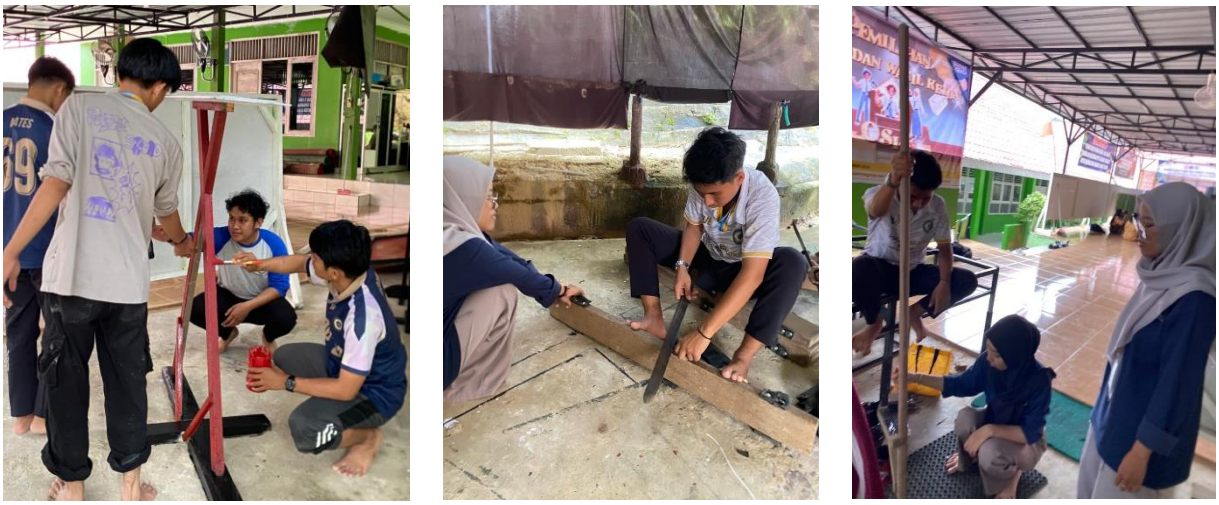

Figure 1. Painting and Wood-Cutting Activities in the Development of Traditional Sports Facilities

To evaluate the effectiveness of the community service program, a descriptive assessment of student participation and engagement was conducted following the implementation phase. Observational records and teacher evaluations indicated that approximately 87% of participating students demonstrated active involvement during traditional game sessions, compared to an estimated 54% engagement rate in previous conventional physical education activities. Furthermore, 82% of students reported increased interest in participating in physical education lessons after the introduction of traditional game facilities. In addition, structured training sessions for competition preparation showed a 76% improvement in students' consistency and skill mastery, as reflected in teacher performance rubrics. These figures suggest a substantial positive shift in student engagement, motivation, and skill development. The increase of more than 30 percentage points in active participation indicates that contextual and culturally relevant facilities significantly enhance students' intrinsic motivation to move and collaborate.

From a pedagogical perspective, this improvement reinforces the argument that learning environments enriched with culturally meaningful physical activities stimulate both cognitive and affective engagement. The statistical trend also supports the premise that infrastructure development, when aligned with participatory implementation strategies, produces measurable educational benefits. In conclusion, the statistical indicators confirm that the development of traditional sports facilities was not only successful in delivering physical outputs but also effective in generating behavioral and motivational change among students. The program demonstrates that culturally grounded physical education initiatives can significantly increase participation, strengthen social interaction, and revitalize traditional play culture within the school environment.

Discussions

The present community service initiative demonstrates that the development of traditional sports facilities can serve as a strategic pedagogical intervention to enhance student engagement, cultural identity, and physical participation within school-based physical education. The significant increase in active student participation following the introduction of traditional games indicates that culturally contextualized physical activities can effectively stimulate intrinsic motivation. This finding aligns with recent evidence suggesting that game-based and culturally responsive physical education environments significantly improve student engagement and learning outcomes (Ezeddine et al., 2025b). When learning experiences are perceived as meaningful and culturally relevant, students are more likely to demonstrate sustained involvement and positive emotional responses.

