

## Elementary School Students' Table Tennis Game Knowledge Level

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

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### ABSTRACT

This research is a type of descriptive research. This research aims to find out the level of Knowledge of the Table Tennis Game of Class V Students of SD Negeri III Karuwisi. The population was all Class V students at SD Negeri III Karuwisi. The research sample used was 50 students. The sample determination technique is random selection by lottery (Simple Random Sampling). The data analysis technique used is descriptive analysis. The research results show that; The level of table tennis for Class V students at SD Negeri III Karuwisi is very high.

**Keyword:** Knowledge; Game; Table Tennis.

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### INTRODUCTION

Physical education is an integral part of the overall education system (Yuniartik et al., 2017), aiming to develop aspects of health, physical fitness, critical thinking skills, emotional stability, social skills, reasoning and moral actions through physical activities and sports ( I. N. Haris, 2018; Padillah et al., 2020).

In the implementation of education as a process of human development that lasts a lifetime, the role of physical education is very important (Taufan et al., 2018), which provides opportunities for students to be directly involved in various learning experiences (Nissa, 2021) through physical activities, play and sports carried out systematically (Herlina & Suherman, 2020). The provision of learning experiences is directed at fostering (Wijayanto et al., 2021), as well as forming a healthy and active lifestyle throughout life (Tumaloto, 2022).

Physical education is a medium for encouraging the development of motor skills, physical abilities, knowledge, reasoning, appreciation of values (attitudes, mental, spiritual



and social), (Setiawan & Wisnu, 2019) and the habit of healthy lifestyles which lead to stimulating balanced growth and development (Nazirun et al., 2020). With physical education, students will obtain various expressions that are closely related to pleasant personal impressions (Saleh & Malinta, 2020) as well as various expressions that are creative, innovative, skilled, have physical fitness, healthy living habits (Saitya, 2022) and have knowledge and insight on human movement (Rozi et al., 2021). A good teacher must have a good learning plan (Syahrin & Bustamam, 2017), one of which is adjusting the physical education learning process to the learning implementation plan (Kusuma & Winarno, 2018).

The learning implementation plan made by the teacher is by the students' Core Competencies and Basic Competencies according to each class level (Gede Yogi Saputra, 2021). For class V Table Tennis Game material, the core competency is about knowledge, namely understanding factual knowledge by observing and asking questions based on curiosity about oneself (F. Haris et al., 2021), God's creatures and their activities, and the objects they encounter in the world. home, at school and in the playground (Herlina & Suherman, 2020). Meanwhile, the basic competency is understanding the concept of variations and combinations of basic movement patterns in various games (Hidayatullah & Anwar, 2020). Meanwhile, the core competency regarding skills is presenting factual knowledge in clear language (Taqwim et al., 2020), systematically and logically, in aesthetic work, in movements that reflect a healthy child, and in actions that reflect the behaviour of a child who has faith and noble character. (Arifin, 2017). The basic competency is practising variations and combinations of basic movement patterns based on movement concepts in various traditional small ball games and/or sports (Ikhsan & Argantos, 2019).

Apart from that, physical education teachers are required to be able to teach various basic movement skills, techniques and strategies for games and sports (Jayul & Irwanto, 2020), internalize values (sportsmanship, honesty and cooperation) and healthy lifestyle habits (Clarita et al., 2021). The implementation is not through conventional theoretical teaching in the classroom but involves physical, mental, intellectual, emotional and social elements (Sudibyo & Nugroho, 2020).

The activities provided in learning must have a tactical-methodical touch (Prasetyo et al., 2019) so that the activities carried out can achieve the teaching objectives (Wibowo, 2015). No education does not have pedagogical targets, and no education is complete without physical education (Sari, 2017), because movement as physical activity is the basis for humans to know the world (Suganda et al., 2021) and themselves as a whole. naturally develops in line with the times (Suhendro, 2016). Therefore, the learning carried out must also be by the Competency Standards and basic competencies that will be conveyed to students (Paksi, 2016). In the current era of globalization, humans are required to be able to carry out sports activities (Suwo, 2018), because it can improve performance and as a means of playing to fill their free time and channel their talents and hobbies, one of which is playing table tennis (Suwo, 2020).

