Analysis of Physical Literacy Knowledge in Physical Education Learning of Junior High School Students 1 Pattallassang, Gowa Regency

Roswanda Saputri^{1A-E*}, Syahruddin^{2B-D}, Muh. Aswar^{3B-D}

- ^{1,2} Universitas Negeri Makassar, Sulawesi Selatan, Indonesia
- ³ Universitas Pendidikan Indonesia, Jawa Barat, Indonesia

roswandasaputribanda007@gmail.com1*, syahruddin@unm.ac.id2, aswar6442@gmail.com3

ABSTRACT

The abstract contains a brief description of the purpose: The purpose of this study is to determine the level of physical literacy knowledge in physical education learning of SMP Negeri 1 Pattallassang, Gowa Regency. The sample in this study was 38 students of SMP Negeri 1 Pattallassang. The sample determination technique is by using random sampling techniques. The data analysis technique used was frequency descriptive analysis. The results of the study show that the knowledge of physical literacy in physical education learning of students of SMP Negeri 1 Pattallassang, Gowa Regency, is classified as "High". It is illustrated from the indicators and sub-indicators of the statement in the percentage value (%) of each indicator. Motivation 84% in the "Very High" category, 55% confident in the "quite high" category, 66% in the "high" category and 76% in the "high" category. So cumulatively, the percentage value can be calculated with an average score of 68% or in the "high" category.

ARTICLE HISTORY

Received: 2025/10/10 Accepted: 2025/10/16 Published: 2025/10/25

KEYWORDS

Knowledge; Physical Literacy; Physical Education: Learning.

AUTHORS' CONTRIBUTION

- A. Conception and design of the study;
- B. Acquisition of data;
- C. Analysis and interpretation of data;
- D. Manuscript preparation;
- E. Obtaining funding

Cites this **Article**

Saputri, Roswanda; Syahruddin, Syahruddin; Aswar, Muh. (2025). Analysis of Physical Literacy Knowledge in Physical Education Learning of Junior High School Students, 1 Pattallassang, Gowa Regency. Competitor: Jurnal Pendidikan Kepelatihan Olahraga. 17 (3), p.2750-2761

INTRODUCTION

Physical education in Indonesia is a compulsory subject taught in schools and taught to students throughout elementary, secondary, and tertiary education. Physical education teachers must be fully aware of the movement patterns they design so they can develop and apply them in various physical education contexts. This means that physical education content should not only focus on physical activity experiences but also consider the development of meaningful and beneficial competencies for students in each movement, balancing quality with quantity. Too much time will lead to boredom, while too little time will not produce meaningful results for students.

Physical activity becomes enjoyable when we are physically literate. A physically literate person demonstrates intelligence or education in matters of the body. People



who understand the concept of physical literacy can perform various activities in their lives with confidence, competence, effectiveness, efficiency, and optimality.

"Physical literacy" is an English term that has not yet been found in Indonesian. Therefore, several physical education experts in Indonesia still use different terms to translate the concept of physical literacy. Some use the terms "literasi fisik" (physical literacy), "melek fisik" (physical literacy), and "melek fisik" (physical literacy). In this case, the author uses the term "literasi fisik" (physical literacy) to translate the term.

Physical literacy is defined as the foundation for developing behavior, awareness, and understanding of active lifestyles, enjoyment of activities, and the ability to identify, understand, interpret, and respond effectively to the use of body movement abilities in broad and varied contexts.

In the context of this research, physical literacy is the development of fundamental movement skills and self-confidence, enabling students to develop the motivation and ability to understand, believe in their own abilities, adopt a healthy lifestyle with an active lifestyle, and develop good fundamental movement skills. Physical education (PE) must be implemented consistently and in a way that is enjoyable for students. However, the challenge with physical literacy is that it is a relatively new concept of learning achievement, and there are still few learning activities that can be used to develop students' physical literacy.

