Kinestetik : Jurnal Ilmiah Pendidikan Jasmani 8 (4) (2024)
Kinestetik : Jurnal Ilmiah Pendidikan Jasmani
https://ejournal.unib.ac.id/index.php/kinestetik/index
DOI : 10.33369/jk.v8i4.38386

Development Of Volleyball Learning Media Through Video Animation In Palembang Junior High School

Dimas Koeswara *[1], Meirizal Usra [2], Herri Yusfi [3]

[1,2,3]Sport Education, Faculty of Teacher Training and Education, Sriwijaya University, Palembang, Indonesia

Article Info

Article History :

Received : November 2024
Revised : December 2024
Accepted : December 2024

Keywords:

Learning Media,
Volleyball Game,
Video Animation

Abstract

This study aims to produce volleyball learning media products through animated videos at Junior Hight School 3 Palembang so that students are not bored in the learning process. This research uses research and development method. The subjects in this study amounted to 90 large-scale trial students and 30 small-scale trial students. The product produced in this study is a learning application, namely "Video animation of volleyball learning". The results of this study regarding the feasibility of products assessed by material experts received a percentage score of 87% at stage 1 validation and 94% at stage 2 with a feasible category. Then validation by media experts obtained a percentage score of 93% at stage 1 validation and 95% at stage 2 with a decent category. At the small-scale trial stage the product received an assessment of 87.6% categorized as "Feasible" and at the small-scale trial stage the product received an assessment of 97.4% and categorized as "Feasible". Based on the validation and trial of the product "Video animation of volleyball learning". shows that it is feasible to use in learning and suitable for students. This animated video also helps teachers in delivering material easily and fun so that students are interested in participating in learning.

*Corresponding email : dimask766@gmail.com
ISSN 2685-6514 (Online)
ISSN 2477-331X (Print)

INTRODUCTION

Physical education is a lesson that involves body movement and physical activities taught at the elementary to high school education levels PJOK is an important part of the 2013 curriculum which plays an important role in achieving national education goals (Hartati et al., 2019). PJOK has an irreplaceable influence on moral character formation, intellectual development,aesthetic achievement, and a healthy lifestyle (Tampubolon et al., 2024). According to (Iyakrus, 2019), in the learning process volleyball must be equipped with adequate facilities and infrastructure so that the learning process can be achieved. One of the learning facilities and infrastructure in the classroom is learning media.(Vai et al., 2021). According to (Wijaya, 2017) Physical education and health are activities that prioritize movement and physical activity of the body which are taught at the elementary school , junior high school to senior high school levels.

According to (Aprizal, 2021) Learning is a process of student interaction with teachers and learning resources in a learning environment, both formal and non-formal education environments. Another opinion regarding learning according to (Maghfiroh & Shofia Suryana, 2021) suggests that independent learning activities will make students much more active and not always dependent on the teacher.

Learning media is an intermediary for delivering material used by teachers to provide material to students. According to (Tafonao, 2018), learning media is used to deliver learning materials to students with the aim of stimulating their interests, thoughts, and feelings. With the learning media, students can more easily understand the material delivered by the teacher and make it easier for the teacher in the teaching process. According to (Hasanah et al., 2021) learning media is an alternative or tool that can be used to understand learning abilities and can encourage students in the learning process.

The physical education learning media used in Junior Hight School Negeri 3 Palembang uses written media in the form of printed books, lecture methods, and field practice. Physical education learning at school is often less interesting because teachers focus more on practice and only use printed book media that students already have. Students sometimes do not pay attention to the explanation delivered by the teacher in class, this can hinder the learning process of penjaskes. In fact, effective learning should cover three important aspects, namely affective, cognitive, and psychomotor. Students tend to spend time watching interesting things. This can be an opportunity for teachers to develop video-based learning media that is practical and attracts students' attention. One of the technologies that can be utilized in education is animated learning videos.

