

## **Development of Mobile Learning Media for Physical Education on Volleyball Games at Junior High School in Lubuklinggau**

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**Abstract:** The purpose of this study is to develop learning products in the form of mobile learning media development of physical education learning material for volleyball games at the junior high school level in Lubuklinggau motivated by the lack of maximum media development applied to volleyball game material at the junior high school level in Lubuklinggau, so that there needs to be innovation in the use of learning media to create a pleasant learning atmosphere for students when learning physical education, especially volleyball game material. This study aims to determine that the material and learning media for mobile learning physical education material for volleyball games can be applied in junior high schools in Lubuklinggau. This research is research with the development method (R&D), the instruments in this study used questionnaires and interviews. The results of validation by linguists on mobile learning media for physical education of volleyball game material with a percentage of 92.85% including criteria Very Good. The results of validation by material experts on mobile learning media for physical education of volleyball game material with a percentage of 96.42% including criteria Very Good. The results of validation by media experts obtained an overall score with a percentage of 91.25% including the criteria Very Good. The results of small group student responses were obtained with a percentage of 90.5% including the criteria Very Good. While the results of large group responses were obtained with a percentage of 84.44% including the criteria Good.

**Keywords:** Learning Media, Mobile Learning, Volleyball

### **A. Introduction**

Sports are a popular physical activity for people of all ages, including children and adolescents, regardless of gender (Abidin et al, 2020). Nowadays, there is an increasing public enthusiasm for sports, as evidenced by the growing number of people engaging in sports activities in the morning and afternoon, especially on their days off. Sports, particularly sports achievements, are fields that must be considered in the current era of growth, as they have the potential to enhance and improve national pride at the international level. Quality The sport of volleyball was known in Indonesia starting in 1928. So since the Dutch colonisation this game has been

known. Volleyball is a team sport in which two teams of six players are separated by a net (Putra et al, 2018). There is also beach volleyball, which consists of two-player teams and is played on sand.

The FIVB (International Volleyball Federation) is the global governing body responsible for all forms of volleyball. In Indonesia, the governing body is the Indonesian Volleyball Federation, commonly referred to as PBVSI (Persatuan Bola Voli Seluruh Indonesia), which oversees both indoor and beach volleyball. Volleyball enjoys immense popularity in Indonesia (Lubis & Saputra, 2019). The spread of volleyball to Indonesia was brought by Dutch teachers who taught in advanced schools, at that time HBS and AMS, and at that time the volleyball game had not yet found a place in society Winarto (2013). The arrival of the Japanese army to Indonesia, gave a big contribution to the development of volleyball in Indonesia. after Indonesia's independence, many former members of the Dutch army joined the Indonesian republic army, played volleyball and had a big contribution in developing the game of volleyball. So that the Indonesian national army contributed to the socialisation of volleyball in Indonesia.

Exercise is an activity that is conducted systematically through training and is a continuous process (Nasution & Muhammad, 2019). In volleyball, players must possess exceptional physical abilities to execute well-coordinated sets and undergo a well-structured physical training process to master the specific physical demands of the sport. This, in turn, has a positive impact on both mental and physical health, directly influencing playing techniques. Volleyball players require strength in their arm and leg muscles, as well as endurance in muscles such as the abdomen, arms, and three shoulder muscles. Speed, flexibility, and power, including leg and arm muscles, are also crucial, as well as overall endurance, which encompasses the heart and lungs. Additionally, good coordination of motion is essential (Abidin et al., 2020). Sports involve multiple factors that influence a team's success in winning, such as individual abilities in skill mastery, technical expertise, and physical endurance (Handhin, et al., 2018).

