



Implementation of Evidence-Based Practice (EBP) in Athletic Learning: Efforts to Improve Gross Motor Skills of Students at SDIT Rabani Majalengka

Riza Sukma Fauzi^{1*}, Indrayogi

Faculty of Teacher Training and Education, Majalengka University, Indonesia

*Corresponding author's email: fauzi@unma.ac.id

Submission

Track:

Received:

14 October 2026

Final Revision:

16 May 2026

Available online:

26 July 2026

ABSTRACT

Evidence-Based Practice (EBP) is increasingly recognized as an important approach in education, including physical education at the elementary school level. However, a research gap remains regarding its contextual application in athletic learning within Islamic-based elementary schools, particularly in improving students' gross motor skills. This study aims to examine the implementation of EBP in athletic learning at SDIT Rabani Majalengka, Indonesia, and its impact on students' gross motor development. This study employed a qualitative case study approach. Data were collected from relevant scientific sources and observations of instructional strategies used by teachers. The findings indicate that EBP-based strategies—such as play-based methods, structured exercises, and the use of standardized assessment tools like the Test of Gross Motor Development-3 (TGMD-3)—positively influence students' gross motor skills, including running, jumping, kicking, and throwing. Teachers act as facilitators who integrate scientific evidence, professional experience, and students' individual needs into the learning process. Additionally, support from the school environment and parental involvement enhances the effectiveness of EBP implementation. This study contributes by providing a practical model for implementing EBP in athletic learning, particularly in integrated Islamic elementary schools. The findings also highlight the importance of teacher training and cross-sector collaboration to address resource limitations, ensuring that learning becomes more effective, measurable, and impactful on students' motor development.

Keywords: Evidence-Based Practice, Gross Motor Skills, Physical Education, Athletic Training.

DOI: 10.23917/varidika.v39i1.13309

INTRODUCTION

Physical education is an important component of the elementary school curriculum because it contributes directly to students' physical, mental, emotional, and social development (Syarifudin, [2017](#)). Through physical activities, students not only learn to master motor skills, but also develop discipline, cooperation, and responsibility (Arifin, [2017](#)). At elementary school age, children are in a phase of rapid growth and development, so they need appropriate stimulation through structured physical learning (Nugraha, [2015](#)). Athletics, as one of the basic sports, plays an important role because it involves fundamental movements such as running, jumping, and throwing (Bahagia, [2012](#)).

The development of gross motor skills in elementary school students is a fundamental aspect that requires serious attention (Baan et al., [2020](#)). Gross motor skills involve the coordination of large body muscles such as the arms, legs, and the entire body, which are closely related to daily physical activities as well as sports performance (Dianto et al., [2024](#)). Basic abilities such as running, jumping, throwing, and catching are important components that support the overall physical development of children (Andhika et al., [2022](#)). If these skills do not develop optimally from an early age, children may experience difficulties participating in physical activities, decreased fitness levels, and limited sports competence in subsequent stages of development (Hayani Wulandari, [2024](#)).

However, the implementation of athletic learning in elementary schools still faces various challenges. Some of these include limited sports facilities and infrastructure, a large number of students which reduces individual attention, as well as the dominance of teacher-centered learning approaches (Samsudin, [2019](#)). In many cases, teachers still rely on conventional methods that emphasize repetitive technical exercises without adapting to students' developmental characteristics or integrating engaging learning strategies. Such an approach has the potential to decrease student motivation and participation in learning (Bahagia, [2012](#)). In addition, empirical research results show that the lack of innovation in learning models and insufficient training for physical education teachers also contribute to suboptimal learning outcomes (Hills et al., [2015](#); Faigenbaum et al., [2015](#)).

The results of field observations also indicate that limited learning time, lack of access to appropriate assessment tools, and minimal parental involvement exacerbate the situation. As a result, students' interest in athletic learning tends to be low, and the improvement of gross motor skills has not yet reached optimal results. Therefore, a more adaptive, student-centered, and evidence-based learning strategy is needed, aligned with the child's developmental stage and supported by empirical research findings.