According to (Syofian & Gazali, 2021) The development of information technology has improved educational

skills in supporting physical education learning in the era of globalization. The development of the world of education is now starting to be seen, in an era that is very sophisticated with the presence of technology, it currently requires educators to be ready to face the millennial generation, namely the generation where they are faster than what is taught regarding the use of technology (Ari Mecky Prawira Ketaren et al., 2023). Physical Education, Sports and Health is one of the subjects that can utilize technology in the learning process (Kartika et al., 2022). The development of animated videos as visual media aims to attract students' interest and focus on the material presented by the teacher. The advantages of animated learning videos on volleyball material lie in ease of use and practical access. Learners can save videos offline to study anytime and anywhere. The learning video presents a brief and clear explanation through a combination of writing and voice narration, making it easier for students to understand the material. Therefore, learning media based on learning videos needs to be developed at Junior Hight School Negeri 3 Palembang to support the learning process in the classroom. This study aims to develop animated video-based volleyball learning media at Junior Hight School Negeri 3 Palembang.

Volleyball is a team sport consisting of 6 players with the aim of killing the ball in the opponent's territory (Destriani et al., 2021). (Abizar et al., 2021) states that volleyball is a team sport played by six people in each team. Volleyball is one of the sports that is widely favored by all ages (Hartati et al., 2018). This game will run well if each player has at least mastered the basic techniques of playing volleyball. As for other opinions, volleyball is a sport played by two teams facing each other, using the ball as the main tool. According to (Pratiwi et al., 2020) expressed his opinion that volleyball is one of the sports in Indonesia which is in schools, agencies, government, private, universities and other environments with very rapid development. According to (Keswando et al., 2022) Volleyball is a team sport, where players must work together and help each other to become a compact team.

Some of the above opinions can be concluded that volleyball is a game played by two teams with six players and a field separated by a net and aims to drop the ball into the enemy's field.

Learning media is one of the teacher's means so that children can like and understand what the teacher conveys in providing learning material (Wulandari et al., 2023). Hamalik in (Wahyuningtyas et al., 2022) states that the use of teaching media in the teaching and learning process can foster new desires and interests, and increase student motivation in teaching and learning activities. According to Wiratmojo and Sasonohardjo in (Yange & Prihanto, 2018). (Fadilah & Kanya, 2023) Learning media is a key element in the teaching and learning process. The ability to master learning media is part of pedagogical competence, which includes the teacher's

ability to manage and implement learning, evaluate, and develop students' potential to actualize their various talents and abilities. One of the media that can be used in learning is audio-visual media (Harahap et al., 2019). This media facilitates understanding of concepts and student absorption, and helps teachers present material in a directed, systematic, and interesting manner, so that learning objectives can be achieved (Siwi & Puspaningtyas, 2020). Audio-visual media can be enjoyed through the senses of sight and hearing, and its use in learning has a very significant impact on students (Susila, 2021).

The results of the needs analysis on volleyball learning conducted by researchers at school through the interview method to students show that the media used at school are still conventional methods such as power points and lecture methods, this shows that the teacher's ability to develop media must be intensified so that the media used varies and attracts students' interest, one of which is animated video learning media which researchers want to develop to make the learning process more interesting. “Researchers want to develop animated video-based volleyball learning media where previously the media used conventional media such as power point”.

Participants

Sampling Procedures

The samples in this study were material experts and media experts as well as students to conduct product trial tests.Material experts assess aspects in the form of feasibility of the content of learning animation videos on volleyball material to determine the quality of the material in the video. Media experts assess several aspects including aspects, namely: design, image video color, images on video, size and type of writing, writing color, and layout of images and writing and small-scale trial samples with a sample size of 30 students and large-scale trials with 90 students. In this collection, students will later assess the products that will be tested by students. This research was conducted at Junior Higt School Negeri 3 Palembang.

Data collection instruments

In this study, the instrument used in data collection is to use a questionnaire or questionnaire and documentation. data collection by submitting several questions or written statements to respondents to answer them. The questionnaire or questionnaire was given to students, lecturers in the field of volleyball, and media experts. The questionnaire aims to obtain data on the feasibility level of the learning media developed by the researcher. The assessment is used by researchers as a basis for making product revisions.

Procedures

This research uses the Research and Development (R&D) method, which is a research method in which the research conducts a research to produce a certain product which will be developed and tested for the effectiveness of the product.

The research and development steps taken are: 1) Identification of

Potential and Problems, 2) Material Collection, 3) Product Design, 4) Determination of Design, 5) Self Evaluation of Feasibility, 6) Product Manufacturing, 7) Product Validation, 8) Product Revision, 9) Product Trial, and 10) Final Product.