The game of table tennis is a popular sport and has developed in Indonesia. This is proven by the large number of table tennis sports activities carried out by people both in cities and in rural areas (Aprianto, 2016). The championship is regularly held every year in the framework of the Regional Student Sports Week (POPDA). However, not all elementary schools in Indonesia can take part in this activity. This can be proven based on the different levels of knowledge and skills of each student in elementary school (Asri et al., 2017). Elementary schools that pay high attention to developing table tennis performance, these schools usually organize coaching programs through extracurricular table tennis games (Syamsuddin et al., 2018).

In implementing physical education and sports learning in elementary schools, especially table tennis game material, there are still many students who do not understand the basic movements of this game (Syamsuddin et al., 2020). So students like playing table tennis but don't understand how to do the basic movements properly and correctly (Irawan, 2019). Table tennis is a sport that is included in the main material of physical education (Suryati et al., 2020). There are many benefits obtained from table tennis, table tennis can form good body posture including anatomy, physiology, personality and character which will grow in a direction that is in line with society's demands (Dahrial, 2021).

Learning to play table tennis is appropriately taught to children aged 8 to 11 years who can start practising using various basic techniques for playing table tennis (Sutari & Syahara, 2019). The basic techniques for playing table tennis in full are stated by Damiri and Kusmedi (1992:30) as follows: "1) Grip, 2) Distance, 3) Stroke, 4) Footwork". This movement is a basic movement pattern needed in the game of table tennis. To be able to play table tennis well, these various movements must be mastered first, because these movements are the basis for playing table tennis (Suparman & Hasbillah, 2021).

Based on the results of observations by researchers with physical education teachers at SD Negeri III Karuwisi, it is known that the condition of the facilities and infrastructure at the school is inadequate so students and teachers are less than optimal in carrying out table tennis lessons. We can see this from the results of teacher assessments and evaluations regarding table tennis material which indicate that students' levels of knowledge about the game of table tennis vary (Sari & Antoni, 2020). This difference in knowledge will affect the quality of the table tennis game. Students do not take learning seriously, instead, students feel free to move around the field, running around, chasing each other and shouting as they please so that the training is not effective. Apart from that, the training program implemented was felt to be poorly planned so it was not able to maximize the learning process of playing table tennis.

## METHODS

This research is descriptive research that provides an overview of the object under study. The method used is a survey method using a questionnaire as the instrument. The population used in this research were all class V students at SD Negeri III Karuwisi, which consisted of 2 classes taught by the same teacher. The number of students for each class is 25-27 students. The sample in this research was all class V students at SD Negeri III Karuwisi, totalling 50 students. The assessment in the multiple choice test instrument in this study is that if the answer is correct then the value is 1 and if the answer is incorrect then the value is 0. The components of the instrument as a data collection tool are presented in the form of a research instrument grid in Table 1 as follows:

**Table 1.**  
Research Instrument Grid

Variable	Factor	Indicator	Item Number	Amount
Knowledge of table tennis games for elementary school students	1. Equipment and costumes	a. Table b. Bet c. Ball d. Net e. Costume f. Shoe	1, 2, 3, 4, 5, 6, 7, 8,	8
	2. Game Regulations	a. Regulations regarding the match b. Regulations regarding service	9, 10, 11, 12, 13, 14	6

Variable	Factor	Indicator	Item Number	Amount
	3. Basic game techniques	a. Understanding table tennis techniques b. Various basic table tennis techniques	15, 16, 17, 18, 19, 20, 21, 22, 23	9
	4. Strategy and Tactics	a. Understanding table tennis strategy and tactics b. Various strategies and tactics for playing table tennis	24, 25, 26, 27, 28, 29, 30.	7
<b>Amount</b>				<b>30</b>

Data collection is a process of procuring data for research purposes. The data collection technique in this research uses tests on respondents who are the subjects of the research. The mechanism is as follows:

- Researchers looked for data on class V students at SD Negeri III Karuwisi
- The researcher determined the number of class V students at SD Negeri III Karuwisi who were the research subjects.
- Researchers distribute instruments to respondents.
- Next, the researcher collected questionnaires and transcribed the results.
- After obtaining research data, researchers conclude.