Observations conducted by researchers at SMP Negeri 1 Pattallassang, Gowa Regency, found that during physical education lessons, some students lacked a theoretical understanding of each sports topic. Similarly, the movements demonstrated by the teacher were difficult for students to practice and understand. The PE teacher at the school also recognized that students were only able to transmit each movement without understanding the theoretical context of each movement.

Based on this, efforts are needed to find a learning approach that can be used to improve students' physical literacy. The teacher's role is required to act as a coach, mentor, instructor, facilitator, and motivator. From the description above, it is necessary to research the analysis of physical literacy knowledge in physical education learning for students at SMP Negeri 1 Pattallassang, Gowa Regency.

METHODS

This research is quantitative with a descriptive approach. The research location was SMP Negeri 1 Pattallassang, Gowa Regency. The research stages in this study are generally pre-research, research, and final stages. The data sources used were primary and secondary data sources. A sample of 38 people was selected using random sampling. Data collection methods used were observation, interviews, and questionnaires. Data analysis used descriptive data analysis techniques.

RESULTS AND DISCUSSION

Result

Data Descriptive

Descriptive analysis of data from the research results aims to provide a general overview to determine the knowledge of physical literacy in physical education learning of students of SMP Negeri 1 Pattallassang, Gowa Regency, both in the form of a measure of frequency location presented after being processed from raw data using descriptive statistics, namely the average value, standard deviation (standard deviation), range, minimum, maximum, and total number. The summary of the results of the descriptive analysis of the data is presented as follows:

Descriptive Data on Physical Literacy Knowledge in Physical Education Learning Table 1

Summary of Descriptive Analysis Results of Research Data

	Physical Literacy Knowledge Variables in Physical Education Learning for Students of SMP Negeri 1 Pattallassang, Gowa Regency					
Statistics	Motivation	Self-Confidence	Competence Physical	Knowledge and Understanding		
Number of Samples	38	38	38	38		
Mean	46.66	47.74	17.00	34.05		
Standard Deviation	4.425	3.592	1.917	3.075		
Variance	19.583	12.902	3.676	9.457		
Range	22	18	8	14		
Minimum	30	38	12	26		
Maximum	52	56	20	40		
Total Amount	1773	1814	646	1294		

The results of the descriptive analysis of the data in Table 1 of the correlation data on physical literacy knowledge in physical education learning for students at SMP Negeri 1 Pattallassang, Gowa Regency, can be stated as follows:

Motivation Variables

Based on the research data in table 1 above, the motivation variables consisting of interests, drives and needs, as well as a conducive environment, from 38 samples obtained an average value of 46.66, a standard deviation value of 4.425, a variance value of 19.583 and a range value of 22 from the difference between the minimum value of 30 and the maximum value of 52 and obtained a total value of 1773.

Self-Confidence Variable

Based on the research data in table 1 above, the self-confidence variable consisting of having an opinion, being brave and being optimistic, from 38 samples obtained an average value of 47.74, a standard deviation value of 3,592, a variance value of 12,902 and a range value of 18 from the difference between the minimum value of 38 and the maximum value of 56 and obtained a total value of 1814.

Physical Competence Variable

Based on the research data in Table 1 above, the physical competency variable, consisting of physical, from 38 samples obtained an average value of 17.00, a standard deviation value of 1.917, a variance value of 3.676, and a range value of 8 obtained from the difference between the minimum value of 12 and the maximum value of 20, resulting in a total value of 646. d) Knowledge and Understanding Variable

Based on the research data in Table 1 above, the knowledge and understanding variable, consisting of information and expertise, from 38 samples obtained an average value of 34.05, a standard deviation value of 3.075, a variance value of 9.457, and a range value of 14 obtained from the difference between the minimum value of 26 and the maximum value of 40, resulting in a total value of 1294.