Design or Data Analysis

Data analysis according to (Arikunto, 2013) is the next stage of data processing. After all the data is collected, the data will be grouped into 2 groups, namely qualitative and quantitative data. Qualitative data is obtained through expert validation and test activities in the form of input, responses and criticisms and suggestions. Quantitative data which is data obtained through assessments, collected through questionnaires or product trial questionnaires, during trial activities, is analyzed by descriptive quantitative analysis.

The feasibility calculation formula according to (Sugiyono, 2017) is as follows:

Formula : F/Nx100

The results of the data calculation are then made in the form of a percentage and multiplied by 100%. After the percentage is obtained by the formula, then the feasibility of android learning media in this development research is classified into four categories of feasibility using the following scale:

Table 1. Category Percentage of feasibility

No	Percentage Score	Category of feasibility
1	<40%	Not Good/Not Feasible
2	45%-55%	Less Good/Less Feasible
3	56%-75%	Quite Good / Quite Feasible
4	76%-100%	Good/Feasible

RESULT

At the time of the interview regarding the need for the development of animated video-based volleyball learning media, all parties at the school agreed and allowed to carry out research and development of learning media, because the school at Junior Hight School Negeri 3 Palembang allows students to bring cellphones to school. The following are the results of the needs analysis at the school

Table 2. Needs analysis data

No	Respondents	Total	Answers	
			Yes	No
1.	Physical education teacher	4	34	6
3.	Students	6	46	14
	Total	10	80	20
	Percentage		80%	20%

In the following table, it is explained that of all respondents who

gave their responses, the answers "Yes" were 80% and "No" were 20% on the need for the development of animated video-based learning media.

Data The first stage of validation by material experts was carried out by providing an assessment questionnaire for the volleyball learning animation video developed according to the existing material. The following are the results of the assessment of the first stage material validation team:

Table 3. Material Validation 1

No	Aspects assessed	Score obtained	Max Score	Percentage (%)	Category
1.	Mentoring Material Design	36	40	90	Worth
2.	Linguistics	12	15	80	Worth
Total		48	55	87	Worth

In the first stage validation assessment, the percentage obtained was 87%. This indicates that, based on the material evaluation, this product is already considered "Feasible" in terms of learning content. However, keep in mind that the explanation and display of the material should be made more interesting and creative.

The second stage of validation by material experts was carried out based on the assessment results from the previous stage. The assessment method is the same as before, namely by providing a questionnaire to evaluate the volleyball learning animation video developed according to the existing material. The following are the results of the assessment of the material validation team:

Table 4. Material Validation 2

No	Aspects assessed	Score obtained	Max Score	Percentage (%)	Category
1.	Mentoring Material Design	38	40	95	Worth
2.	Linguistics	14	15	87	Worth
Total		52	55	94	

In the second stage validation assessment, the percentage obtained was 94% of the maximum score. This shows that, according to the material validator, this product has been considered "Feasible" in terms of learning content and can be tested on students.

The next data is the result of validation with media experts which aims to test the feasibility of the product. The first stage validation by the media was carried out by providing an assessment

questionnaire on the appearance of the animated video-based volleyball learning media that had been made. After the initial product is assessed, media experts will provide input and suggestions, both in writing and verbally, through the questionnaire provided. Furthermore, researchers and media experts will discuss the quality of the animated video-based volleyball learning media. The following are the assessment results from the media validation team:

Table 5. Media Validation

No	Aspects assessed	Score obtained	Max Score	Percentage (%)	Category
1.	physical	7	8	87,5	Worth
2.	Design	50	52	96	Worth
3.	Usage	17	20	85	Worth
Total		75	80	93	Worth

In the first stage validation assessment, the percentage obtained was 93% of the maximum score. This indicates that, according to the media validator, this product is considered "Appropriate" for students, but cannot be tested yet. The input given is in the form of notes to make some changes to the appearance and design of animated video-based volleyball learning media to make it more suitable for use and needs to be revised.

The second stage of validation by media experts was carried out based on the assessment results from the previous stage. The assessment method is the same as before, namely by providing a questionnaire to evaluate the volleyball learning animation video developed in accordance with existing media. The following are the assessment results from the media validation team:

Table 6. Media Validation

No	Aspects assessed	Score obtained	Max Score	Percentage (%)	Category
1.	physical	7	8	87,5	Worth
2.	Design	50	52	96	Worth
3.	Usage	19	20	95	Worth
Total		76	80	95	

This second stage media expert assessment obtained a percentage score of 95% of the maximum score. Thus, according to the media expert, the animated video-based volleyball learning media is "feasible" to be tested.