To clarify the analysis process, categorization is carried out. This category consists of three criteria, namely: high, medium, and low. The basis for determining this ability is to maintain a level of consistency in research. The categorization uses Mean and Standard Deviation, referring to Saifaddin Azwar (2003: 163) to determine score criteria using norm reference assessment (PAN) on the following scale:

**Table 2**

Norms for assessing the level of knowledge of the game of table tennis

Norms	Category
$X \geq Mi + 1,8 SDi$	Very high
$Mi + 0,6 SDi < X < Mi + 1,8 SDi$	High
$Mi - 0,6 SDi < X < Mi + 0,6 SDi$	Moderate
$Mi - 1,8 SDi < X < Mi - 0,6 SDi$	Low
$X \leq Mi - 1,8 SDi$	Very low

(Azwar, 2003: 163)

The method for calculating data analysis is to find the relative frequency of percentages, using the following formula:

$$P = \frac{F}{N} \times 100 \%$$

## RESULTS AND DISCUSSION

### Result

The description of the data from the research results aims to provide a general description of the distribution of data on the level of knowledge of the table tennis game of class V students at SD Negeri III Karuwisi, both in the form of measurements of the location of the frequency distribution. The prices are presented after being processed from raw data using descriptive statistics, namely average price, standard deviation, mode, median, and frequency distribution.

A summary of the results of the descriptive statistical calculations is presented as follows:

**Table 3**  
 Research result

Statistics	Sample	Mean	Median	Stdv.	Variants	Range	Min.	Max.
TPPT	50	25.36	25.50	1.67	2.80	7	21	28

**Table 3** above, it can be explained the data on the level of knowledge of the game of table tennis for class V students at SD Negeri III Karuwisi, that based on research data on the level of knowledge of the game of table tennis, a minimum score of 21 scores was obtained and a maximum score of 28 scores, with a range of 7 scores. The average value is 25.36 scores, has a median of 25.50 scores, with a standard deviation of 1.67 scores, and a variance of 2.80 scores.

Raw data on the variable level of table tennis game knowledge for class V students at SD Negeri III Karuwisi can be arranged in a frequency distribution as follows:

**Table 4**

Frequency distribution list of the level of table tennis knowledge of class V students at SD Negeri III Karuwisi

No.	Interval Class	Absolute Frequency	Relative Frequency (%)
1	20 – 21	1	2.00
2	22 – 23	5	10.00
3	24 – 25	19	38.00
4	26 – 27	20	40.00
5	28 – 29	5	10.00
<b>Amount</b>		<b>50</b>	<b>100</b>

Based on **Table 4** above, it is known that there were 50 research samples, of which 6 people (12.0%) had a level of knowledge of the game of table tennis for class V students at SD Negeri III Karuwisi below the average class, 19 people (38.0%) were in the average class. -average, and 25 people (50.0%) above the average class.

### Classification of the level of table tennis knowledge of class V students at SD Negeri III Karuwisi

After a descriptive analysis of the data on the level of table tennis game knowledge of class V students at SD Negeri III Karuwisi was carried out, a further classification of the level of table tennis game knowledge of class V students at SD Negeri III Karuwisi was carried out. It can be stated that the level of table tennis game knowledge of class V students at SD Negeri III Karuwisi, which consists of indicators of the level of table tennis game knowledge of class V students at SD Negeri III Karuwisi, presents the values obtained based on a summary of the results of statistical calculations. The description is presented as follows:

**Table 5**

Category: Level of knowledge of table tennis for class V students at SD Negeri III Karuwisi

No	Norms	Absolute Frequency	Relative Frequency (%)	Category
1	28 ≥ 26.6	25	50.0	Very high
2	25.2 ≤ 28 < 26.6	10	20.0	High
3	23.8 ≤ 28 < 25.2	12	24.0	Currently
4	22.4 ≤ 28 < 23.8	2	4.0	Low
5	28 ≤ 22.4	1	2.0	Very low
<b>Amount</b>		<b>50</b>	<b>100</b>	

From **Table 5** above, it can be stated that the category of knowledge level of table tennis for class V students at SD Negeri III Karuwisi, that out of 50 class V students at SD Negeri III Karuwisi, 25 people were in the very high category (50.0%), 10 people were in the high category (10 people). 20.0%), medium category 12 people (24.0%) low category 2 people (4.0%), and very low category 1 (2.0%).