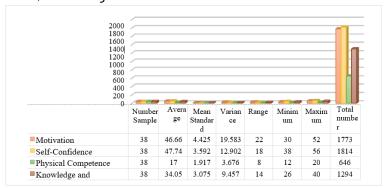


Figure 1.Summary of Descriptive Analysis Results of Research Data

Hypothesis Testing Results

In accordance with the analysis of physical literacy knowledge in physical education learning, the researcher used descriptive frequency analysis. Descriptive frequency analysis was conducted to determine the extent of physical literacy knowledge in physical education learning among students at SMP Negeri 1 Pattallassang, Gowa Regency. The results of the analysis of each indicator and sub-indicator in the research variables can be described as follows:

Testing the hypothesis of physical literacy knowledge in physical education learning Motivation

Motivational analysis in context covers the fundamental issues that have been implemented. Descriptive analysis of motivation frequency includes 3 indicators and 11 statements from respondents, consisting of interests, drives and needs, and a conducive environment. In the context component of motivation by administering a questionnaire consisting of 11 statements of interest in items 1, 2 and 3, statements of drives and needs in items 4, 5, 6 and 7 and statements of a conducive environment in items 8, 9, 10 and 11 which were carried out with the help of a computer through the Excel 2019 program, the complete analysis results can be seen in the analysis appendix and a summary of the descriptive frequency analysis is presented in table 2 below:

Roswanda Saputri Ma-E*, Syahruddin 28-9, Muh. A roswandasaputribanda 007@gmail.com 1*

Table 2Summary of Motivational Variables

Num.	statement	Value	Frequency	Percentage
1	Strongly Agree	5	0	0%
2	Agree	4	32	84%
3	Disagree	3	5	13%
4	Disagree	2	1	3%
5	5 Strongly Disagree		0	0%
Amount			38	100%

Based on table 2 above, it can be classified that for motivation consisting of interests, drives and needs as well as a conducive environment, the questionnaire that has been distributed from 38 samples is known that no sample is in the strongly agree statement obtaining a percentage value of 0%, then 32 samples who answered the agree statement obtained a percentage value of 84% and 5 samples are in the less agree statement obtaining a percentage value of 13%, and 1 sample is in the disagree statement obtaining a percentage value of 3% and no sample is in the strongly disagree statement obtaining a percentage value of 0%. It can be concluded that the results of respondents agree to obtain the highest value, which proves that for motivation consisting of interests, drives and needs, as well as a conducive environment, are classified as very high. Statements in this very high category use categories as stated by Ridwan (Sri Niar, 2019:25) at a value interval of 81% – 100% in the very high category or 84%.

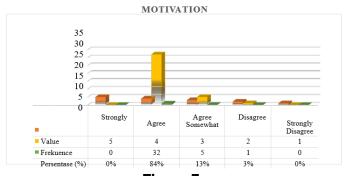


Figure 3.Summary of Motivational Variables

Self-confident

The analysis of self-confidence in context covers the fundamental issues that have been implemented. The descriptive analysis of the frequency of self-confidence includes 3 indicators and 12 statements from respondents, consisting of opinion, courage and optimism. In the context component of self-confidence by administering a questionnaire consisting of 12 opinion statements in items number 12, 13, 14 and 15, courage statements in items number 16, 17, 18 and 19 and optimistic statements in items number 20, 21, 22 and 23 which were carried out with the help of a computer through the Excel 2019 program, the complete analysis results can be seen in the analysis attachment and a summary of the descriptive frequency analysis is presented in table 3 below:

Table 3Summary of Self-Confidence Variables

Num.	statement	Value	Frequency	Percentage
1	Strongly Agree	5	0	0%
2	Agree	4	17	45%
3	Disagree	3	21	55%
4	Disagree	2	0	0%
5	5 Strongly Disagree		0	0%
	Amount	38	100%	

Based on table 3 above, it can be classified that for self-confidence consisting of opinion, courage and optimism, the questionnaire that has been distributed from 38 samples is known that no sample is in the statement strongly agree obtained a percentage value of 0%, then 17 samples who answered the statement agree obtained a percentage value of 45% and 21 samples are in the statement less agree obtained a percentage value of 55%, and there are no samples in the statement disagree and strongly disagree obtained a percentage value of 0%. It can be concluded that the results of respondents who agree less obtained the highest value, which proves that self-confidence, consisting of opinion, courage and optimism, is classified as quite high. Statements in this fairly high category use categories as stated by Ridwan (Sri Niar, 2019: 25) at a value interval of 41% - 60% in the fairly high category or 55%.

