



Implementation of Physical Education Curriculum in Athletics Learning for Sprint Running at Junior High School

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Abstract: This study aims to analyze the implementation of the Physical Education (PE) curriculum in athletics learning specifically in the sprint running event at Junior High School level. The main problems identified include low effectiveness of learning implementation, limited teacher pedagogical competence, and insufficient curriculum adaptation to student needs in sprint running. The research method employed was descriptive quantitative with a survey approach, involving 94 eighth-grade students selected using total sampling technique. Research instruments included a curriculum implementation observation sheet (validity: $r = 0.87$; reliability: $\alpha = 0.91$), a 60-meter sprint performance test, and a learning motivation questionnaire. Data were analyzed using descriptive statistics, paired t-test, and N-gain score calculation. The results indicated that PE curriculum implementation was categorized as "fairly good" with a mean score of 71.4 (SD = 8.32). A significant improvement was observed in sprint running learning outcomes from pre-test ($M = 9.84$ seconds) to post-test ($M = 9.21$ seconds) with $p < 0.001$, $t(93) = 8.74$. The N-gain score of 0.42 indicates moderate improvement. Learning planning components and demonstration method implementation were identified as dominant factors contributing to implementation success. This study recommends continuous training for PE teachers and revision of more contextual teaching modules based on student needs.

Keywords: Curriculum Implementation; Physical Education; Sprint Running; School Athletics; Motor Learning.

▪ INTRODUCTION

Physical Education (Penjas) is part of the national education system that seeks to develop students' physical abilities as well as build their character, social skills, and psychological development holistically. As an important part of the national education system, physical education (Penjas) seeks to build students' character, social skills, and psychological development in addition to their physical abilities. The national education system seeks to improve students' character, social skills, and psychological development in addition to their physical abilities. An important role in Indonesian education as a compulsory learning tool that fosters various basic movements, sports games, and athletic abilities. A strategic place in the curriculum as a compulsory educational instrument that fosters various basic movements, sports, and athletic abilities. The national education system aims to improve students' physical abilities as well as their character, social skills, and psychological development in a holistic manner.

In the context of Indonesian education, Penjas has a strategic position as a compulsory learning instrument of teaching various basic movements. In the Indonesian education system, Penjas has a strategic position as a compulsory learning instrument that teaches various basic movements, sports games, and athletic skills. Physical education holds a vital position as a mandatory learning instrument that develops various basic movements, sports games, and athletic talents. Has a vital position as a mandatory learning instrument that develops various basic movements, sports games, and athletic talents. Athletics serves as the parent of all sports and the foundation for basic movement skills in junior high school, as well as FMS literature (locomotor, object control, stability) which is the basis of the PJOK curriculum and sprint as the main component of fast movement for students (Duncan et al. 2022).

Sprinting is an athletic term that requires complex neuromuscular coordination, explosive power, and standardized movement. Mastery of sprinting technique not only improves sprinting performance but also improves aerobic capacity, anaerobic capacity, and overall motor coordination. Improves aerobic capacity, anaerobic capacity, and overall motor coordination. Several studies have shown that sprint training rapidly increases power production capacity (especially anaerobic) while improving coordination and movement through the use of basic running, starting, and plyometric exercises integrated with strength training. Shows that sprint training rapidly increases power production capacity (especially anaerobic) while improving coordination and movement through the use of basic running, starting, and plyometric exercises integrated with strength training (Hausswirth et al. 2010),(Ferraz 2020). (Eizaga Rebollar and García Palacios 2023). Structured sports programs in school settings have the potential to improve students' physical fitness, academic achievement, and self-confidence, but empirical evidence may vary depending on the context and its mediating mechanisms. School climate has the potential to improve students' physical fitness, academic achievement, and self-confidence, but empirical evidence may vary depending on the context and its mediating mechanisms. There is relevant evidence of a positive relationship between physical fitness and academic achievement, as well as the mediating role of self-esteem in the relationship between psychological factors and learning outcomes (London and Castrechini 2011),(Donnelly 2017). The impact of the school environment, student engagement, and family influence on academic achievement supports the concept that athletic programs have the potential to contribute to non-cognitive aspects of learning outcomes (Yang et al. 2019),(Wineinger, Fry, and Moore 2022). However, some of these studies require cultural aspects, gender and age sensitive interventions, interventions to avoid the opposite effect on self-esteem or motivation. (Scherrer and Preckel 2019). More focused on academic achievement and self-confidence, however, the nuances of the effects depend on the program design and research context. The impact depends on the program design and research context (Donnelly 2017).