## Discussion

Based on the description of the results of data analysis and classification of the level of knowledge of the table tennis game of class V students at SD Negeri III Karuwisi that has been carried out, the results of the analysis of the level of knowledge of the game of table tennis for class V students of SD Negeri III Karuwisi can be explained.

Of the 50 research samples, each of them obtained a percentage through the results of descriptive analysis which was classified as the level of knowledge of the game of table tennis for class V students at SD Negeri III Karuwisi, consisting of:

1. Very high category, level of knowledge of class V table tennis at SD Negeri III Karuwisi with a percentage of 50.0 percent.
2. High category for the level of table tennis game knowledge for class V SD Negeri III Karuwisi with a percentage of 20.0 percent.
3. Medium category level of knowledge of class V table tennis at SD Negeri III Karuwisi with a percentage of 24.0 percent.
4. Low category of the level of table tennis game knowledge for class V SD Negeri III Karuwisi with a percentage of 4.0 percent.
5. Very low category, level of knowledge of the game of table tennis for class V SD Negeri III Karuwisi with a percentage of 2.0 percent.

Because the category of very high level of knowledge of the game of table tennis obtained a higher percentage than the categories of high, medium, low and very low level of knowledge of the game of table tennis, we will describe the factors that influence the level of knowledge of the game of table tennis for class V students. SD Negeri III Karuwisi. These factors are as follows:

### 1. The Role of the Teacher

The sports teacher at SD Negeri III Karuwisi has been part of increasing the level of knowledge of the game of table tennis for class V students. Where students always use the field every break time to play table tennis for class V students. This was the stimulus applied by the teacher so that the students were no longer directed but instead took the initiative to play the game of table tennis for class V students.

### 2. Facilities

From observations and observations at SD Negeri III Karuwisi, it was found that the table tennis playing field for class V students was used at all times by students in sports activities, especially in physical education and sports health subjects. The field facilities are the standard fields used in official or national events. The field provides stimulation for students to use the table tennis court to play table tennis games for class V students.

### 3. Mass Media

Mass media is a part that influences the level of knowledge of the game of table tennis for class V students. In the library of SD Negeri Center III Karuwisi, several printed mass media that have been made in the form of clippings are used as reading material by the students, so it is suspected that the images and information in the clippings about the game of table tennis for class V students influence the level of student's knowledge of the sport of table tennis for class V students.

## CONCLUSION

Based on the problem formulation and research hypothesis proposed, as well as research results based on data analysis and hypothesis testing, it can be concluded that: The level of table tennis knowledge of class V students at SD Negeri III Karuwisi is in the very high category.

## REFERENCES

Aprianto, M. (2016). Hubungan Tinggi Badan dan Koordinasi Mata Tangan dengan Kemampuan Service pada Permainan Tenis Meja Siswa Kelas 5 SD Negeri Percobaan 4 Wates Kabupaten Kulon Progo Tahun Ajaran 201a5/2016. In *Skripsi, Jurusan Pendidikan Olahraga, FIK UNY*. <https://core.ac.uk/download/pdf/78025273.pdf>

Arifin, S. (2017). Peran Guru Pendidikan Jasmani Dalam Pembentukan Pendidikan Karakter Peserta Didik. *Multilateral Jurnal Pendidikan Jasmani dan Olahraga*, 16(1), 78–92. <https://doi.org/10.20527/multilateral.v16i1.3666>

Asri, N., Soegiyanto, & Mukarromah, S. B. (2017). Pengaruh Metode Latihan Multiball dan Koordinasi Mata Tangan terhadap Peningkatan Keterampilan Forehand Drive Tenis Meja. *Journal of Physical Education and Sport*, 6(2), 179–185.