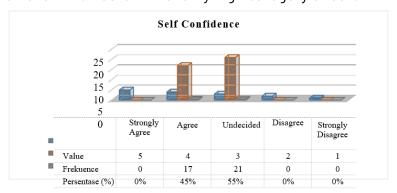


Figure 5Self-Confidence Summary

Physical Competence

The analysis of physical competency in context covers the fundamental issues that have been implemented. The descriptive frequency analysis of physical competency includes 1 indicator and 4 statements from respondents, consisting of physical. In the context component of the physical component by administering a questionnaire consisting of 4 physical statements contained in items number 24, 25, 26 and 27, which was carried out with the help of a computer through the Excel 2019 program, the complete analysis results can be seen in the analysis attachment and a summary of the descriptive frequency analysis is presented in the following table 4:

Roswanda Saputri^{1A-E*}, Syahruddin^{2B-D}, Muh. Aswar^{3B-D}

roswandasaputribanda007@gmail.com1*

Tabel 4Summary of Physical Competence Variables

Num.	statement	Value	Frequency	Percentage
1	Strongly Agree	5	3	8%
2	Agree	4	25	66%
3	Disagree	3	10	26%
4	Disagree	2	0	0%
5	5 Strongly Disagree		0	0%
	Amount		38	100%

Based on table 4 above, it can be classified that for the physical component consisting of physical, the questionnaire that has been distributed from 38 samples is known that there are 3 samples in the strongly agree statement obtaining a percentage value of 8%, then 25 samples who answered the agree statement obtained a percentage value of 66% and 10 samples were in the less agree statement obtaining a percentage value of 26%, and there were no samples in the disagree and strongly disagree statements obtaining a percentage value of 0%. It can be concluded that the results of respondents agree to obtain the highest value, which proves that physical competencies consisting of physical activities are classified as high. Statements in this high category use categories as stated by Ridwan (Sri Niar, 2019:25) at a value interval of 61% - 80% in the high category or 66%.

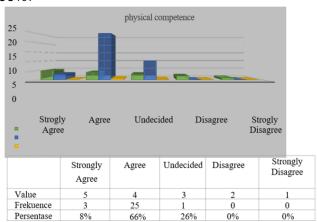


Figure 4

Summary of Physical Competence Variables

Knowledge and Understanding

The analysis of knowledge and understanding in context covers the fundamental problems that have been implemented. The descriptive analysis of the frequency of knowledge and understanding includes 2 indicators and 8 statements from respondents, consisting of information and expertise. In the context component of knowledge and understanding by administering a questionnaire consisting of 8 knowledge statements contained in items number 28, 29, 30, 31 and 32, expertise statements contained in items number 33, 34 and 35 statements, which were carried out with the help of a computer through the Excel 2019 program, the complete analysis results can be seen in the analysis attachment and a summary of the descriptive frequency analysis is presented in the following table 5:

roswandasaputribanda007@gmail.com1*

Table 5Summary of Knowledge and Understanding Variables

Num.	Statement	Value	Frequency	Percentage
1	Strongly Agree	5	1	3%
2	Agree	4	29	76%
3	Disagree	3	8	21%
4	Disagree	2	0	0%
5	5 Strongly Disagree		0	0%
	Amount	38	100%	

Based on table 5 above, it can be classified that for knowledge and understanding consisting of information and expertise, the questionnaire that has been distributed from 38 samples is known that there is 1 sample in the strongly agree statement obtaining a percentage value of 3%, then 29 samples who answered the agree statement obtained a percentage value of 76% and 8 samples were in the less agree statement obtaining a percentage value of 21%, and there were no samples in the disagree and strongly disagree statements obtaining a percentage value of 0%. It can be concluded that the results of respondents agree to obtain the highest value, which proves that knowledge and understanding, consisting of information and expertise, are classified as high. Statements in this high category use categories as stated by Ridwan (Sri Niar, 2019:25) at a value interval of 61% – 80% in the high category or 76%.