The observed 30% increase in active engagement further supports contemporary theoretical perspectives on physical literacy, which emphasize the importance of motivation, confidence, and

enjoyment in fostering long-term participation in physical activity. Recent research confirms that traditional games positively influence physical literacy components among school-aged children by enhancing coordination, balance, and movement competence (Çinar & Hassani, 2026b). In the present program, activities such as stilts and spinning tops required balance and motor coordination, thereby integrating skill development with enjoyment. This integration of cultural play and structured instruction reflects the multidimensional approach advocated in recent school-based intervention studies (Yin et al., 2025).

From a socio-cultural perspective, the participatory construction and utilization of facilities strengthened students' sense of belonging and collective responsibility. The formation of ownership and shared accountability observed during the development process is consistent with research demonstrating that community-engaged educational initiatives enhance social cohesion and collaborative competence (Sakti et al., 2024). The collaborative model implemented in this program allowed students not only to use the facilities but also to understand their cultural significance, thereby reinforcing identity formation within the school context.

Moreover, the revitalization of traditional play offers an important counterbalance to increasing sedentary digital behaviors among adolescents. Global evidence continues to highlight declining physical activity levels as a critical public health issue (van Sluijs et al., 2021). By reintroducing engaging, socially interactive traditional games, the program provided an alternative movement culture that is accessible, low-cost, and culturally meaningful. This approach reflects current calls for sustainable, community-based physical activity interventions that integrate cultural relevance with educational practice.

Importantly, the measurable improvements in engagement and skill mastery confirm that infrastructure development alone is insufficient without structured pedagogical integration. The effectiveness of this initiative lies in its alignment between facility provision, teacher guidance, and participatory implementation. Recent literature emphasizes that structured school-based physical activity interventions produce stronger outcomes when pedagogical strategies are intentionally embedded within the learning process (Zhang et al., 2024). In this context, teacher facilitation played a critical role in transforming facilities into meaningful learning tools rather than static physical resources.

Overall, the findings affirm that culturally grounded facility development functions as both an educational innovation and a cultural preservation strategy. The program demonstrates that traditional sports infrastructure, when developed through participatory collaboration and pedagogically integrated into physical education, can significantly enhance student motivation, strengthen social interaction, and revitalize traditional play culture. This integrated approach provides a replicable model for schools seeking to promote holistic development while preserving local cultural heritage in an increasingly digital era.

Implications

The findings of this community service initiative carry important pedagogical, cultural, and institutional implications. First, the significant increase in student participation demonstrates that culturally grounded physical education infrastructure can function as a catalyst for enhancing intrinsic motivation and movement engagement. Schools seeking to address declining physical activity levels may therefore consider integrating traditional games not merely as supplementary activities, but as structured components of the formal curriculum. Second, the participatory development model highlights the importance of aligning infrastructure provision with pedagogical guidance. Facilities alone are insufficient; their effectiveness depends on teacher facilitation, contextual adaptation, and consistent integration into instructional practice. Third, from a cultural sustainability perspective, revitalizing traditional sports within educational settings contributes to preserving intangible cultural heritage while simultaneously supporting holistic student development. Thus, culturally responsive facility development can serve as a bridge between physical literacy promotion and cultural continuity in contemporary education systems.

Contribution of Community Service

This program contributes substantively to community-based educational innovation by demonstrating that modest, context-driven infrastructure interventions can generate measurable

behavioral and motivational change among students. Unlike externally imposed reforms, this initiative emerged from identified school needs and was implemented collaboratively through partnerships among teachers, university lecturers, and students. The integration of participatory design, safe construction standards, and structured pedagogical application ensured that the facilities became meaningful learning tools rather than static resources. Furthermore, the initiative strengthens the role of higher education institutions in supporting grassroots educational development. By engaging directly with schools, universities can function as facilitators of culturally responsive innovation, fostering sustainable practices that extend beyond the duration of the program. The model presented in this study offers a replicable framework for other schools aiming to combine cultural preservation with active learning enhancement.