Clarita, N., Raibowo, S., Prabowo, A., & Nopiyanto, Y. E. (2021). Peran guru pendidikan jasmani dalam pelaksanaan sekolah siaga bencana pada kawasan pesisir pantai. *Altius: Jurnal Ilmu Olahraga dan Kesehatan*, 10(2), 143–154. <https://doi.org/10.36706/altius.v10i2.14718>

Dahrial. (2021). Kontribusi Kelentukan Pergelangan Tangan dan Koordinasi Mata Tangan Terhadap Pukulan Forehand Tenismeja. *Jurnal Olahraga Indragiri*, 8(1), 218–240. <https://ejournal.unisi.ac.id/index.php/joi/article/view/1584>

Gede Yogi Saputra, R. M. A. (2021). Minat Siswa Kelas VII Dan VIII Dalam Mengikuti Pembelajaran Pendidikan Jasmani Olahraga Dan Kesehatan SMP Negeri 15 Mesuji. *Journal of Physical Education (JouPE)*, 2(1), 17–25. <http://jim.teknokrat.ac.id/index.php/pendidikanolahraga/index>

Haris, F., Taufan, J., & Nelson, S. (2021). Peran Guru Olahraga bagi Perkembangan Pendidikan Jasmani Adaptif di Sekolah Luar Biasa. *Jurnal Basicedu*, 5(5), 524–532. <https://doi.org/https://doi.org/10.31004/basicedu.v5i5.1469>

Haris, I. N. (2018). Model pembelajaran peer teaching dalam pembelajaran pendidikan jasmani. *Biomatika: Jurnal ilmiah fakultas keguruan dan ilmu pendidikan*, 4(1), 1–8. [www.ejournal.unsub.ac.id/index.php/FKIP/article/download/191/170](http://ejournal.unsub.ac.id/index.php/FKIP/article/download/191/170)

Herlina, H., & Suherman, M. (2020). Potensi Pembelajaran Pendidikan Jasmani Olahraga Dan Kesehatan (PJOK) Di Tengah Pandemi Corona Virus Disease (Covid)-19 Di Sekolah Dasar. *Tadulako Journal Sport Sciences And Physical Education*, 8(1), 1–7. <http://jurnal.untad.ac.id/jurnal/index.php/PJKR/article/view/16186>

Hidayatullah, F., & Anwar, K. (2020). Hybrid Learning Dalam Pembelajaran Pendidikan Jasmani Sekolah Dasar Dan Menengah Maupun Pendidikan Olahraga Perguruan Tinggi. *Prosiding SENOPATI (Seminar Olahraga Pendidikan dalam Teknologi dan Inovasi)*, 1(1), 1–7. <http://publikasi.stkipgri-bkl.ac.id/index.php/senopati/article/view/502/359>

Ikhsan, A., & Argantos. (2019). Pelaksanaan Pembelajaran Pendidikan Jasmani Olahraga dan Kesehatan. *JP&O (Jurnal Pendidikan dan Olahraga)*, *Fakultas Ilmu Keolahragaan*,

*Universitas Negeri Padang, 2(1), 171–176.*

Irawan, E. (2019). Pengaruh Kelincahan , Kecepatan Gerak Dan Kelentukan Terhadap Ketepatan Pukulan Forehand Drive Pada Permainan Tenis Meja Siswa SMA Negeri 3 Maros. *Jurnal Pendidikan Olahraga, 9*(2), 19–29. <http://www.ejournal.tsb.ac.id/index.php/jpo/article/view/324>

Jayul, A., & Irwanto, E. (2020). Model Pembelajaran Daring Sebagai Alternatif Proses Kegiatan Belajar Pendidikan Jasmani di Tengah Pandemi Covid-19. *Jurnal Pendidikan Kesehatan Rekreasi, 6*(2), 190–199. <https://doi.org/https://doi.org/10.5281/zenodo.3892262>