KNOWLEDGE AND UNDERSTANDING

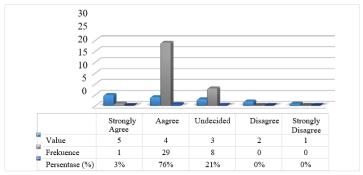


Figure 5Summary of Knowledge and Understanding Variables

Based on table 5 above, it can be classified that for knowledge and understanding consisting of information and expertise, the questionnaire that has been distributed from 38 samples is known that there is 1 sample in the strongly agree statement obtaining a percentage value of 3%, then 29 samples who answered the agree statement obtained a percentage value of 76% and 8 samples were in the less agree statement obtaining a percentage value of 21%, and there were no samples in the disagree and strongly disagree statements obtaining a percentage value of 0%. It can be concluded that the results of respondents agree to obtain the highest value, which proves that knowledge and understanding, consisting of information and expertise, are classified as high. Statements in this high category use categories as stated by Ridwan (Sri Niar, 2019:25) at a value interval of 61% – 80% in the high category or 76%.

Analysis Results

Contextual analysis encompasses issues related to the fundamental principles implemented. Descriptive frequency analysis of physical literacy knowledge in physical education learning encompasses nine sub-indicators and thirty-five statements from respondents. The context component relates to physical literacy knowledge in physical education learning for students at SMP Negeri 1 Pattallassang, Gowa Regency, using a questionnaire.

The results of the analysis of physical literacy knowledge in physical education learning can be seen in Table 6 below:

Table 6Summary of Physical Literacy Knowledge in Physical Education Learning for Students of SMP Negeri 1 Pattallassang, Gowa Regency

		Percentage (%)				
Num.	Statement	Motivation	Self- Confidence	Physical Competence	Knowledge and Understanding	Average Percentage
1	Strongly Agree	0%	0%	8%	3%	3%
2	Agree	84%	45%	66%	76%	68%
3	Undecided	13%	55%	26%	21%	29%
4	Disagree	3%	0%	0%	0%	1%
5	Strongly Disagree	0%	0%	0%	0%	0%
	Amount	100%	100%	100%	100%	100%

Based on Table 6 above, it can be classified that for physical literacy knowledge in physical education learning of students of SMP Negeri 1 Pattallassang, Gowa Regency. The questionnaire that has been distributed from 38 samples of strongly agree statements obtained a percentage value of 3%, agree statements obtained a percentage value of 68%, less agree statements obtained a percentage value of 1%, and no samples answered strongly disagree statements obtained a percentage value of 1%, and no samples answered strongly disagree statements obtained a percentage value of 0%. It can be concluded that the results of the respondents' "agree" obtained the highest value, which proves that for physical literacy knowledge in physical education learning of students of SMP Negeri 1 Pattallassang, Gowa Regency, is classified as high. Statements in this high category use categories as stated by Ridwan (Sri Niar, 2019:25) at a value interval of 61% – 80% in the high category or 68%.

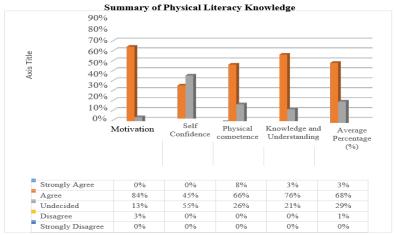


Figure 6Summary of Physical Literacy Knowledge

Discussion

Physical education instruction at SMP Negeri 1 Pattallassang remains marginalised compared to other subject areas. Therefore, teachers are required to act as coaches, mentors, instructors, facilitators, and motivators. It is understood that physical literacy is a foundation for individuals, used in various life activities and in efforts to achieve professional excellence. The researchers used four variables to determine the level of physical literacy knowledge of SMP Negeri 1 Pattallassang students: motivation, self-confidence, physical competence, and understanding and knowledge.