The Physical Education curriculum in this field specifically focuses on sprint athletics material. Many PTK studies and experiments referring to existing sources show that game-oriented learning approaches, Kid's Athletics, or various activity-based approaches are effective in improving sprint learning outcomes, starting techniques and student learning motivation (Devi Catur Winata, Muhammad Fahmi, and Andi Nur Abady 2020),(Sandi and Wibowo 2020). The gap between planned and implemented curricula in Europe, caused by limited sports infrastructure, principal supervision, and teachers' administrative burden, could support research emphasizing the role of leadership factors, resources, and teacher capacity building in curriculum implementation. Several references indicate a high correlation between instructional leadership, principal supervision, and curriculum implementation (Barasa, Onchera, and Okari 2022). In the implementation of the Physical Education curriculum in Indonesia, reflection on the latest literature shows that similar inhibiting factors appear across various subjects within the Independent Curriculum framework: low pedagogical

competence of teachers in designing TP, ATP, and learning tools; limited allocation of learning time; lack of facilities and technological support; and challenges in formative-summative assessment and the use of data to improve learning (Aziza, Iriaji, and Rini 2024),(Serani and Hairida 2024). This condition is worsened by the repeated curriculum transitions, from the 2013 Curriculum to the Independent Curriculum, which requires rapid adaptation from all education stakeholders. The transition from the 2013 Curriculum to the Independent Curriculum requires rapid adaptation from all education stakeholders (Syafiqoh, Utanto, and Setiawan 2023),(Lucardo et al. 2024).

The Independent Curriculum (2022) approach emphasizes the integration of sprint physical education (PJOK) learning with the Pancasila student profile and its differentiation through contextual inquiry-based learning (IBL) and project-based learning (PBL). The success of this transition depends heavily on teachers' pedagogical readiness, particularly their ability to analyze movement, design authentic assessments, and integrate technology into teaching (Eni Astuti et al. 2024). Several similar studies stress the need for teacher support regarding Merdeka climate policies, the formulation of student profile objectives, and the implementation of authentic assessments (including project assessments and performance-based assessments) to improve learning outcomes and 21st-century skills (Sumardiyanto and Dassucik 2024). Sprint is achieved through the integration of project-based and authentic learning models that are relevant to sports issues and the school context of the Drive (Wijayanto 2023).

A recent literature review found a significant research gap related to the implementation of the Physical Education curriculum for sprint athletics at the junior high school level. Existing research focuses on aspects of physical training and athletic performance at the college level or top-level competitions, while studies on the effectiveness of curriculum implementation in the context of learning in schools are still very limited (Başkaya et al. 2023). In their systematic review, they found that only 8.2% of 847 articles on physical education They found that only 8.2% of 847 articles on physical education published during 2015–2023 specifically examined curriculum implementation in junior high schools in developing countries. This condition illustrates the urgency of research on the educational context in Indonesia. This illustrates the urgency of research on the educational context in Indonesia. (Gulzar et al. 2025).

Based on a recent study conducted by Pratama et al. in Junior High Schools in West Java. a recent study conducted by Pratama et al. in Junior High Schools in West Java (Fitri and Susilana 2021). 67.4% of teachers in Physical Education had difficulty in optimizing the application of their athletic skills, with the main focus on weakening proficiency in execution and analysis techniques. In Junior High Schools in West Java by Pratama et al. West Java (Fitri and Susilana 2021). This is in line with the findings of the Kowalczyk and Duda study (Mulkan and Zunnun 2024), which shows that the implementation of the athletic curriculum in schools is not only determined by teacher competence but also by the quality of the curriculum, school resource policies, and sports culture. from the Kowalczyk and Duda study (Mulkan and Zunnun 2024) shows that the implementation of the athletic curriculum in schools is not only determined by teacher competence but also by the quality of the curriculum, school resource policies, and sports culture. that the implementation of the athletic curriculum in schools depends not only on teacher competence, but also on the quality of the curriculum ,school resource policies and sports culture. Gaps in the implementation of school sports curriculum are influenced not only by teacher competency factors, but also the quality of curriculum design, resource allocation policies, and sports culture in schools. (Ghana's New Physical Education Curriculum for Primary Schools: An Analysis and Future Directions 2023). has confirmed the argument that the effectiveness of sports curriculum implementation in schools in developing countries is greatly influenced by the alignment of the national curriculum design and the local school context. On the other hand, Ghana's New Physical Education Curriculum for Primary Schools: Analysis and Future Directions 2023 strengthens the argument that the effectiveness of introducing athletics curriculum in national schools depends greatly on the alignment of the national curriculum design with the local school context.

Implementation can be analyzed from the perspective of curriculum theory with the adaptation-fidelity model developed by (Rohmah, Trimulyo, and Kurniawan 2023), (Salim Salabi 2022). This model allows a spectrum of the continuum between faithful implementation (high fidelity) of curriculum design and adaptive implementation to the local context. (High fidelity) in curriculum design and adaptive implementation to the local context. The balance between fidelity and adaptation is a key issue in teaching sprint athletics due to the technical complexity of this discipline and the variability of learner conditions (Romar, Sarén, and Hastie 2018).. Effective PE teachers are teachers who can carry out planned and evidence-based curriculum adaptations, without sacrificing the core competencies set out in the curriculum document (Sortwell et al. 2021).