Kusuma, R. A., & Winarno, M. . (2018). Efektifitas Waktu Pembelajaran Pendidikan Jasmani Olahraga dan Kesehatan di SMP. *Gelangan Pendidikan Jasmani Indonesia, 2*(2), 135–141. <https://doi.org/http://dx.doi.org/10.17977/um040v2i2p135-141>

Nazirun, N., Gazali, N., & Fikri, M. (2020). Minat Siswa Terhadap Pembelajaran Pendidikan Jasmani. *Jurnal Penjakora, 6*(2), 119. <https://doi.org/https://doi.org/10.23887/penjakora.v6i2.20898>

Nissa, Ca. A. C. (2021). Peran Guru dalam Mendukung Perkembangan Sosial Emosi Peserta Didik Pada Pembelajaran daring Di Kelas IV SD Al-Azhar I Bandar Lampung. *Skripsi, Fakultas Tarbiyah dan Keguruan, Universitas Islam Negeri, Raden Intan Lampung.* <http://repository.radenintan.ac.id/15665/>

Padillah, A., Yudiana, Y., & Julianine, T. (2020). The Effect of Cooperative Learning Model and Peer Teaching Model on Social Skills and Volleyball Games Performance. *Jurnal Pendidikan Jasmani dan Olahraga, 5*(1), 35–39. <https://doi.org/10.17509/jpjo.v5i1.22093>

Paksi, T. B. (2016). Hubungan antara Kemampuan Pukulan Forehand dan Kecepatan Reaksi Terhadap Kemampuan Bermain Tenismeja di SMK Muhammadiyah 1 Prambanan. *Skripsi, Jurusan Pendidikan Olahraga, Fakultas ilmu Keolahragaan, Universitas Negeri Yogyakarta.* <https://core.ac.uk/download/pdf/83146272.pdf>

Prasetyo, E., Setyawan, A., & Citrawati, T. (2019). Evaluasi Pelaksanaan Pembelajaran Pendidikan Jasmani Olahraga dan Kesehatan di Kelas III SDN Buluh 2. *Prosiding Nasional Pendidikan: LPPM IKIP PGRI Bojonegoro, 1*(1), 76–82. <https://prosiding.ikippgrbojonegoro.ac.id/index.php/Prosiding/article/view/1015>

Rozi, F., Rahma Safitri, S., Latifah, I., & Wulandari, D. (2021). Tiga Aspek dalam Pembelajaran Pendidikan Jasmani pada Masa Pandemi Covid-19. *Jurnal Kependidikan: Jurnal Hasil Penelitian dan Kajian Kepustakaan di Bidang Pendidikan, Pengajaran dan Pembelajaran, 7*(1), 239. <https://doi.org/10.33394/jk.v7i1.3220>

Saitya, I. (2022). Pentingnya Perencanaan Pembelajaran Pada Pelajaran Pendidikan Jasmani Olahraga dan Kesehatan. *PIOR: Jurnal Pendidikan Olahraga, 1*(1), 9–13. <http://jurnal.habi.ac.id/index.php/Pior/article/view/53>

Saleh, M. S., & Malinta, S. S. (2020). Survei Minat Belajar Siswa Dalam Mengikuti Pembelajaran Pendidikan Jasmani Di SMPN 30 Makassar. *Kinestetik, 4*(1), 55–62. <https://doi.org/10.33369/jk.v4i1.10347>

Sari, D. N. (2017). Analisis Kemampuan Footwork Tenis Meja Mahasiswa UKO Tenis Meja Universitas Negeri Padang. *Sport Science, 17*(2), 101–107. <https://doi.org/10.24036/jss.v17i2.42>

Sari, D. N., & Antoni, D. (2020). Analisis Kemampuan Forehand Drive Atlet Tenismeja. *Edu Sportivo*, 1(1), 60–65. [https://doi.org/https://doi.org/10.25299/es:ijope.2020.vol1\(1\).5253](https://doi.org/https://doi.org/10.25299/es:ijope.2020.vol1(1).5253)