After validation is carried out and the product is declared suitable for use, the next stage is product trials. product trials are divided into two stages, namely small group and large group trials. The product test was conducted to students of Junior Hight School Negeri 3 Palembang. The number of students who conducted small-scale product trials and filled out

questionnaires was 30 people. Data collection was carried out together in the classroom. How to collect data by using a questionnaire. The following data results were obtained.

Table 7. Small-scale product assessment results

No	Aspects assessed	Score obtained	Max Score	Percentage (%)	Category
1.	view	701	840	87,8	Worth
2.	Material	940	1080	87,2	Worth
3.	Readability	418	480	88,1	Worth
	Total	2047	2400	87,6	Worth

The results of the small-scale test of animated video-based volleyball learning media products obtained a score of 87.8% which included “Feasible” for the assessment aspect in terms of appearance, a score of 87.2% which included “Feasible” for the assessment aspect of the material aspect, and a score of 88.1% which was included in the “Feasible” category for the readability aspect. Evaluation of animated video-based volleyball learning media products from all aspects during the trial period received a total score of 87.6% and was classified as “Feasible.”.

Large-scale product trials were conducted Junior Hight School Negeri 3 Palembang. The number of students who conducted small-scale product trials and filled out questionnaires was 90 grade 7 students. Data collection was carried out together in the classroom. How to collect data by using a questionnaire. The following data results were obtained

Table 8. Large-scale product assessment results

No	Aspects assessed	Score obtained	Max Score	Percentage (%)	Category
1.	view	2409	2520	95,5	Worth
2.	Material	3056	3240	94,3	Worth
3.	Readability	1261	1440	87,5	Worth
	Total	6263	7200	93,4	Worth

The results of testing the effectiveness of the product can be done by giving student worksheets) to students with volleyball learning material. Learning outcomes are based on the results they achieve in completing the questions that are done. The value reference used must be based on minimum completness criteria to determine the completeness of learning. Learning is said to be successful if 80% of students achieve a complete score. The following are the results of the effectiveness of product testing before and after use.

The results of learning data during learning before using animated video learning media on volleyball learning material tested on 90 grade 7 students obtained the following results: of the total 90 students only 27% were complete or

25 students who managed to reach the minimum completeness criteria target and 73% or 65 other students had not yet reached the minimum completeness criteria.

Table 9. Small-scale Learning Outcomes (Pretest)

Valeu	Total	Percentage	Categories of provisions	completeness	KKM
100	7	23%	Completed	67 %	75
90	6	26%	Completed		
80	7	23%	Completed		
70	2	6%	not complete	33 %	
60	3	8%	not complete		
50	3	8%	not complete		
40	2	6%	not complete		
30	0	0%	not complete		
Total	30	100%			

The results of learning data on small-scale trials when learning before using animated video learning media on volleyball learning material tested on 30 grade 8 students obtained the following results: of the total 30 students 67% are complete or 20 students who have successfully reached the minimum completeness criteriatarget and 33% or 10 other students have not yet reached the minimum completeness criteria.

Table 10. Small-scale Learning Outcomes (Postest)

Valeu	Total	Percentage	Categories of provisions	completeness	KKM
100	11	36%	Completed	86 %	75
90	6	20%	Completed		
80	9	34%	Completed		
70	4	10%	not complete	14 %	
60	0	0%	not complete		
50	0	0%	not complete		
40	0	0%	not complete		
30	0	0%	not complete		
Total	30	100%			

The results of learning data on small-scale trials when learning after using animated video learning media on volleyball learning material tested on 30 grade 8 students obtained the following results: of the total 30 students only 86% are complete or 26 students who have successfully reached the minimum completeness criteria target and 14% or 4 other students have not reached the minimum completeness criteria.

The results of the data obtained state that the use of animated video learning media on scale volleyball learning material is very effective when used during learning because it has increased by 36% in small-scale trials.