The proficiency in fundamental movement techniques is crucial as it determines the overall execution of skills. Each sport requires the precise training, mastery, and efficient implementation of its fundamental movements. In the context of volleyball, key skills that need to be mastered include serving, passing, smashing, and blocking (Arte, et al, 2020). To be able to play a volleyball game for young children is not easy. It takes time and a long process so that children's movement skills in playing volleyball can be mastered properly. This is because volleyball is a game that requires 3 aspects including speed, flexibility, and agility for the player himself. Volleyball is one of the learning materials included in physical education subjects. Physical education is a process of a person as an individual or member of society

that is carried out consciously and systematically through various activities in order to gain physical abilities and skills, growth, intelligence, and character building.

The process of achieving optimal learning success requires synchronisation between the three main aspects of learning, namely teachers, students and learning media. This is in line with the statement of Handayani & Rahayu (2020) which states that learning media is one of the important elements in the learning process because it contains information and learning messages. As mentioned by Abi et al, (2020), Learning media is defined as an intermediary or introduction to the message source, which aims to stimulate thoughts, feelings, attention, and willingness in the recipient. Its primary function is to encourage active involvement in the learning process. Istiqlal (2017), explains that learning media is anything that can convey or distribute information effectively and efficiently in learning activities. As stated by Musfiqon (2012), learning media can be defined as a tool, both physical and non-physical, used by teachers to convey instructional material to students in a more effective and efficient manner. The use of learning media is expected to result in quicker acceptance of learning materials by students and to attract their interest in learning.

According to Dhawan (2020), online learning involves learning experiences in a synchronous or asynchronous environment using different devices (e.g., mobile phones, laptops, etc.) with internet access. With online learning, students can be anywhere (independently) to learn and interact with instructors and students (Williams-Pierce, 2016). Online learning is creating learning by using technology in the form of media such as the internet and other media in accessing learning to generate interaction between learners, and provide support during the learning process as an effort to gain, form knowledge and build a pleasant learning experience. According to Dewi (2020), online learning is the use of internet networks in the learning process. With online learning students have the flexibility of learning time, can learn anytime and anywhere. Students can interact with teachers using several applications such as classrooms, video conferences, telephone or live chat, zoom or through whatsapp groups. According to Irwanto & Jayla, (2020), the online learning model can be published in physical education using the schoology and vlog portal methods. In other words, this method has a video application, which can be used to demonstrate movements in the psychomotor domain (practical). Dupri (2020) said online learning succeeded in fostering satisfaction and motivation in learning. And it is proven because students give a positive response to volleyball online learning so that students become interested and motivated to learn harder.

This learning is an educational innovation to answer the challenge of the availability of varied learning resources. As a solution to cover the shortcomings of a less flexible learning system, learning media in the form of mobile learning is one of the

solutions. The learning application on this gadget has several advantages including as edutainment media, which can combine educational elements and entertainment elements, flexible to carry everywhere because it is installed on the device used by students in learning that is carried out online like during this pandemic, practical because it only requires a gadget to run it, efficient because it does not spend a lot of time running the application. With the development of Science and Technology (IPTEK), it provides its own challenges for education graduates, especially Sports education to create learning media that can improve the quality of education. Every student in junior high school already has a smartphone that is commonly used for online/distance learning. With technological advances, it makes it easier for teachers to create learning media that is practical and can be used during face-to-face learning and online learning.

The operating system of mobile learning-based learning media is in accordance with scientific procedures so that students are easier to understand a concept in the process of learning activities. The needs analysis conducted at the Lubuklinggau junior high school based on the results of observations made by researchers of Lubuklinggau junior high school teachers in class VII, the problems obtained are a) During the learning process still using teaching materials in the form of teacher books whose concepts are still very general such as less interesting learning, lack of teaching materials that will still be less relevant to the competencies needed, b) There is no learning media in the form of mobile learning physical education volleyball game material to assist students in learning process activities anywhere and anytime, especially during a pandemic where all learning activities are processed using gadgets/mobile phones and c) There are still students who have difficulty learning because learning is monotonous and tends to be boring. Junior high school in Lubuklinggau in class VII in the teaching and learning process the teacher uses a direct learning model so that students tend to be passive and only certain students actively ask and answer.