Setiawan, W., & Wisnu, H. (2019). Survei Peran Guru Pendidikan Jasmani Kesehatan Dan Rekreasi Terhadap Terlaksananya Pendidikan Kesehatan Di SMP Se- Kecamatan Lakarsantri Kota Surabaya. *Jurnal Pendidikan Olahraga dan Kesehatan*, 7(2), 267–271. <https://jurnalmahasiswa.unesa.ac.id/index.php/9/article/view/27489>

Sudibyo, N. A., & Nugroho, R. A. (2020). Survei Sarana Dan Prasarana Pembelajaran Pendidikan Jasmani Olahraga Dan Kesehatan Pada Sekolah Menengah Pertama Di Kabupaten Pringsewu Tahun 2019. *Journal Of Physical Education*, 1(1), 18–24. <https://doi.org/10.33365/joupe.v1i1.182>

Suganda, O., Syafrial, S., Sutisyana, A., Arwin, A., & Prabowo, A. (2021). Peran Guru Pendidikan Jasmani Olahraga dan Kesehatan (PJOK) Dalam Kegiatan Pelaksanaan Usaha Kesehatan Sekolah (UKS) Di SMK Negeri Se-Kabupaten Bengkulu Utara. *SPORT GYMNASTICS: Jurnal Ilmiah Pendidikan Jasmani*, 2(2), 319–327. <https://doi.org/10.33369/gymnastics.v2i2.17102>

Suhendro, R. B. (2016). Meningkatkan Keterampilan Pukulan Forehand Dalam Permainan Tenismeja Melalui Latihan Kecepatan Reaksi Gerak Tangan Pada Siswa Kelas VII A MTs Roudlotul Shabian Pare. *Artikel Skripsi, Universitas Nusantara PGRI Kediri*, 1–14. [http://simki.unpkediri.ac.id/mahasiswa/file\\_artikel/2016/11.1.01.09.1505.pdf](http://simki.unpkediri.ac.id/mahasiswa/file_artikel/2016/11.1.01.09.1505.pdf)

Suparman, S., & Hasbillah, M. (2021). Kontribusi Kekuatan Otot Tungkai, Kecepatan Reaksi Tangan dan Kelentukan Pergelangan Tangan terhadap Kemampuan Ketepatan Pukulan Forehand Drive Permainan Tenis Meja PTM YPUP Makassar. *Jendela Olahraga*, 6(1), 165–174. <https://doi.org/10.26877/jo.v6i1.6999>

Suryati, Triansyah, A., Hidasari, F. P., & Haetami, M. (2020). Hubungan Kemampuan Koordinasi Mata-Tangan dan Kelincahan Terhadap Kemampuan Pukulan Backhand Tenis Meja. *Jurnal Pendidikan dan Pembelajaran Khatulistiwa*, 9(11), 1–11. <https://jurnal.untan.ac.id/index.php/jpdpb/article/view/43389>

Sutari, F., & Syahara, S. (2019). Hubungan Kelenturan Pergelangan Tangan dan Koordinasi Mata Tangan Terhadap Akurasi Service Dalam Permainan Tenis Meja. *Jurnal Patriot*, 1(1), 1–43. <https://doi.org/https://doi.org/10.24036/patriot.v1i1.480>

Suwo, R. (2018). Pengaruh Kecepatan Reaksi tangan, Terhadap Kemampuan Forehand Topspin (Path Analysis Pada Atlet Tenis Meja UNSIKA Karawang 2016). *Riyadho: Jurnal Pendidikan Olahraga*, 1(1), 1–5. <https://doi.org/10.31602/rjpo.v1i1.1703>

Suwo, R. (2020). Korelasi Antara Kelincahan Dengan Topspin Tenis Meja Atlet Kota Kendari. *JUARA: Jurnal Olahraga*, 5(2), 55–65. <http://jurnal.upmk.ac.id/index.php/juara/article/download/914/486>

Syahrin, A., & Bustamam, A. (2017). Peran Guru Pendidikan Jasmani Dalam Membentuk Karakter Siswa Pada MTs Se-Banda Aceh Tahun Pelajaran 2016-2017. *Jurnal Ilmiah Mahasiswa Pendidikan Jasmani, Kesehatan dan Rekreasi*, 3(2), 76–91. <http://www.jim.unsyiah.ac.id/penjaskesrek/article/view/3276>