Evidence-Based Practice (EBP) is an innovative approach that can be systematically integrated into physical education, particularly in athletics learning (Côté & Hancock, [2016](#)). EBP emphasizes decision-making based on the integration of empirical research evidence, teachers' professional expertise, and students' needs and characteristics (Silverman & Mercier, [2015](#)). However, despite its potential, EBP has not been widely implemented as a concrete solution to address persistent challenges in athletics learning, such as low student engagement, limited instructional variation, and suboptimal development of gross motor skills.

The application of EBP in physical education offers a strategic solution to improve learning effectiveness. Empirical studies indicate that evidence-based interventions—such as game-based learning models, task modification, and structured motor skill programs—significantly enhance students' physical activity levels and motor skill proficiency (Cumming & Quinton, [2022](#); Reis et al., [2016](#)). Furthermore, systematic reviews show that structured, evidence-based physical education programs can improve fundamental movement skills and increase student motivation (Hills et al., [2015](#); Logan et al., [2018](#)). By utilizing such evidence, teachers can design athletics learning activities that are developmentally appropriate and engaging, thereby fostering active participation and optimizing gross motor development.

In addition to research evidence, EBP incorporates teachers' practical experience as a critical component in adapting learning strategies to real classroom conditions, such as class size, facility limitations, and time allocation (Mustafa & Dwiyoogo, [2020](#)). This adaptability ensures that EBP is not merely theoretical but applicable in diverse educational contexts (Tuasikal et al., [2023](#)). Moreover, EBP emphasizes the importance of understanding individual student characteristics, including differences in motor ability, motivation, and learning styles (Lundvall, [2015](#)).

By integrating these three components, EBP emerges as a comprehensive and evidence-supported solution that can address existing gaps in athletics learning. Its implementation not only enhances instructional quality but also contributes to more inclusive, effective, and measurable improvements in students' gross motor skills.

In addition to focusing on scientific evidence, EBP also considers teachers' practical experiences in implementing learning. Experienced teachers can modify methods based on actual conditions in the field, such as the number of students, availability of facilities, and learning time (Mustafa, [2020](#)). The combination of scientific evidence and teachers' practical experience will result in more adaptive and contextual learning strategies (Tuasikal et al., [2023](#)). The third aspect of EBP is considering the needs and characteristics of students. Each student has a different level of motor development, motivation, and learning style (Lundvall, [2015](#)). With the EBP approach, teachers can develop a variety of athletic activities, such as simple relay races, zigzag runs, and hurdle jumps, tailored to the abilities of their students (Silverman & Mercier, [2015](#)). This will help create an inclusive learning environment while providing opportunities for all students to develop according to their potential.

SDIT Rabani Majalengka, as an integrated Islamic elementary school, has a vision to develop students' potential holistically, including in the field of physical education. The application of Evidence-Based Practice (EBP) in athletics education at this school is seen as an innovative strategy to improve the quality of learning while supporting the development of students' gross motor skills. With a scientific basis and empirical practice, the school can ensure that athletics education not only meets curriculum requirements but also provides long-term benefits for children's development (Balga et al., [2015](#)).

The importance of implementing EBP at SDIT Rabani Majalengka is supported by several key considerations. First, EBP enables teachers to base instructional decisions on validated research findings, thereby increasing the effectiveness and accountability of the learning process (Silverman & Mercier, [2015](#)). Second, EBP helps address existing challenges in athletics learning, such as limited facilities and varying student abilities, by encouraging adaptive and flexible teaching strategies grounded in evidence. Third, the integration of EBP aligns with the school's holistic educational vision, as it supports not only physical development but also cognitive, social, and emotional growth through structured and meaningful physical activities.

Additionally, EBP promotes professional development among teachers, as it requires them to continuously update their knowledge and reflect on their teaching practices (Cumming & Quinton, [2022](#)). This contributes to improved instructional quality over time. Furthermore, the use of EBP facilitates more objective and standardized assessment of students' motor skills, enabling better monitoring of learning outcomes. Finally, in the context of Islamic education, EBP supports the development of disciplined, healthy, and active students, which aligns with the values of maintaining physical well-being as part of holistic character building. Thus, the implementation of EBP at SDIT Rabani Majalengka is not only relevant but also essential to create effective, adaptive, and sustainable athletics learning.