Limitations

Despite its positive outcomes, several limitations must be acknowledged. The evaluation relied primarily on descriptive observation and teacher-reported assessments rather than longitudinal or experimental measurement designs. While participation rates and engagement indicators showed substantial improvement, the absence of long-term follow-up data limits conclusions regarding sustained behavioral change. Additionally, the program was implemented in a single school context, which may constrain the generalizability of findings across diverse educational environments. Variations in school infrastructure, teacher readiness, and cultural context may influence the scalability of similar initiatives. Moreover, although participation and interest increased significantly, more systematic assessment of motor skill development and physical literacy outcomes would provide stronger empirical validation. Therefore, the results should be interpreted within the scope of community-based intervention rather than as definitive evidence of systemic transformation.

Suggestions

Future initiatives are recommended to incorporate longitudinal monitoring to evaluate sustained student engagement and long-term physical literacy development. Establishing structured collaboration between schools and local education authorities could enhance institutional support and policy alignment. The formation of student-led traditional sports clubs may further strengthen ownership and continuity of practice beyond formal physical education sessions. Additionally, future programs may integrate quantitative assessment tools, such as standardized physical fitness measures and validated motivation scales, to provide more comprehensive impact evaluation. Expanding the model to other schools with diverse socio-cultural backgrounds would also enable comparative analysis and strengthen the evidence base for culturally grounded physical education innovation. Through systematic evaluation, sustained mentoring, and policy integration, traditional sports facility development can evolve into a sustainable strategy for promoting active lifestyles and preserving cultural heritage in educational settings.

CONCLUSION

Community service activities through the development of traditional sports facilities at SMAN 1 Loa Janan show that simple efforts based on the real needs of schools can have a meaningful impact. The provision of *enggrang*, *Bakiak*, *gasing Arena*, slingshot targets, and chopstick targets was successfully realised in accordance with the initial objective, namely to provide safe, contextual, and locally-based PJOK learning facilities. This achievement is not only evident in the physical availability of the games equipment, but also in the increased participation, enthusiasm, and active involvement of students in learning and training activities. The collaborative process between PJOK teachers, PLP students, and students became an important foundation that fostered a sense of ownership, shared responsibility, and a spirit of mutual cooperation. More than just a learning medium, these traditional game facilities have become a space for fostering a sense of togetherness, sportsmanship, and love for local culture in the school environment. Thus, this activity reflects that dedication based on care, collective work, and sensitivity to the needs of the community can bring about real change and give hope for the sustainability of physical education and cultural preservation for the younger generation.

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AUTHOR CONTRIBUTION STATEMENT

NT conceptualized and designed the community service program, coordinated stakeholder collaboration with the school, supervised the development of traditional sports facilities, and led the drafting of the manuscript. IC contributed to the planning and implementation of facility construction, supported field coordination, and assisted in data documentation and analysis. MZ, AM, SC, MM, AJ, and JU were actively involved in the participatory construction process, facilitated student engagement activities, conducted observational evaluations, and contributed to manuscript revision. All authors reviewed, approved, and agreed to be accountable for the final version of the manuscript.

REFERENCES

Boke, H., Aygun, Y., Tufekci, S., Yagin, F. H., Canpolat, B., Norman, G., Prieto-González, P., & Ardigò, L. P. (2025). Effects of cooperative learning on students' learning outcomes in physical education: a meta-analysis. *Frontiers in Psychology*, *16*. https://doi.org/10.3389/fpsyg.2025.1508808

Çinar, M., & Hassani, F. (2026a). The effects of traditional games on physical literacy among school-aged children. *Frontiers in Sports and Active Living*, *7*. https://doi.org/10.3389/fspor.2025.1759890

Çinar, M., & Hassani, F. (2026b). The effects of traditional games on physical literacy among school-aged children. *Frontiers in Sports and Active Living*, *7*. https://doi.org/10.3389/fspor.2025.1759890