Syamsuddin, N., Hamdiana, & Ulfa. (2018). Kontribusi Antara Koordinasi Mata Tangan dan Kecepatan Reaksi Tangan Terhadap Pukulan Forehand dalam permainan Tenismeja Pada Siswa SMA Negeri 1 Marioriawa Kabupaten Soppeng. *Competitor: Jurnal*

*Pendidikan Kepelatihan, Fakultas Ilmu Keolahrgaan, Universitas Negeri Makassar, 10(3), 105–115. [https://doi.org/https://doi.org/10.26858/com.v10i3.13193](https://doi.org/10.26858/com.v10i3.13193)*

Syamsuddin, N., Musfira, N., & Hammado, N. (2020). Penerapan Pembelajaran Model Latihan Shadwo dalam Permainan Tenismeja di SMA Negeri 6 Kabupaten Tana Toraja. *Dedikasi*, 22(2), 221–229. <https://doi.org/10.26858/dedikasi.v22i2.16144>

Taqwim, R. I., Winarno, M. E., & Roesdiyanto, R. (2020). Pelaksanaan Pembelajaran Pendidikan Jasmani, Olahraga, dan Kesehatan. *Jurnal Pendidikan: Teori, Penelitian, dan Pengembangan*, 5(3), 110–116. <https://doi.org/10.17977/jptpp.v5i3.13303>

Taufan, J., Ardisal, A., Damri, D., & Arise, A. (2018). Pelaksanaan Pembelajaran Pendidikan Jasmani Adaptif bagi Anak dengan Hambatan Fisik dan Motorik. *Jurnal Pendidikan Kebutuhan Khusus*, 2(2), 19. <https://doi.org/10.24036/jpkk.v2i2.496>

Tumaloto, E. H. (2022). Pembelajaran Pendidikan Jasmani, Olahraga Dan Kesehatan Selama Pandemi Covid 19. *Jambura Health and Sport Journal*, 4(1), 60–68. <https://doi.org/10.37311/jhsj.v4i1.13602>

Wibowo, J. M. (2015). Hubungan Antara Kesimbangan Dinamis, Koordinasi Mata-Tangan dan Kecepatan Reaksi Tangan Dengan Keterampilan Pukulan Backhand Dalam Permainan Tenismeja Pada Siswa MAN 3 Kota Kediri Tahun 2015. *Artikel Skripsi, Universitas Nusantara PGRI Kediri*, 1–16. [http://simki.unpkediri.ac.id/mahasiswa/file\\_artikel/2015/11.1.01.09.1003.pdf](http://simki.unpkediri.ac.id/mahasiswa/file_artikel/2015/11.1.01.09.1003.pdf)

Wijayanto, A., Amiq, F., Burhaein, E., Prasetyo, D. A., Akhmad, I., Fauziah, I., Mustafa, P. S., Miftahkodin, Sonjaya, A. R., Habibie, Fepriyanto, A., Muhamram, N. A., Yuliyanik, Hidayat, T., Susilo, E. A., Lusianti, S., Nusri, A., Sukmana, A. A., Himawanto, W., ... Jati, I. (2021). Akselerasi Berpikir Ekstraordinari Merdeka Belajar Pendidikan Jasmani dan Olahraga Era Pandemi Covid-19. In M. K. Dr. Ahmad Lani, M. I. K. Dr. Abdul Aziz Hakim, S.Or., M.Or. Yulianti, S.Sos., & S. S. M. P. Muhamad Syamsul Taufik (Ed.), *Akademia Pustaka* (Cetak Pert).

Yuniartik, H., Hidayah, T., & Nasuka. (2017). Evaluasi Pembelajaran Pendidikan Jasmani Olahraga dan Kesehatan di SLB C Se-Kota Yogyakarta. *Journal of Physical Education and Sports*, 6(2), 148–156. <https://journal.unnes.ac.id/sju/index.php/jpes/article/view/17389>