Table 11. Large-scale Learning Outcomes (Pretest)

Valeu	Total	Percentage	Categories of provisions	completeness	KKM
100	13	14	Completed		75

90	13	14	Completed	44
80	14	16	Completed	%
70	21	23	not complete	
60	14	16	not complete	56
50	15	17	not complete	%
40	0		not complete	
30	0		not complete	
Total	90	100%		

The results of learning data during learning before using animated video learning media on volleyball learning material tested on 90 grade 8 students obtained the following results: of the total 90 students only 44% were complete or 40 students who managed to reach the minimum completeness criteria target and 56% or 50 other students had not yet reached the minimum completeness criteria.

Table 12. Large-scale Learning Outcomes (Postest)

Valeu	**Total**	**Percentage**	**Categories of provisions**	**completeness**	**KKM**
100	23	25	Completed	81	
90	28	31	Completed	%	
80	22	24	Completed		
70	5	6	not complete		75
60	10	11	not complete	19	
50	2	3	not complete	%	
40	0	0	not complete		
30	0	0	not complete		
Total	90	100%			

The results of learning data during learning after using animated video learning media on volleyball learning material tested on 90 grade 8 students obtained the following results: of the total 90 students only 81% were complete or 73 students who managed to reach the minimum completeness criteria target and 19% or 17 other students had not yet reached the minimum completeness criteria.

The results of the data obtained state that the use of animated video learning media on volleyball learning material is very effective when used during learning because it has increased by 37%.

The results of the data obtained state that the use of animated video learning media on volleyball learning material is very effective when used during learning.

Table 13. Small- Scale Data t-Test: Paired Two Sample for Means

	Variable 1	*Variable 2*
Mean	13.13333	16.66667
Variance	12.18851	16.91954
Observations	30	30
Pearson Correlation	0.605909	
Hypothesized Mean Difference	0	
df	29	
t Stat	-5.65647	
P(T<=t) one-tail	2.05E-06	
t Critical one-tail	1.699127	
P(T<=t) two-tail	4.1E-06	
t Critical two-tail	2.04523	

Based on the calculation of the data obtained from the results of the upper passing test test, the Pearson Correlation value is 0.6. to determine whether there is an influence or not, the value obtained must be> 0.05 then it can be stated that there is an influence, but if the value <0.05 then there is no influence. From the value obtained is 0.6>0.05, meaning that there is an influence on the upper passing test on a small scale.

Table 13. Large- Scale Data t-Test: Paired Two Sample for Means

	Variable 1	*Variable 2*
Mean	13.6	16.5
Variance	6.107865	6.207865
Observations	90	90
Pearson Correlation	0.937902	
Hypothesized Mean Difference	0	
df	89	
t Stat	-31.4515	
P(T<=t) one-tail	2.73E-50	
t Critical one-tail	1.662155	
P(T<=t) two-tail	5.46E-50	
t Critical two-tail	1.986979	

Based on the calculation of the data obtained from the results of the upper passing test test, the Pearson Correlation value is 0.9. to determine whether there is an influence or not, the value obtained must be> 0.05 then it can be stated that there is an influence, but if the value <0.05 then there is no influence. From the value obtained is 0.9>0.05, meaning that there is an influence on the upper passing test on a large scale.

DISCUSSION

This research was conducted based on a needs analysis at Junior High School Negeri 3 Palembang which showed that PJOK teachers rarely use interesting learning media, such as learning videos, so that students find it difficult to understand the theory. Researchers developed animated video-based learning media for volleyball game material. This media contains brief and clear material, equipped with pictures, animated videos, as well as explanations of techniques, rules, and the history of volleyball. Videos can be accessed online or offline.

The video creation process uses applications such as Canva, CapCut, and KineMaster, with the researcher as the narrator. The videos included engaging visual elements, including animation, to increase students' interest in learning, in line with the observation that junior high school students generally like anime. Once completed, the videos were validated by experts to ensure feasibility before being piloted. Video is one of the most popular forms of media. Every moment is captured on video and uploaded to social networking sites such as YouTube, Instagram, or WhatsApp. Uploaded videos have a specific purpose. According to (Luh & Ekayani, 2021) video is one of the audio visual media used as entertainment media and communication media in development and to explain or convey messages. The audio element allows students to receive learning messages through hearing, while the visual element allows the creation of learning messages through visualization (Fitria, 2014).