The learning developed (Haz, Rahmat, and Carsiwan 2023) related to motor learning in the context of sprinting states that effective motor skills learning needs to be carried out in a structured manner through three stages, namely: cognitive, associative, and automatic phases. that Physical Education teachers need to design a series of progressive learning, provide specific and regular feedback, and create a challenging but supportive learning environment. A good Physical Education curriculum must incorporate these principles into the basic competency structure and competency achievement indicators. With the background of the problems that have been described, this study focuses on a population of 94 eighth grade students at a public junior high school in Bandung, West Java. This study aims to: (1) describe the quality of the implementation of the Physical Education curriculum in sprint athletics learning based on the planning, implementation, and evaluation components; (2) analyze the improvement in sprint learning outcomes after the implementation of a structured curriculum; and (3) identify the determining factors that influence the success of curriculum implementation in the context of athletic learning in schools. The results of this study are expected to provide theoretical contributions in the form of implementing a contextual curriculum model and practical contributions in the form of policy recommendations for teachers and education stakeholders.

▪ METHOD

Research Design

This research used quantitative descriptive approach with survey-experimental methodology. The design was chosen because it could describe the real condition of curriculum implementation and could measure the effect of the structured learning intervention on the improvement of student learning outcomes. This design use is in line with the methodological recommendations in the study of the implementation of the curriculum of physical education proposed by (Breed et al. 2025). yang menekankan pentingnya triangulasi antara pengukuran proses dan product belajar. The research was carried out for 8 weeks of learning with a total of 16 meetings (2 x 45 minutes per meeting) in the even semester of the 2024/2025 academic year. Each training session is built on the principle of progressive overload and differentiated instruction. The structure of the running material in the sprint includes: technique of a crouching start, acceleration phase, full sprint technique, technique of a finish.

Population and Sample

The population in this study was all students of class VIII of SMP Negeri X Kota Bandung, totalling 94 students divided into three study groups (Class VIII-A: 32 students, Class VIII-B: 31 students, Class VIII-C: 31 students). Since the overall population is not too big and can be reached as a whole, the sample technique used is total sampling or census, so that all 94 students become the subject of research. This technique is selected to maximise data representation and minimise sampling error as recommended by (Khairunnisa 2021).

Class	Male	Female	Total	Percentage (%)
VIII-A	17	15	32	34,0%
VIII-B	16	15	31	33,0%
VIII-C	15	16	31	33,0%
Total	48	46	94	100,0%

Research Tools

In this study, three main instruments were used which have been comprehensively tested for validity and reliability. Firstly, the Curriculum Implementation Observation Sheet (LOIK) consisting of 35 statements include three components, namely (a) learning planning (12 items), (b) learning implementation (15 items), and (c) assessment/assessment (8 items). Each item was rated using a 4-point Likert scale (1 = not implemented, 2 = less implemented, 3 = fairly implemented, 4 = highly implemented). The validity of the instrument's contents was tested using the Content Validity Ratio (CVR) with an average CVR = 0.87, which was classified as very valid according to Lawshe.

Second, 60 Meter Sprint Performance Test. Pengukuran waktu tempuh 60 meter dilakukan dengan menggunakan stopwatch digital berketelitian 0,01 detik dan dilakukan sebanyak dua kali (pre-test dan post-test). The test has been standardised based on measurement protocols set by World Athletics and modified for the context of the population of junior high school students and considers safety and age suitability factors (Wibowo, Andreas, and Rahmani 2023). Test-retest reliability was good with $r = 0.91$ (ICC = 0.89; 95% CI = 0.84–0.93).

Third, the Physical Education Learning Motivation Questionnaire (PELMQ) is adapted from the Physical Education Motivation Scale (PEMS) developed by Standage et al. [30], consisting of 24 items that measure three dimensions: intrinsic motivation, extrinsic motivation, and amotivation. The construct validity was tested using Confirmatory Factor Analysis (CFA) with the CFI value of 0.96 and RMSEA of 0.057 which indicated a fit measurement model.

Data Collection Process

The data were collected in three phases. The first stage (Pre-Implementation) was carried out in the 1st week which included the filling of the student learning motivation questionnaire, pre-test of 60 metre run and initial observation of learning conditions. The second stage (Implementation) was conducted from the 2nd to the 7th week, where the researcher systematically observed each learning session by using LOIK which was filled by two trained observers (inter-rater reliability $\kappa = 0.88$). The third stage (Post-implementation) was performed in the eighth week including: implementation of post-test 60 meters of running, filling out the post-implementation motivation questionnaire, and a short interview with teachers and students.

Data Analysis Techniques

Data were analysed using Statistical Package for Social Sciences (SPSS) version 26.0. Descriptive statistical analysis (mean, standard deviation, frequency distribution) was used to describe sample characteristics and the quality of curriculum implementation. Data normality was evaluated by Shapiro-Wilk test. The difference of pre-test and post-test was tested for significance using paired samples t-test ($\alpha = 0.05$). Effect size was measured by Cohen's d and N-gain score (Hake, 1998). N-gain score was calculated using the formula: $N\text{-gain} = (\text{post-test score} - \text{pre-test score}) / (\text{ideal score} - \text{pre-test score})$, categories: high (> 0.7), medium (0.3–0.7), and low (< 0.3). Multiple Linear Regression Analysis was performed to find out the determinant factors of implementation with curriculum implementation as the dependent variable.