- 1. Motivation: 0% of respondents strongly agree, 84% agree, 13% disagree, 3% disagree, and 0% strongly disagree. Students exhibited high motivation due to their strong awareness of maintaining health through physical activity. Furthermore, students enjoyed physical activity both at school and at home, and the school's facilities and infrastructure were adequate, leading to high enthusiasm for physical education instruction.
- 2. Self-Confidence: 0% of the strongly agree category was scored, 45% of the agree category, 55% of the disagree category, and 0% of the strongly disagree category. Students have high self-confidence because they understand all the material presented by their teachers, so they always answer their teachers' questions during physical education lessons at school. Furthermore, students are also very confident in participating in every sports competition, both during sports competitions and inter-school competitions, thanks to support from both their families and the school environment.
- 3. Physical Competence: 8% of the strongly agree category was scored, 66% of the agree category, 26% of the disagree category, and 0% of the strongly disagree category. Students at SMP Negeri 1 Pattallassang have high physical competence, as evidenced by their competence in completing physical activity assignments given by teachers in physical education lessons. Physical competence has a high percentage because many students consistently improve their abilities in their favorite sports, both through extracurricular activities and age-appropriate clubs outside of school. 4) Knowledge and Understanding: 3% of the respondents strongly agree, 76% agree, 21% disagree, and 0% disagree. Students at SMP Negeri 1 Pattallassang have a high level of knowledge and understanding due to their awareness of the importance of knowledge for life, particularly in relation to sports activities accessible through internet platforms like YouTube, where students can access physical education instructional videos, enabling them to easily understand each sport taught by their physical education teacher.

Motivation is crucial for motivating individuals to act in pursuit of a desired outcome. Motivation is divided into two categories: intrinsic and extrinsic. Intrinsic motivation refers to an action that is desired and enjoyed by the individual. Conversely, extrinsic motivation refers to an action undertaken based on external encouragement or coercion. Extrinsic motivation can transform into intrinsic motivation. Students with

Roswanda Saputri^{1A-E*}, Syahruddin^{2B-D}, Muh. Aswar^{3B-D}

roswandasaputribanda007@gmail.com1*

strong intrinsic motivation will consistently complete their assignments and persevere in the learning process, particularly in physical education, sports, and health.

Furthermore, students with high intrinsic motivation will exhibit high self-confidence and discipline. In addition, teachers must be able to facilitate students' understanding of the material being taught, such as by modifying regulations, creating engaging learning media, and providing other supporting facilities and infrastructure.

Self-confidence is the belief in one's own abilities to handle anything calmly. Self-confidence is a feeling of confidence and a belief that one is in good health, enabling an individual to appear and behave with confidence.

Every student should have self-confidence, as it is crucial for developing and developing quality human resources. Self-confidence can motivate a person to take action and achieve success in their chosen field. Therefore, it can be concluded that a student's level of self-confidence significantly influences the learning process in school.

Thus, this proves that physical literacy knowledge in physical education learning for students of SMP Negeri 1 Pattallassang, Gowa Regency, has a positive impact on increasing knowledge, abilities and understanding related to physical literacy in physical education learning.

CONCLUSION

Based on the results of research conducted at SMP Negeri 1 Pattallassang, it shows that physical literacy knowledge in physical education learning for students at SMP Negeri 1 Pattallassang, Gowa Regency, is classified as high.

ACKNOWLEDGMENT

State the contributing parties or institutions which help the author's research. It is important to acknowledge those who help the authors with funding, research facilities, or meaningful suggestions in improving the author's article. If the article has been presented in a seminar or conference, the authors can also mention it in this section.

The acknowledgement introduction is written in vertical Barlow-12, 1.15 spacing. Each paragraph begins with a word that is indented approximately 1 cm from the left edge of each column.