At the pilot stage, the video was shared via YouTube and projected in the classroom. Students were asked to assess the video through a questionnaire covering aspects of appearance, material, and readability. The results show that students are more interested in learning using interesting media than reading textbooks. This research emphasizes the importance of creative learning media innovation, without ignoring the

important role of books as a source of knowledge. From the analysis data obtained from the distribution of questionnaires, several points were obtained that showed students in the application, including that students were more interested in learning using interesting media such as learning videos than they had to read material in their study packets. The use of media in learning that is creative and interesting must remain and must also continue to be improved, especially in this era, but do not forget also our obligation to always be diligent in reading books because whatever we get from this knowledge is based on the books we have read. Books are a source that is a window to knowledge. It's just that we as humans must be able to make creative ideas in making teaching media that attracts the learning interests of our students.

CONCLUSION

Based on the results of the needs analysis conducted with the schhol regarding the importance of developing learning media, Research and Development (R&D) research concluded that animated video-based volleyball learning media was needed to help Junior Hight School Negeri 3 Palembang students in attracting students' attention to volleyball learning material. This product has gone through two stages of validation by experts, and the evaluation results along with revisions are made to ensure the final product is truly practical and as needed. After the development stage, the product was tested and received the "feasible" category in both evaluation stages.

REFERENCES

Abizar, M., Sapulete, J. J., & Fauzi, M. S. (2021). Pengembangan Model Permainan Bola Voli "Voli Target (Vorget)" Dalam Pembelajaran Penjasorkes Pada Siswa Kelas VIII SMP Negeri 3 Kuaro. *Borneo Physical Education Journal*, *2*(2), 38–49. https://doi.org/10.30872/bpej.v2i2.699

Aprizal, P. (2021). *Jurnal Pendidikan Guru Jurnal Pendidikan Guru*. *2*(4), 33–42.

Ari Mecky Prawira Ketaren, Agung Sunarno, & Nimrot Manalu. (2023). Development of Interactive Learning Multimedia to Improve the Result of Underhand Passing and Underserving Skill in Volleyball Games of IV Grade in SD Negeri 106790 Sei Mencirim. *Kinestetik : Jurnal Ilmiah Pendidikan Jasmani*, *7*(2), 472–483. https://doi.org/10.33369/jk.v7i2.27958

Destriani, Yusfi, H., Aryanti, S., Resah Pratama, R., Indra Bayu, W., & Asrul, M. (2021). Sosialisasi dan pendampingan penggunaan D'Volleyball Learning Application bagi guru pendidikan jasmani. *Jurnal Pengabdian Kepada Masyarakat*, *1*(2), 161–169. http://journal2.um.ac.id/index.php/promotif

Fadilah, A., & Kanya, N. A. (2023). *Pengertian Media , Tujuan , Fungsi , Manfaat dan Urgensi Media Pembelajaran*. *1*(2). https://doi.org/10.55606/jsr.v1i2.938

Harahap, M. A. M., Harahap, N. A., &

Irmayantil. (2019). Pengaruh Media Audio Visual Terhadap Kemampuan Pemahaman Konsep Siswa . *Jomas*, *1*(1), 9–11. %5C

Hartati, H., Destriana, D., Aryanti, S., & Destriani, D. (2018). *Macro Flash-based Multimediafor Improvement The Learning Result of Volleyball Game*. *262*(Ictte), 233–236. https://doi.org/10.2991/ictte-18.2018.41

Hartati, H., Destriana, D., & Junior, M. (2019). Latihan Dot Drill One Foot Terhadap Kelincahan Tendangan Sabit Dalam Ekstrakurikuler Pencak Silat. *Altius: Jurnal Ilmu Olahraga Dan Kesehatan*, *8*(1). https://doi.org/10.36706/altius.v8i1.8486

Hasanah, U., Safitri, I., Rukiah, R., & Nasution, M. (2021). Menganalisis Perkembangan Media Pembelajaran Matematika Terhadap Hasil Belajar Berbasis Game. *Indonesian Journal of Intellectual Publication*, *1*(3), 204–211. https://doi.org/10.51577/ijipublication.v1i3.125

Iyakrus, I. (2019). Pendidikan Jasmani, Olahraga Dan Prestasi. *Altius : Jurnal Ilmu Olahraga Dan Kesehatan*, *7*(2). https://doi.org/10.36706/altius.v7i2.8110