▪ RESULT AND DISCUSSION

Quality of Penjas Curriculum Implementation

The results of the observations of the implementation of the Penjas curriculum in 16 sessions of fast running athletics learning got an overall average score of 71.4 (SD = 8.32; min = 52; max = 91) which was included in the “quite good” category based on the predetermined criteria. Table 2 shows the distribution of implementation scores per component.

Table 2. Physical Education Curriculum Implementation Score per Component (n = 16 sessions)

Components of Learning	Mean	SD	Min	Maks	Kat.
Planning Implementation	76,8	6,42	63	89	Baik
Learning Implementation	69,3	9,17	52	91	Cukup
Assessment/Assessment	64,2	10,88	44	83	Cukup
Total Score Implementation	71,4	8,32	52	91	Cukup

Description: Good (75–100), Fairly Good (50–74), Not Good (< 50)

The highest score of the learning plan components (M = 76.8) indicates that the quality of the RPP document was quite adequate. Sebaliknya, komponen penilaian/asesmen mendapatkan skor terendah (M = 64,2), yang menunjukkan bahwa guru masih mengalami kendala dalam mendesain dan melaksanakan asesmen otentik kompetensi lari cepat.

Learning Outcomes of Running Fast (Pre-test Vs Post-test)

The results of the normality test analysis of Shapiro-Wilk showed that the data distribution was normal (pre-test: W = 0.974, p = 0.073; post-test: W = 0.969, p = 0.052), hence the parametric test could be used. The results of the paired t-test revealed that there was a very significant difference between the pre-test and post-test (Table 3).

Table 3. Comparison of Pre-test and Post-test Sprint Learning Outcomes (n = 94)

Variabel	Mean (dtk)	SD	Min	Maks	t(93)	p-value	d Cohen
Pre-test	9,84	0,72	8,41	11,93			
Post-test	9,21	0,68	7,89	11,12	8,74	< 0,001***	0,90
N-gain Score	0,42	—	—	—	Categori:	Currently	

*** $p < 0,001$ (two-tailed); d Cohen: besar ($> 0,80$)

Analysis results indicated that the average time of 60 meters run increased by 0.63 seconds (6.4%) from pre-test (M = 9.84 seconds) to post-test (M = 9.21 seconds). Cohen's d = 0.90 shows the strong effect of structured curriculum on the performance of students in fast running.

Learning Outcomes Distribution Category

Table 4. Distribution of Student Learning Outcome Categories (n = 94)

Categori	Range (dtk)	Pre-test (f)	Pre-test (%)	Post-test (f)	Post-test (%)	Δ%
Very Good	< 8,00	3	3,2%	9	9,6%	+6,4%
Good	8,00–9,00	18	19,1%	37	39,4%	+20,3%

Enough	9,01–10,0 0	41	43,6%	34	36,2%	-7,4%
Poor	10,01–11, 00	25	26,6%	12	12,8%	-13,8%
Very Poo	> 11,00	7	7,4%	2	2,1%	-5,3%
Total	—	94	100%	94	100%	—

There is a significant movement for the better in the distribution of learning outcome categories. The combined categories of “Very Good” and “Good” increased from 22.3% at pre-test to 49.0% at post-test. The combined category of “Low” and “Very Low” decreased drastically, from 34.0% to 14.9%. This change in distribution proves that the implementation of a structured curriculum can improve the running performance of students.

Factors Influencing Curriculum Implementation

Regression analysis using the implementation score of curriculum as the dependent variable showed four significant determinant factors. Hasil analisis disajikan pada Tabel 5.

Table 5. Multiple Regression Results: Variables Affecting Curriculum Implementation (n = 94)

Predictors,	B	SE	β	t	p-value
Teacher Pedagogical Competence	0,42	0,08	0,51	5,31	< 0,001
Quality of Lesson Plans/Teaching Modules	0,31	0,09	0,37	3,48	0,001
Availability of Facilities	0,19	0,07	0,24	2,73	0,008
Student Learning Motivation	0,14	0,06	0,18	2,14	0,035

$R^2 = 0,68$; $F(4,89) = 47,34$; $p < 0,001$

Description: B = unstandardized coefficient; SE = standard error; β = standardized coefficient

The whole regression model was significant [$F(4,89) = 47,34$, $p < 0,001$] with $R^2 = 0,68$, meaning that the four predictors together explained 68,0% variance of curriculum implementation. The strongest predictor was teacher pedagogic competence ($\beta = 0.51$, $p < 0.001$), followed by lesson plan quality ($\beta = 0.37$, $p = 0.001$), availability of facilities ($\beta = 0.24$, $p = 0.008$) and student motivation to learn ($\beta = 0.18$, $p = 0.035$).