Previous research results show that EBP can improve the quality of physical education learning. The use of the cooperative learning model has been proven to improve students' motor skills and social aspects (Hayati, [2017](#)). Similarly, research on equipment modification shows that the use of simple media can make athletic training more interesting and effective (Bayraktar, [2011](#)). These facts form the basis for the belief that the application of EBP in athletics education at SDIT Rabani Majalengka has great potential to yield positive results. However, the application of EBP is not without challenges. Teachers need scientific literacy

skills to understand and apply research findings to teaching practices (Fernandez-Rio et al., [2017](#)). In addition, support in terms of facilities, infrastructure, and school policies also plays an important role in ensuring that EBP implementation runs optimally. Therefore, this study is relevant in providing an empirical description of how EBP is implemented in the context of integrated Islamic elementary schools with all their limitations. This study specifically aims to describe the implementation of Evidence-Based Practice in athletics learning at SDIT Rabani Majalengka and its impact on improving students' gross motor skills. Using a qualitative approach, this study explores information from teachers, students, and learning documents. The results of this study are expected to contribute significantly to the development of physical learning theory and practice in elementary schools.

Thus, the urgency of this study lies in the effort to present evidence-based learning strategies that are relevant to student development and capable of significantly improving gross motor skills. This article is expected to provide physical education teachers with an understanding of the importance of integrating EBP into athletic learning. Furthermore, the results of this study are expected to serve as a reference for other schools in developing innovative learning practices that are oriented towards student needs and scientific developments SDIT.

METHOD

This study employed a qualitative case study approach aimed at describing the process of implementing Evidence-Based Practice (EBP) in athletic learning and its impact on students' gross motor skills (Englander & Morley, [2023](#)). This approach was chosen because it is capable of producing rich, contextual, and experience-based data from participants (Tomaszewski et al., [2020](#)), with a design focused on exploring learning phenomena without hypothesis testing. The study was conducted at SDIT Rabani Majalengka over a three-month period, involving fourth- and fifth-grade students as participants. Physical education teachers served as the primary informants, while the principal and parents acted as supporting informants to strengthen data triangulation. Data were collected through participatory observation to examine the implementation of EBP, learning interactions, and gross motor indicators such as coordination, agility, speed, and strength; semi-structured in-depth interviews with teachers and students to explore their experiences and perceptions; and documentation studies, including lesson plans, learning journals, and motor skill assessment results. The main instrument in this study was the researcher as a human instrument, supported by observation, interview, and documentation guidelines to ensure data consistency. Data analysis was conducted using the interactive model of Miles,

Huberman, and Saldaña, which includes data reduction, data display, and conclusion drawing and verification by linking empirical findings with relevant theories. Data validity was ensured through source and technique triangulation, member checking, and the application of credibility and dependability principles based on Lincoln and Guba's framework, further strengthened by an audit trail to ensure transparency and reliability (John W. Creswell, [2016](#)). The entire research process was carried out systematically through preparation, implementation, analysis, and reporting stages, resulting in comprehensive findings.

RESULTS & DISCUSSION

Result

Table 1. Improvement in Students' Gross Motor Skills

No	Gross Motor Skill Indicators	Before EBP (%)	After EBP (%)	Description
1	Agility (Zig-zag run)	48	75	Faster completion time and better movement coordination
2	Speed (Short sprint)	50	78	Improvement in students' running speed
3	Coordination (Throwing and catching)	42	70	More synchronized and accurate movements
4	Strength (Long jump)	40	68	Increased jumping distance
Average	-	45	72	Significant improvement

Table 2. Indicators of Students' Motivation and Participation

No	Indicators	Percentage (%)	Category
1	Enthusiasm during learning activities	85	High
2	Activeness in activities	82	High
3	Participation in group work	80	High
4	Willingness to try new movements	83	High
5	Positive responses toward learning	88	Very High

The results of the study indicate that the implementation of Evidence-Based Practice (EBP) in athletic learning at SDIT Rabani Majalengka has been carried out systematically and integrated into both lesson planning and instructional practice. Based on observations and document analysis, teachers have developed instructional tools that are grounded in scientific evidence, teaching experience, and students' characteristics. The strategies implemented include the use of game-based learning, the application of

Developmentally Appropriate Practice (DAP), and the utilization of modified simple media. These findings are consistent with Silverman & Mercier (2015), who argue that evidence-based instruction can enhance the quality of teaching as it is grounded in scientifically validated practices.