Dania, A., Anagnostopoulos, C., Ntalachani, K., Georgaroudi, K., Kossyva, E., Lemling, A., Adamakis, M., Cools, W., Caballero, P., Rodríguez, M. J. L., Romero, A. L., Macias, G. R., Popeska, B., Janemalm, L., Skotáková, A., Hřebíčková, S., & Vlček, P. (2025). Integrating outdoor and adventure education in school physical education. Insights from European physical educators. *International Journal of Educational Research*, *134*, 102822. https://doi.org/10.1016/j.ijer.2025.102822

Ezeddine, G., Souissi, N., Abaidia, R., Masmoudi, L., Trabelsi, K., Ammar, A., Jahrami, H., Husain, W., Tannoubi, A., Kurnaz, M., Altınkök, M., & Mrayah, M. (2025a). Game-based physical education: a pathway to increased student motivation and greater learning outcomes. *Frontiers in Education*, *10*. https://doi.org/10.3389/feduc.2025.1531651

Ezeddine, G., Souissi, N., Abaidia, R., Masmoudi, L., Trabelsi, K., Ammar, A., Jahrami, H., Husain, W., Tannoubi, A., Kurnaz, M., Altınkök, M., & Mrayah, M. (2025b). Game-based physical education: a pathway to increased student motivation and greater learning outcomes. *Frontiers in Education*, *10*. https://doi.org/10.3389/feduc.2025.1531651

Khodari, R., & Nurhidayah, S. (2025). Pemberdayaan Kearifan Lokal: Permainan Tradisional sebagai Upaya Pelestarian Budaya Nusantara serta Sarana Interaksi Sosial Masyarakat. *Bima Abdi: Jurnal Pengabdian Masyarakat*, *5*(2), 494–501. https://doi.org/10.53299/bajpm.v5i2.2029

Putri, Z. J., Wiguno, L. T. H., Sugiyanto, S., & Fitriady, G. (2023). Survey Pemilihan Materi Guru Pjok Kelas Bawah Terhadap Implementasi Kompetensi Dasar Motorik Di SD/MI Se Kecamatan Junrejo Kota Batu. *Sport Science and Health*, *5*(2), 181–199. https://doi.org/10.17977/um062v5i22023p181-199

Sapto, A., Aliriad, H., Nova, A., Firmansyah, G., & Arbanisa, W. (2023). Primary school physical education management: Profiles and predictors in Central Java. *Journal Sport Area*, *8*(1), 123–130. https://doi.org/10.25299/sportarea.2023.vol8(1).11223

Sakti, S. A., Endraswara, S., & Rohman, A. (2024). Revitalizing local wisdom within character education through ethnopedagogy apporach: A case study on a preschool in Yogyakarta. *Heliyon*, *10*(10), e31370. https://doi.org/10.1016/j.heliyon.2024.e31370

Seprie, Wuryandani, W., & Muthmainah. (2025). Transforming primary education: balancing social skills and academic achievement through global inquiry-based learning models. *Frontiers in Education*, *10*. https://doi.org/10.3389/feduc.2025.1512274

van Sluijs, E. M. F., Ekelund, U., Crochemore-Silva, I., Guthold, R., Ha, A., Lubans, D., Oyeyemi, A. L., Ding, D., & Katzmarzyk, P. T. (2021). Physical activity behaviours in adolescence: current evidence and opportunities for intervention. *The Lancet*, *398*(10298), 429–442. https://doi.org/10.1016/S0140-6736(21)01259-9

Yin, X., Zhang, D., Shen, Y., Wang, Y., Wang, Z., & Liu, Y. (2025). Effectiveness of school-based interventions on fundamental movement skills in children: a systematic review and meta-analysis. *BMC Public Health*, *25*(1), 1522. https://doi.org/10.1186/s12889-025-22696-2

Zhang, D., Soh, K. G., Chan, Y. M., Feng, X., Bashir, M., & Xiao, W. (2024). Effect of functional training on fundamental motor skills among children: A systematic review. *Heliyon*, *10*(23), e39531. https://doi.org/10.1016/j.heliyon.2024.e39531