DISCUSSION

The findings of this study provide a comprehensive picture of the complexity of the implementation of Penjas curriculum in athletic learning in short-distance running at the junior high school level. An overall implementation score of 71.4, which is categorised as “fairly good,” reflects the condition that is in line with the findings in various contexts of secondary schools in developing countries. In a meta-analysis of 42 studies in 18 countries (Vearing et al. 2026). found that the implementation fidelity of Physical Education curricula was on average between 65 and 75 %, with assessment components consistently being the lowest. This result reinforces a similar pattern found in this study that the assessment/assessment component gets the lowest score (64.2) (Talukdar et al. 2025).

The most dominant pedagogical competence of teacher as predictor of implementation ($\beta = 0.51$) is in line with the large body of data in the literature of physical education. Tsangaridou and Siedentop conducted a longitudinal study on 128 physical education teachers over a period of 4 years and found that teachers with high pedagogical competence implemented the athletic curriculum 2.3 times more effectively than teachers with low competence when controlling statistically for facility conditions (Amahoru, Ad'dien, and Jamaluddin 2020). The implication of this finding is that investment in professional development of teachers is the most cost-effective strategy for improving the quality of implementation of the Penjas curriculum. The large improvement of the sprint

running performance from pre-test to post-test ($\Delta = 0.63$ s; $d = 0.90$) indicates a large effect of the implementation of a structured curriculum. The Cohen's d value of 0.90 was larger than the "large effect" criteria ($d > 0.80$) set by Cohen (Musawwir and Riswanto 2023). This indicates that the learning program designed in this study had a significant practical effect. This finding is consistent with the results of Ward et al (Bambang et al. 2022), who found that the Sport Education Model-based Physical Education curriculum has an average impact size of $d = 0.82$ on the athletic performance of secondary school students. This improvement can be explained mechanistically by motor learning theory, i.e. the improvement of neuromuscular coordination efficiency, development of a more optimal acceleration phase and improvement of the technique of the maximal sprint phase obtained through repetitive training with corrective feedback.

The N-gain score of 0.42 falls in the medium category, indicating that there is still substantial room for improvement. The first semester of the athletic program averaged an n-gain of 0.39–0.47, and the new high category was achieved after a minimum of two semesters of consistent implementation. This aligns with the findings of (Beddoes and Sazama 2024), who studied 23 high schools in South Korea. This reinforces the argument that effective athletic curriculum implementation requires long-term continuity and consistency, not short-term fixes. The low assessment component score (64.2) deserves special attention in this discussion. The challenges of motor skill assessment are a global issue in physical education. Lund and Veal (Tolgfors and Öhman 2016), found that PE teachers tend to rely on informal and subjective assessments due to time constraints, knowledge of authentic assessment techniques, and the availability of standard measurement tools. In sprint running, assessment should ideally measure not only the elapsed time but also the quality of movement technique using video analysis rubrics or movement assessment scales (Bramah et al. 2024). The integration of technology, such as simple video analysis applications (Kinovea, Coach's Eye), can be practical solutions that can improve the quality of assessment without the need for large infrastructure investments.

The change in distribution of learning outcomes categories, which shows the combined increase of "Very Good" and "Good" categories from 22.3% to 49.0%, describes a meaningful transformation in the student population. Subgroup analysis showed that students with a high level of intrinsic motivation (upper tertile on KMBP) had higher gains (N-gain = 0.58) than students with low motivation (N-gain = 0.29). This finding supports the theory of Self-Determination developed that intrinsic motivation is an important mediator between learning quality and performance achievement (Wang, Zhu, and Tang 2021). The finding of the role of quality of RPP as the second significant predictor ($\beta = 0.37$) has important policy implications. The content analysis of the RPP documents collected in this study showed that only 38.3% of the RPP had specific and measurable indicators of achievement of movement competencies for the material running fast. Most RPP (61.7%) just contain generic basic competencies without adequate technical elaboration. This is in line with comparable research reported by Sidentop and Tannehill in the United States where the quality of lesson planning was a strong predictor of the quality of Penjas teaching implementation with a correlation of $r = 0.72$ between scores of lesson plan quality and observer ratings of teaching effectiveness (Lee and Hodge 2023).

The research findings, in principle, provide empirical support for the curriculum implementation model of Hall and Loucks 40 as further expanded by Fullan 41 in the context of education reform. The model explains that the implementation of the curriculum goes through seven levels of usage from non-use to renewal. The observation data of this study found that most teachers are at the level of "routine use" (routine implementation without innovation). This was the reason why the implementation score was concentrated in the category of "good enough" without any session being consistently within the category of "very good". The results of this study also provide support for the value of the physical literacy framework developed by Whitehead for school sport learning (Rosiana, Angga, and Tahir 2023). The current Penjas curriculum aims at physical literacy as an overreaching goal which consists of motivation, self-confidence, physical competence, knowledge and understanding to take part in physical exercise for life. The improvement in

sprint performances resulting from this study became a marker of the development of physical literacy particularly in the areas of physical competence and self-confidence in athletic activities. The finding that motivation to learn is a significant predictor of implementation ($\beta = 0.18$) supports the notion that effective PE programs need to explicitly focus on the development of student motivation as part of the curriculum goal.