Table 3. Implementation of EBP Strategies by Teachers

No	EBP Components	Implementation	Evidence
1	Scientific evidence	Use of game-based learning model	Lesson plans (RPP) and literature references
2	Teacher experience	Modification of activities based on classroom conditions	Teacher interviews
3	Student characteristics	Adjustment of difficulty level (DAP)	Classroom observations
4	Learning media	Use of simple tools (cones, ropes, balls)	Photo documentation

From the learning outcomes perspective, there was a significant improvement in students' gross motor skills. The observed indicators included agility, speed, coordination, and strength, which were measured based on an adaptation of the TGMD-3 instrument (Viegas et al., 2021; Becker et al., 2017). Improvements were evident in activities such as zig-zag running, long jump performance, and coordination in throwing and catching tasks. These findings support previous research indicating that evidence-based interventions in physical education can effectively enhance fundamental movement skills (Logan et al., 2018b; Hills et al., 2015). Thus, EBP not only improves the instructional process but also has a tangible impact on student learning outcomes.

In addition, interview results revealed an increase in students' motivation and participation in learning activities. Students demonstrated high enthusiasm, were more actively engaged, and showed greater confidence in attempting new movements. From the teachers' perspective, EBP facilitated the design of more adaptive and contextual learning strategies that aligned with classroom conditions. This supports the view that evidence-based approaches can create more engaging and student-centered learning environments (Cumming & Quinton, 2022). The active involvement of students also indicates that the strategies employed were aligned with their developmental needs.

However, the study also identified several challenges, such as limited facilities and relatively large class sizes. Despite these constraints, teachers were able to overcome them through creativity in using simple learning media and implementing group-based learning strategies. This suggests that the success of EBP implementation is not solely dependent on facilities but also on teachers' competence and innovation in managing instruction. This finding aligns with Health Canada, (2015), who emphasizes the importance of teachers' practical experience in adapting evidence-based instructional strategies.

Overall, the findings of this study confirm that the implementation of EBP in athletic learning has a positive impact on improving students' gross motor skills, motivation, and participation. Furthermore,

EBP contributes to enhancing the quality of learning by making it more structured, adaptive, and responsive to students' needs. Therefore, EBP can be considered an effective and innovative approach for the development of physical education in elementary schools.

Discussion

The results of the study indicate that the application of Evidence-Based Practice (EBP) in athletic learning at SDIT Rabani Majalengka was able to significantly improve students' gross motor skills. These findings prove that learning designed with consideration of scientific evidence, teachers' practical experience, and student needs is more effective than traditional learning, which tends to be monotonous. This is in line with the view that (Sackett, D. L; Rosenberg, W. M C; Gray, J A M.; Haynes, R B.; Richardson, [2014](#)) EBP is a strategy that connects scientific research with real-world practice to produce higher-quality learning.

One factor in the successful implementation of EBP is the use of game-based learning models. Activities such as ball relays, zigzag running, and simple obstacle courses not only improve students' physical abilities but also make the learning process more enjoyable. Game-based learning has been proven to suit the characteristics of elementary school children who love to move, explore, and interact. This is in line with research (Dyson et al., [2004](#)) emphasizing that cooperative learning and game-based learning can increase student participation while strengthening basic motor skills.

In addition, EBP also emphasizes the importance of the principle of developmentally appropriate practice (DAP), which is the suitability of learning activities to the developmental stage of children. Teachers at SDIT Rabani Majalengka adjust the level of difficulty of athletic activities to the motor skills of students, so that no student feels that the activities are too difficult or too easy to follow. This principle is important because if learning is not appropriate for the level of development, students can lose motivation and not get the maximum benefit from physical education (Andriani & Rasto, [2019](#)).