Kartika, M., Iyakrus, I., Bayu, W. I., Usra, M., Syafaruddin, S., & Yusfi, H. (2022). Pengembangan media pembelajaran pendidikan jasmani berbasis android pada materi pencak silat. *Bravo's : Jurnal Program Studi Pendidikan Jasmani Dan Kesehatan*, *10*(4), 274. https://doi.org/10.32682/bravos.v10i4.2779

Keswando, Y., Septi Sistiasih, V., & Marsudiyanto, T. (2022). Survei Keterampilan Teknik Dasar Atlet Bola Voli. *Jurnal Porkes*, *5*(1), 168–177. https://doi.org/10.29408/porkes.v5i1.4996

Maghfiroh, & Shofia Suryana, D. (2021). Pembelajaran di Pendidikan Anak Usia Dini. *Jurnal Pendidikan Tambusai*, *05*(01), 1561. .

Pratiwi, E., Barikah, A., & Asri, N. (2020). Perbandingan Kebugaran Jasmani Atlet Bolavoli Indoor dan Bolavoli Pasir PBVSI Provinsi Kalimantan Selatan. *Jurnal Olympia*, *2*(1), 1–7. https://doi.org/10.33557/jurnalolympia.v2i1.881

Siwi, F., & Puspaningtyas, N. D. (2020). Penerapan Media Pembembelajaran Kognitif Dalam Materi Persamaan Garis Lurus Menggunakan Video Di Era 4.0. *Jurnal Ilmiah Matematika Realistik*, *1*(1), 7–10. https://doi.org/10.33365/ji-mr.v1i1.251

Susila, L. (2021). *Pengaruh Metode Latihan High Intensity Interval Training (HIIT) dalam Meningkatkan Power Otot Tungkai dan kelincahan pada Permainan Bola Voli*. *2*(2014), 230–238.

Syofian, M., & Gazali, N. (2021). *Journal of Sport Education (JOPE)*. *3*, 93–102.

Tafonao, T. (2018). Peranan Media Pembelajaran Dalam Meningkatkan Minat Belajar Mahasiswa. *Jurnal Komunikasi Pendidikan*, *2*(2), 103. https://doi.org/10.32585/jkp.v2i2.113

Tampubolon, K. B., Hartati, & Destriani. (2024). Implementation of Physical Test Results Measurement Using a Volleyball Sports Web Application. *Journal of Physi-Cal Education*, *13*(1), 125–131. http://journal.unnes.ac.id/sju/index.php/peshr

Vai, A., Jawak, J. F., Wijayanti, N. P. N., & Gusdernawati, A. (2021).

Pengembangan media pembelajaran teknik passing bawah menggunakan media gambar dalam pada permainan bola voli di smp santa veronika. *Journal of Sport Education (JOPE)*, *3*(2), 127. https://doi.org/10.31258/jope.3.2.127-136

Wahyuningtyas, N., Rohmah Adi, K., Ratnawati, N., Gebryna, M., Nantana, R., Sari, N. Y., Andini, F., & Rosita, D. (2022). Pelatihan Pengembangan Media 4.0 Untuk Meningkatkan Inovasi Pembelajaran Jarak Jauh. *Jurnal Widya Laksana*, *11*(1), 138–146. https://doi.org/https://doi.org/10.23887/jwl.v11i1.38772

WIJAYA, F. (2017). Ketersediaan Sarana Dan Prasarana Pembelajaran Pendidikan Jasmani, Olahraga Dan Kesehatan Di Sma Negeri Kabupaten Sumenep. *Jurnal Pendidikan Olahraga Dan Kesehatan*, *5*(2), 232–235.

Wulandari, A. P., Salsabila, A. A., Cahyani, K., & Shofiah, T. (2023). *Pentingnya Media Pembelajaran dalam Proses Belajar Mengajar*. *05*(02), 3928–3936. https://doi.org/https://doi.org/10.31004/joe.v5i2.1074

Yange, N. A. P., & Prihanto, J. B. (2018). Hubungan Penggunaan Teknologi Informasi Dan Keaktifan Olahraga Terhadap Aktivitas Fisik Siswa Kelas X Sma Negeri 12 Surabaya. *Jurnal Pendidikan Olahraga Dan Kesehatan*, *6*(2), 246–249. https://doi.org/https://ejournal.unesa.ac.id/index.php/jurnal-pendidikan-jasmani/article/view/23316