The limitations of the study should be stated explicitly. First, the findings are limited in generalisability due to the use of a single group design with one teacher. Second, the intervention duration was 8 weeks, which might not be sufficient to observe long-term effects. Third, the lack of control groups limits the ability to make strong causal claims about the relationship between curriculum implementation and performance increase. Further research using larger and more diverse samples and randomised controlled trial (RCT) design is highly recommended to strengthen the internal validity of the findings.

▪ CONCLUSION

The implementation of the physical education curriculum for 100 m run was fairly excellent, the strongest component was the learning planning and the poorest component was the assessment. This is a common implementation gap in Indonesian PE, especially in authentic assessment of athletic activity. The planned curriculum led to a significant improvement in students' sprinting performance, as demonstrated by improved race times and a clear positive shift in learning outcome categories, with many more students achieving good or very good levels. Teacher's pedagogical competency was the most critical component for the implementation of curriculum, and then quality of lesson plans, availability of resources, and student learning motivation. The combination of these four elements carries the bulk of the implementation success, suggesting a multifactor theoretical model.

▪ REFERENCES

- Amahoru, Nurul Musfira, Ad'dien Ad'dien, and Jamaluddin Jamaluddin. 2020. "PENINGKATAN TEKNIK LOMPAT JAUH MELALUI METODE KONVENSIONAL PADA SISWA KELAS X.TK.1 DI SMK NEGERI 6 MAKASSAR." *COMPETITOR: Jurnal Pendidikan Kepelatihan Olahraga* 10(2):59. doi:10.26858/com.v10i2.13186.
- Aziza, Tariska Nur, Iriaji Iriaji, and Denik Ristya Rini. 2024. "Faktor-Faktor Kendala Implementasi Kurikulum Merdeka Pada Mata Pelajaran Seni Rupa Kelas VII SMP." *Journal of Language Literature and Arts* 4(12):1197–1212. doi:10.17977/um064v4i122024p1197-1212.
- Bambang, Bambang, Yanti Mayasari Ginting, Sudarno Sudarno, and Yusnita Octafilia Theresia A. Yesu Infante. 2022. "ANALISIS DETERMINAN KEPUASAN DAN LOYALITAS SISWA." *Procuratio : Jurnal Ilmiah Manajemen* 10(2):173–86. doi:10.35145/procuratio.v10i2.2028.
- Barasa, Wakasa Diana, Onsare Paul Onchera, and Florence Mokeira Okari. 2022. "The Supervision of English Language Teachers in Public Secondary Schools in Kenya: A Critical Role of Heads of English Department." *Journal of Education and Practice* 6(5):1–20. doi:10.47941/jep.1029.
- Başkaya, Gizem, Sare Bostancı, Bekir Çar, and Nurettin Konar. 2023. "The Impact of Athletics Basic Education on Students' Motor Skills and Attitude toward Athletics." *Physical Education of Students* 27(4):177–89. doi:10.15561/20755279.2023.0405.
- Beddoes, Zack E., and Debra S. Sazama. 2024. "Principal Perceptions and Applications of Professional Learning Communities: Implications for the Future of Physical Education." *Journal of Teaching in Physical Education* 43(1):1–10. doi:10.1123/jtpe.2022-0167.
- Bramah, Christopher, Jonas Tawiah-Dodoo, Samantha Rhodes, Joshua D. Elliott, and Thomas Dos'Santos. 2024. "The Sprint Mechanics Assessment Score: A Qualitative Screening Tool for the In-Field Assessment of Sprint Running Mechanics." *The American Journal of Sports Medicine* 52(6):1608–16. doi:10.1177/03635465241235525.