The use of simple media in athletics learning is also an effective form of EBP implementation. Teachers use tools such as cones, ropes, and small balls to provide variety in movements. These simple media are not only easily accessible, but also make it easier for students to understand basic athletic movements (Suharjana, [2019](#)). These findings support the opinion that (Sutapa, [2017](#)) The success of physical education is not determined by sophisticated facilities, but by the creativity of teachers in designing activities that are appropriate for children's development.

In terms of gross motor skills, students showed improvement in coordination, speed, agility, and strength. For example, in zig-zag running activities, students' travel time decreased, which means that foot coordination and agility improved. In the long jump activity, leg muscle power was more optimal, resulting in increased jump distance. This improvement indicates that evidence-based strategies are more effective than traditional drill methods, which lack variety. This is in line with the findings (Baethge et

al., [2019](#)) which states that EBP in physical education can improve the quality of learning and students' motor skills.

Student responses to EBP-based learning also showed positive results. The majority of students felt more motivated, happy, and active in participating in physical education. This intrinsic motivation arose because the activities were designed with a play-based approach, so that students felt they were learning while playing. This condition is very important in physical education, because motivated students tend to be more active and experience better motor skill improvement. These findings reinforce the theory of learning motivation that positive experiences can increase student engagement in physical activities. From the teachers' perspective, the application of EBP provides new experiences in designing learning strategies. Teachers find it easier to develop lesson plans because they refer to relevant research results. Thus, learning becomes more focused and tailored to students' needs. However, teachers also face challenges in the form of limited time to read literature and translate research results into classroom practice. This indicates the need for special training for physical education teachers so that they become more accustomed to using EBP in their daily teaching.

Although the results of the study show the effectiveness of Evidence-Based Practice (EBP), several challenges need to be addressed. One of the main obstacles is the limited availability of school facilities, which requires teachers to creatively utilize simple and modified learning media. In addition, large class sizes demand effective classroom management strategies to ensure that all students can actively participate. However, these limitations can be addressed through several strategic efforts. Teachers can optimize low-cost and locally available materials (e.g., cones from recycled objects, improvised hurdles), apply small-group or station-based learning models to manage large classes, and engage in collaborative professional development such as peer discussions and lesson study. Furthermore, schools can support EBP implementation by facilitating access to scientific resources, organizing training programs, and encouraging partnerships with higher education institutions. These efforts demonstrate that constraints can be mitigated through innovation and evidence-based decision-making.

The implications of this study are significant for the development of physical education in elementary schools. EBP can serve as a practical guideline for teachers in designing learning that is effective, efficient, and engaging. It also promotes a shift from traditional, teacher-centered approaches to more adaptive and student-centered learning environments (Rouf & Maftukhah, [2019](#)).

For future research, this study provides several important directions. First, further studies can explore the application of EBP in different sports contexts (e.g., gymnastics, ball games) to examine its broader applicability. Second, quantitative or mixed-method research designs can be used to measure the impact of EBP more rigorously, including statistical analysis of motor skill improvements. Third, future research can investigate the influence of EBP on cognitive and affective domains, such as

students' critical thinking, self-confidence, and teamwork skills. Additionally, longitudinal studies are recommended to examine the long-term impact of EBP on students' physical development and active lifestyle habits.

Overall, this study confirms that EBP is not only an effective approach to improving students' gross motor skills and motivation but also a sustainable solution to overcoming challenges in physical education. It provides a strong foundation for continuous innovation and further research in evidence-based physical education practices.

CONCLUSION

This study concludes that the implementation of Evidence-Based Practice (EBP) in athletic learning at SDIT Rabani Majalengka has been carried out systematically through the integration of scientific evidence, teachers' professional experience, and the characteristics and needs of students. The application of EBP is reflected in literature-based lesson planning, the use of innovative strategies such as game-based learning and developmentally appropriate practices, and the utilization of simple learning media adapted to the school context. The implementation has proven to have a positive impact on the improvement of students' gross motor skills, as indicated by enhanced coordination, agility, speed, and strength, as well as increased student motivation and participation in the learning process. From the teachers' perspective, EBP supports the design of more structured, adaptive, and contextual learning, despite challenges such as limited facilities and large class sizes. Therefore, EBP can be regarded as an effective and relevant approach to improving the quality of athletic learning and students' gross motor development in elementary schools, while also serving as an innovative solution to address various challenges in physical education.