REFERENCES

Akhmad, I. (2016). Sumber Belajar Penunjang PLPG 2016 Pendidikan Jasmani, Olahraga dan Kesehatan. Kementerian Pendidikan Dan Kebudayaan Direktorat Jenderal Guru Dan Tenaga Kependidikan.

Aprilo, I., & Nur, M. (2021). Analisis Pengetahuan Literasi Fisik Anak Usia 8-12 Tahun pada Pembelajaran Pendidikan Jasmani. Universitas Negeri Makassar.

- Ardiana, R., & Akbar, zarina. (2019). Pengaruh Keterlibatan Orang Tua dan Motivasi Intrinsik dengan Kepercayaan Diri Anak Usia Dini. Universitas Negeri Jakarta, 3(2). https://doi.org/10.31004/obsesi.v3i2.253
- Aufa, H. (2020). Peran Literasi Fisik (Phisical Literacy) Dalam Partisipasi Aktivitas Fisik Di Usia Lanjut. Universitas Negeri Yogyakarta. Elisa. (2016). Pengertian Pembelajaran.
- Febrianto, B., & HalimAbdul. (2019). Tingkat Percaya Diri Peserta Didik Laki-Laki Dan Perempuan Dalam Pembelajaran Penjas Bola Voli Di Sdit Ibnu Taimiyah Tahun Pelajaran 2019/2020. Universitas Majalengka.
- Fenti, & Sudia, M. (2020). Pengaruh Motivasi Belajar Dan Tingkat Kepercayaan Diri Terhadap Hasil Belajar Matematika. Universitas Halu Oleo. Jl. H.E.A. Mokodompit Kampus Hijau Bumi Tridharma Andounohu, Kota Kendari, Indonesia.
- Khurrohman, M. (n.d.). Peran Guru Dalam Mengajarkan Nilai Penjas Kepada Siswa. Kristiananda, D. (2016). Metode Penelitian. Universitas Katolik Soegijapranata.
- Kurnia, T. (n.d.). Pemberdayaan Literasi fisik pada manusia. Universitas Negeri Jakarta.
- Nawawi, H. (2020). Suatu pendekatan dalam mengembangkan physical literacy siswa sekolah dasar.
- Nurhadiansyah, R., Haetami, M., & Triansyah, A. (n.d.). Kemampuan Literasi Peserta Didik Pendidikan Jasmani Di SMK. 1.
- Permana, R. (n.d.). Analisis Assesmen Literasi Jasmani dengan Kebutuhan Pembelajaran PJOK di Sekolah Dasar Muhammadiyah Tasikmalaya. Universitas Muhammadiyah Tasikmalaya.
- Reza, E., Syafei, M., & Achmad, I. (2021). Tingkat Rasa Percaya Diri Siswa Pada Pembelajaran Senam Lantai. Universitas Singaperbangsa Karawang.
- Sugiyono. (2016). Metode Penelitian Pendidikan, Pendekatan Kuantitatif, Kualitatif, dan R&D. (Cet. 23). Penerbit Alfabeta.
- Suyitno. (2020). Pendidikan vokasi dan kejuruan strategi dan revitalisasi. K-Media.
- Widodo, A. (n.d.). Makna Dan Peran Pendidikan Jasmani Dalam Pembentukan Insan Yang Melek Jasmaniah/Ter-literasi Jasmaniahnya. Universitas Muhammadiyah Sukabumi.
- Yulianti. (2018). Analisis Tingkat Kesegaran Jasmani Terhadap Servis Atas Permainan Bolavoli Siswa MA Darul Ihsan Munte Kabupaten Jeneponto. Universitas Negeri Makassar.
- Yulis, N. (2016). Motivasi Siswa Dalam Pembelajaran Pendidikan Jasmani Olahraga Dan Kesehatan Siswa SMA Negeri 1 Tanah Putih Kecamatan Tanah Putih. Universitas Riau.