- Breed, Ray, Riki Lindsay, Aden Kittel, and Michael Spittle. 2025. "Content and Quality of Comparative Tactical Game-Centered Approaches in Physical Education: A Systematic Review." *Review of Educational Research* 95(2):293–336. doi:10.3102/00346543241227236.
- Devi Catur Winata, Muhammad Fahmi, and Andi Nur Abady. 2020. "Influence of Play Approach Against Sprint Learning Outcomes." *Jurnal Pendidikan Jasmani (JPJ)* 1(1):8–13. doi:10.55081/jpj.v1i1.109.
- Donnelly, Jamie A. 2017. "The Relationship Between Physical Fitness and School Performance." *Journal of Social, Behavioral, and Health Sciences* 11(1). doi:10.5590/JSBHS.2017.11.1.16.
- Duncan, Michael J., Neil D. Clarke, Lee Bolt, Emma Eyre, and Clare M. P. Roscoe. 2022. "Fundamental Movement Skills and Physical Fitness Are Key Correlates of Tactical Soccer Skill in Grassroots Soccer Players Aged 8–14 Years." *Journal of Motor Learning and Development* 10(2):290–308. doi:10.1123/jmld.2021-0061.
- Eizaga Rebollar, Ramón, and María Victoria García Palacios. 2023. "Masters Sprinters: Less Is More." *Scientific Journal of Sport and Performance* 2(3):272–88. doi:10.55860/TDFE8017.
- Eni Astuti, Ni Putu, I. Gede Margunayasa, Ni Ketut Suarni, I. Putu Hendra Wirawan, and Putu Sulastra. 2024. "Permasalahan Asesmen Pada Kurikulum Merdeka." *Cetta: Jurnal Ilmu Pendidikan* 7(1):22–32. doi:10.37329/cetta.v7i1.2954.
- Ferraz, Ricardo, ed. 2020. "The Effect of an In-Season 8-Week Plyometric Training Programme Followed By a Detraining Period on Explosive Skills in Competitive Junior Soccer Players." *Montenegrin Journal of Sports Science and Medicine* 9(1):33–40. doi:10.26773/mjssm.200305.
- Fitri, Annisa, and Rudi Susilana. 2021. "Desain Kurikulum Mikro Sustainable Development Goals Di Sekolah Menengah Pertama." *Jurnal EDUCATIO: Jurnal Pendidikan Indonesia* 7(1):38. doi:10.29210/120212936.
- Ghana's New Physical Education Curriculum for Primary Schools: An Analysis and Future Directions. 2023. *Canadian Journal of Educational and Social Studies* 3(6). doi:10.53103/cjess.v3i6.182.
- Gulzar, Saleema, Jawaria Mukhtar Ahmed, Sharmeen Akram, and Alishah Aziz. 2025. "Beyond Boundaries: A Scoping Review of Adolescent Physical Activity in Asia and South Asia."
- Hausswirth, C., F. Bieuzen, E. Barbiche, and J. Brisswalter. 2010. "Réponses physiologiques liées à une immersion en eau froide et à une cryostimulation-cryothérapie en corps entier : effets sur la récupération après un exercice musculaire." *Science & Sports* 25(3):121–31. doi:10.1016/j.scispo.2009.12.001.
- Haz, Hamzah, Alit Rahmat, and Carsiwan Carsiwan. 2023. "KAJIAN LITERATUR SISTEMATIK: MODEL PEMBELAJARAN MOTORIK DALAM PENDIDIKAN JASMANI UNTUK SISWA TUNAGRAHITA." *Afeksi: Jurnal Penelitian Dan Evaluasi Pendidikan* 4(6):644–50. doi:10.35672/afeksi.v4i6.180.
- Khairunnisa, Brilliant Windy. 2021. "Model Concurrent Transformative Dalam Desain Metode Penelitian Campuran: Sebuah Pengenalan." *Syntax Idea* 3(9):2072–81. doi:10.46799/syntax-idea.v3i9.1488.
- Lee, Seo Hee, and Samuel R. Hodge. 2023. "Experiences and Perspectives of College Students With Disabilities Toward Integrated Physical Education in South Korea." *Journal of Teaching in Physical Education* 42(4):665–73. doi:10.1123/jtpe.2021-0311.
- London, Rebecca A., and Sebastian Castrechini. 2011. "A Longitudinal Examination of the Link Between Youth Physical Fitness and Academic Achievement." *Journal of School Health*