The findings of this study imply that the implementation of Evidence-Based Practice (EBP) significantly improves students' gross motor skills, motivation, and participation through more adaptive, evidence-based, and developmentally appropriate learning approaches, while also highlighting that teacher competence and creativity play a more crucial role than facility limitations. For future research, it is recommended to employ quantitative or mixed-method approaches to obtain more robust and generalizable evidence, as well as to conduct longitudinal studies and expand variables (cognitive, affective, and social aspects) and research contexts, including the integration of technology and the development of more applicable and sustainable EBP-based learning models.

DECLARATION

Author Contribution	: Author 1: Conceptualization, Writing - Original Draft, Editing and Visualization; Author 2: Writing - Review & Editing, Formal analysis, and Methodology; Author 3: Validation and Supervision
--------------------------------	---

Funding Statement	: This research was funded by the Director General of Strengthening Research and Development with the Ministry of Research, Technology, and Higher Education of the Republic of Indonesia, for supporting and funding this research.
Conflict of Interest	: The authors declare no conflict of interest.
Additional Information	: Additional information is available for this paper.
AI Declaration Statement	: We used grammarly to strengthen the grammar

REFERENCES

- Andhika, D. A., Prayoga, A. S., & Darumoyo, K. (2022). Meningkatkan Keterampilan Motorik Kasar Melalui Permainan Sederhana. *Jurnal Porkes*, 5(1), 57–65. <https://doi.org/10.29408/porkes.v5i1>
- Andriani, R., & Rasto, R. (2019). Motivasi belajar sebagai determinan hasil belajar siswa. *Jurnal Pendidikan Manajemen Perkantoran*, 4(1), 80. <https://doi.org/10.17509/jpm.v4i1.14958>
- Arifin, S. (2017). Peran Guru Pendidikan Jasmani Dalam Pembentukan Pendidikan Karakter Peserta Didik. *Multilateral Jurnal Pendidikan Jasmani Dan Olahraga*, 16(1). <https://doi.org/10.20527/multilateral.v16i1.3666>
- Baan, A. B., Rejeki, H. S., & Nurhayati. (2020). Perkembangan Motorik Kasar Anak Usia Dini. *Jurnal Bungamputi*, 6(0), 14–21.
- Baethge, C., Goldbeck-Wood, S., & Mertens, S. (2019). SANRA una escala para la evaluación de la calidad de los artículos de revisión narrativa. [SANRA—a scale for the quality assessment of narrative review articles]. *Research Integrity and Peer Review*, 4(1), 2–8. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6434870/>
- Bahagia, Y. (2012). Pembelajaran Atletik. *Pembelajaran Atletik*, Departemen Pendidikan Nasional, 1–96. https://www.academia.edu/32426173/pembelajaran_atletik_oleh
- Balga, T., Antala, B., & Sabová, L. (2015). Attitudes Of Schoolgirls Towards Physical and Sport Education. *Acta Facultatis Educationis Physicae Universitatis Comenianae*, 55(1), 29–38. <https://doi.org/10.1515/afepuc-2015-0004>
- Bayraktar, G. (2011). The Effect of Cooperative Learning on Students' Approach to General Gymnastics Course and Academic Achievements. *Educational Research and Reviews*, 6(1), 62–71. <https://eric.ed.gov/?id=EJ923626>
- Becker, C., Lauterbach, G., Spengler, S., Dettweiler, U., & Mess, F. (2017). Effects of regular classes in outdoor education settings: A systematic review on students' learning, social and health dimensions. *International Journal of Environmental Research and Public Health*, 14(5), 1–20. <https://doi.org/10.3390/ijerph14050485>
- Côté, J., & Hancock, D. J. (2016). Evidence-based policies for youth sport programmes. *International Journal of Sport Policy*, 8(1), 51–65. <https://doi.org/10.1080/19406940.2014.919338>
- Cumming, J., & Quinton, M. L. (2022). Improving the reporting of sport imagery interventions with TIDieR. *Asian Journal of Sport and Exercise Psychology*, 2(2), 80–90. <https://doi.org/10.1016/j.ajsep.2022.07.003>

- Dianto, A. R., Darmawan, A., Pujiyanto, A., & Ragil, W. (2024). Pengembangan Permainan Tradisional Kasfet untuk Pembelajaran Gerak Motorik Kasar di Sekolah Dasar. *Indonesian Journal for Physical Education and Sport*, 5(1), 297–308. <https://doi.org/10.15294/inapes.v7i2>
- Dyson, B., Griffin, L. L., & Hastie, P. (2004). Sport education, tactical games, and cooperative learning: Theoretical and pedagogical considerations. *Quest*, 56(2), 226–240. <https://doi.org/10.1080/00336297.2004.10491823>
- Englander, M., & Morley, J. (2023). Phenomenological psychology and qualitative research. *Phenomenology and the Cognitive Sciences*, 22(1), 25–53. <https://doi.org/10.1007/s11097-021-09781-8>
- Faigenbaum, A. D., Bush, J. A., Mcloone, R. P., Kreckel, M. C., Farrell, A., Ratamess, N. A., & Kang, J. (2015). Benefits of strength and skill-based training during primary school physical education. *Journal of Strength and Conditioning Research*, 29(5), 1255–1262. <https://doi.org/10.1519/JSC.0000000000000812>
- Fernandez-Rio, J., Sanz, N., Fernandez-Cando, J., & Santos, L. (2017). Impact of a sustained Cooperative Learning intervention on student motivation. *Physical Education and Sport Pedagogy*, 22(1), 89–105. <https://doi.org/10.1080/17408989.2015.1123238>
- Hayani Wulandari, K. D. T. (2024). Tumbuh Kembang Anak Usia Dini ditinjau dari Aspek Perkembangan Motorik Kasar melalui Bermain Bola Besar. *Jurnal Ilmiah Wahana Pendidikan*, 10(13), 327–334. <https://doi.org/10.5281/zenodo.12748239>
- Hayati, S. (2017). Belajar dan Pembelajaran Berbasis Cooperative Learning. Magelang: Graha Cendekia, 120. <https://staff.universitaspahlawan.ac.id/web/upload/materials/6835-materials.pdf>
- HealthCanada. (2015). The Ontario Curriculum: Grades 1-8: Health and Physical Education. Ministry of Education and Training, 42. <https://www.edu.gov.on.ca/eng/curriculum/elementary/2019-health-physical-education-grades-1to8.pdf>
- Hills, A. P., Dengel, D. R., & Lubans, D. R. (2015). Supporting Public Health Priorities: Recommendations for Physical Education and Physical Activity Promotion in Schools. *Progress in Cardiovascular Diseases*, 57(4), 368–374. <https://doi.org/10.1016/j.pcad.2014.09.010>
- John W. Creswell, J. D. C. (2016). Research Design (Vol. 4, Issue 1).
- Logan, S. W., Ross, S. M., Chee, K., Stodden, D. F., & Robinson, L. E. (2018a). Fundamental motor skills: A systematic review of terminology. *Journal of Sports Sciences*, 36(7), 781–796. <https://doi.org/10.1080/02640414.2017.1340660>
- Logan, S. W., Ross, S. M., Chee, K., Stodden, D. F., & Robinson, L. E. (2018b). Fundamental motor skills: A systematic review of terminology. *Journal of Sports Sciences*, 36(7), 781–796. <https://doi.org/10.1080/02640414.2017.1340660>
- Lundvall, S. (2015). Physical literacy in the field of physical education - A challenge and a possibility. *Journal of Sport and Health Science*, 4(2), 113–118. <https://doi.org/10.1016/j.jshs.2015.02.001>
- Mustafa, P. S. (2020). Kontribusi Kurikulum Pendidikan Jasmani, Olahraga, dan Kesehatan di Indonesia dalam Membentuk Keterampilan Era Abad 21. *Jurnal Pendidikan: Riset Dan Konseptual*, 4(3), 437–452. https://doi.org/10.28926/riset_konseptual.v4i3.248
- Mustafa, P. S., & Dwiyoogo, W. D. (2020). Kurikulum Pendidikan Jasmani, Olahraga, dan Kesehatan di Indonesia Abad 21. *JARTIKA Jurnal Riset Teknologi Dan Inovasi Pendidikan*, 3(2), 422–438. <https://doi.org/10.36765/jartika.v3i2.268>