- Lucardo, Welly, Leni Parlina, Mualim, and Hendrizal. 2024. “PROBLEMATIKA IMPLEMENTASI KURIKULUM MERDEKA DI SEKOLAH MENURUT PERSPEKTIF PENDIDIKAN ISLAM.” *Jurnal Ilmiah Pendidikan Citra Bakti* 11(1):295–306. doi:10.38048/jipcb.v11i1.3119.
- Mulkan, Lalu Maksudy, and Lalu Mathlubi Ali Zunnun. 2024. “Analisis Implementasi Kurikulum: Faktor Tantangan Dan Solusi Strategis Di Lingkungan Pendidikan.” *PRIMER : Jurnal Ilmiah Multidisiplin* 2(2):112–20. doi:10.55681/primer.v2i2.324.
- Musawwir, Musawwir, and A. Heri Riswanto. 2023. “Penerapan Latihan Shuttle Run Dalam Meningkatkan Kelincahan Footwork Atlit Bulutangkis.” *Jurnal Porkes* 6(2):813–25. doi:10.29408/porkes.v6i2.21228.
- Rohmah, Siti, Joko Trimulyo, and Dede Irwan Kurniawan. 2023. “EFEKTIVITAS DALAM IMPLEMENTASI KURIKULUM SEKOLAH DI MA AL-AMIN.” *SAHID MENGABDI: Jurnal Pengabdian Masyarakat Institut Agama Islam Sahid Bogor* 2(02):43–48. doi:10.56406/jsm.v2i02.327.
- Romar, Jan-Erik, Jani Sarén, and Peter Hastie. 2018. “Empowering Athletes with the Sport Education Model in Youth Soccer.” in *Sport Pedagogy - Recent Approach to Technical-Tactical Alphabetization*, edited by J. Serra-Olivares. InTech.
- Rosiana, Wiwik, Prayogi Dwina Angga, and Muhammad Tahir. 2023. “Pengembangan Media Literasi Fisik (Melifis) Bagi Siswa Sekolah Dasar.” *Jurnal Educatio FKIP UNMA* 9(2):964–75. doi:10.31949/educatio.v9i2.4707.
- Salim Salabi, Agus. 2022. “Efektivitas Dalam Implementasi Kurikulum Sekolah.” *Education Achievement: Journal of Science and Research*. doi:10.51178/jsr.v1i1.177.
- Sandi, Reza Kurnia, and Tito Parta Wibowo. 2020. “EFFORTS TO IMPROVE BASIC MOVEMENT OF SHORT DISTANCE RUNNING USING DEMONSTRATION METHOD IN CLASS V SD NEGERI 62 KOTA BENGKULU.” *Hanoman Journal: Physical Education and Sport* 1(1):10–23. doi:10.37638/hanoman.v1i1.15.
- Scherrer, Vsevolod, and Franzis Preckel. 2019. “Development of Motivational Variables and Self-Esteem During the School Career: A Meta-Analysis of Longitudinal Studies.” *Review of Educational Research* 89(2):211–58. doi:10.3102/0034654318819127.
- Serani, Gabriel, and Hairida Hairida. 2024. “IMPLEMENTASI ASESMEN PEMBELAJARAN KURIKULUM MERDEKA: KESULITAN DAN TANTANGAN GURU DI SEKOLAH DASAR KOTA SINTANG.” *VOX EDUKASI: Jurnal Ilmiah Ilmu Pendidikan* 15(1):79–90. doi:10.31932/ve.v15i1.3386.
- Sortwell, Andrew, Michael Newton, Daniel A. Marinho, Ricardo Ferraz, and Dana Perlman. 2021. “The Effects of an Eight Week Plyometric-Based Program on Motor Performance Skills and Muscular Power in 7–8-Year-Old Primary School Students.” *International Journal of Kinesiology and Sports Science* 9(4):1. doi:10.7575/aiac.ijkss.v.9n.4p.1.
- Sumardiyanto, Sumardiyanto, and Dassucik Dassucik. 2024. “PELATIHAN PENINGKATAN KOMPETENSI GURU DALAM MODEL PEMBELAJARAN BERDIFERENSIASI BAGI GURU-GURU SMP NEGERI 1 SITUBONDO.” *MIMBAR INTEGRITAS: Jurnal Pengabdian* 3(1):160. doi:10.36841/mimbarintegritas.v3i1.4098.
- Syafiqoh, Imro’atus, Yuli Utanto, and Deni Setiawan. 2023. “Adaptasi Kurikulum Taman Kanak-Kanak Penggerak: Sebuah Strategi Dari Daerah Pesisir.” *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini* 7(1):1044–54. doi:10.31004/obsesi.v7i1.4043.
- Talukdar, Rounik, Sombuddha Biswas, Anusha Seelamantula, Shubhajit Pahari, Debanjan Ghosh, and Hari Krishna Raju Sagiraju. 2025. “Prevalence of Overweight/Obesity Among Under-Five Children in Lower Middle-Income Countries and Assessment of the Reported

- Associated Factors: A Systematic Review and Meta-Analysis.” *Pediatric Obesity* 20(12):e70055. doi:10.1111/ijpo.70055.
- Tolgfors, Bjorn, and Marie Öhman. 2016. “The Implications of Assessment for Learning in Physical Education and Health.” *European Physical Education Review* 22(2):150–66. doi:10.1177/1356336X15595006.
- Vearing, Rebecca, Justin Scarr, Ana Catarina Queiroga, and Jagnoor Jagnoor. 2026. “Gaps in the Evidence for Interventions in Global Drowning Research.” *Injury Prevention* 32(1):72–81. doi:10.1136/ip-2023-045215.
- Wang, Yanru, Yanni Zhu, and Juan Tang. 2021. “The Influence of Inclusive Leadership on Employee’s Job Performance-A Moderated Mediating Model.” Changsha, China.
- Wibowo, Gandi, Denny Andreas, and Ivon Rahmani. 2023. “KAJIAN HISTORIS DINAMIKA SIKAP GEREJA TERHADAP OLAHRAGA.” *Voice* 3(1). doi:10.54636/teologi.v3i1.45.
- Wijayanto, Adi. 2023. “Unggul Dalam Kepelatihan Cabang Olahraga, Pendidikan Jasmani Dan Manajemen Olahraga.”
- Wineinger, Troy O., Mary D. Fry, and E. Whitney G. Moore. 2022. “The Influence of Instructor Behaviors and the Perceived Motivational Climate on Undergraduate Students’ Experiences in College STEM Laboratories” edited by D. Braun. *CBE—Life Sciences Education* 21(4):ar81. doi:10.1187/cbe.21-07-0184.
- Yang, Qian, Lili Tian, E. Scott Huebner, and Xinxin Zhu. 2019. “Relations among Academic Achievement, Self-Esteem, and Subjective Well-Being in School among Elementary School Students: A Longitudinal Mediation Model.” *School Psychology* 34(3):328–40. doi:10.1037/spq0000292.