- Nugraha, B. (2015). Pendidikan Jasmani Olahraga Usia Dini. *Jurnal Pendidikan Anak*, 4(1), 557–564. <https://doi.org/10.21831/jpa.v4i1.12344>
- Reis, R. S., Salvo, D., Ogilvie, D., Lambert, E. V., Goenka, S., & Brownson, R. C. (2016). Scaling up physical activity interventions worldwide: stepping up to larger and smarter approaches to get people moving. *The Lancet*, 388(10051), 1337–1348. [https://doi.org/10.1016/S0140-6736\(16\)30728-0](https://doi.org/10.1016/S0140-6736(16)30728-0)
- Rouf, M., & Maftukhah, N. A. (2019). Kerjasama Guru dan Spervisor dalam Meningkatkan Mutu Pembelajaran di SMP Ar-Rohmah Boarding School Pesantren Hidayatullah Dau Malang. *EL-BANAT: Jurnal Pemikiran Dan Pendidikan Islam*, 9(1), 35–61. <https://doi.org/10.54180/elbanat.2019.9.1.35-61>
- Sackett, D. L.; Rosenberg, W. M C; Gray, J A M.; Haynes, R B.; Richardson, W. S. (2014). The hierarchy of evidence. *Evidence-Based Dermatology: Third Edition*, 30–32. <https://doi.org/10.1002/9781118357606.ch7>
- Samsudin, S. (2019). Model Pembelajaran Atletik. 1–90. http://ikor.fik.unm.ac.id/wp-content/uploads/sites/5/2020/09/9-Pembelajaran_atletik_New.pdf
- Silverman, S., & Mercier, K. (2015). Teaching for physical literacy: Implications to instructional design and PETE. *Journal of Sport and Health Science*, 4(2), 150–155. <https://doi.org/10.1016/j.jshs.2015.03.003>
- Suharjana, P. S. (2019). Improving gross motor skills by kinaestheticandcontemporary-based physical activity in early childhood. *Cakrawala Pendidikan*, 38(3), 540–551. <https://doi.org/10.21831/cp.v38i3.25324>
- Sutapa, P. (2017). Pengembangan Model Pembelajaran Pendidikan Jasmani Berbasis Kinestetik untuk Anak Prasekolah. 8(9), 1–58. <https://doi.org/10.21831/jppfa.v2i2.2655>
- Syarifudin, S. W. (2017). Pendidikan Jasmani dan Kesehatan, Olahraga, dan kesehatan (Vol. 1). http://103.44.149.34/elib/assets/buku/8_Kelas11_pjok_buku_guru_sma_ma_smk_mak_kelas_x_1905.pdf
- Tomaszewski, L. E., Zarestky, J., & Gonzalez, E. (2020). Planning Qualitative Research: Design and Decision Making for New Researchers. *International Journal of Qualitative Methods*, 19, 1–7. <https://doi.org/10.1177/1609406920967174>
- Tuasikal, A. R. S., Ridwan, M., & Rohman, M. F. (2023). Pelatihan Implementasi Kurikulum Merdeka Belajar untuk Guru Pendidikan Jasmani, Olahraga dan Kesehatan. *Jurnal Pengabdian Kepada Masyarakat*, 01(02), 79–88. <https://ejournal.unesa.ac.id/index.php/laksanaolahraga/article/download/51813/44826/>
- Viegas, Â. A., Mendonça, V. A., Pontes Nobre, J. N., Souza Morais, R. L. De, Fernandes, A. C., Oliveira Ferreira, F. De, Scheidt Figueiredo, P. H., Leite, H. R., Resende Camargos, A. C., & Rodrigues Lacerda, A. C. (2021). Associations of physical activity and cognitive function with gross motor skills in preschoolers: Cross-sectional study. *Journal of Motor Behavior*, 0(0), 1–16. <https://doi.org/10.1080/00222895.2021.1897508>