Then for inadequate learning facilities and media is also one of the obstacles to achieving maximum learning outcomes. Therefore, the development of independent learning media in the form of mobile learning-based learning media. The development of mobile learning-based learning media was designed because learning material or theory during PE lessons tends to be boring and the delivery of material is not so optimal during online learning so that the delivery of material becomes less than optimal. In addition, mobile learning-based learning media has never been developed as literature. Learning using mobile learning-based learning media requires students to be active in the learning process so that they can obtain information based on direct experience. Based on the description above, the researcher is interested in raising the title, namely "Development of mobile learning

media for physical education on volleyball games at the junior high school in Lubuklinggau”.

## **B. Methods**

This research style is a development research that will produce a product. The stages of this research process are referred to as stages consisting of a research finding that is closely related to the developed product, and the developed product will be tested and revised to correct the deficiencies found in the testing stage. This research is used to design the development of mobile learning media for physical education of volleyball game material at the smp level in lubuklinggau city using the Borg and Gall research approach. In this study, the research refers to the Research and Development (R & D) development model from Borg and Gall, learning media development research is a process used to develop and validate products. In this study, researchers only adopted 7 stages of development research from Borg and Gall based on the needs of researchers, namely: 1) research and information collecting; 2) planning; 3) development of the preliminary form of product; 4) preliminary field testing; 5) main product revision; 6) main field testing; 7) operational product revision. The results of development research are not only the development of an existing product but also to find knowledge or answers to practical problems. This research is directed at developing products that are appropriate for junior high schools. The borg and gall model was chosen as the development method with the suitability of the nature of the research to be carried out.

## **C. Results and Discussion**

### Results of Linguist Validation

Language validation was conducted to see the grammar used by the author in creating mobile learning media. The following are the aspects validated by the linguist validator as well as the assessment and suggestions given to the author, which can be seen in the following table. Language validation was conducted to see the grammar used by the author in creating mobile learning media. The following are the aspects validated by the linguist validator as well as the assessment and suggestions given to the author, which can be seen in the following table.

**Table 1. Results of Analysis of Linguist Validation**

Subject of research	Assessment Indicator			
	Language use	Language feasibility	Eligibility presentation	Eligibility criteria
Linguist	18	8	92,85%	Very good

Table 1. shows the results that the feasibility of language in mobile learning media is good by getting a percentage of 92.85% good category or “valid” from the validator. The language used in mobile learning media on learning volleyball games is in accordance with the suitability of language, quality of content and objectives, instructional quality. In addition to these data, there are several suggestions for media improvement from the material side. Based on the assessment of the material expert, the product is feasible to be tested with revisions according to the suggestions.

Material validation is carried out to see the completeness of the content and so on used by the author in making material on interactive learning applications. The following aspects are validated by the validator and the results given by the material expert validator can be seen in the following table:

**Table 2. Material Expert Validation Analysis Results**

Subject of research	Assessment Indicator				
	Compatibility	Quality and Goals	Instructional Quality	Percentage Criteria	Percentage Criteria
Material Expert	15	33	33	96,42%	Very good

Table 2. shows the results of the material in the mobile learning media are good by getting 96.42% very good category or “valid” from the material and media expert validator Mobile learning on learning volleyball games. The explanation above shows that all aspects of material feasibility have reached validity for each aspect and indicator. One of them is the suitability of the material in the application with KD (Basic Competencies).

Media validation is conducted to determine the feasibility of the mobile learning media that has been developed. Validators provide input and suggestions related to image quality, placement of inappropriate buttons and so on. The following are the results of validation by media experts, which can be seen in the following table:

**Table 3. Media Expert Validation Analysis Results**

Subject of research	Assessment Indicator					
	Ease of use and navigation	Aesthetics and beauty	Media integration	Engineering quality	Eligibility presentation	Eligibility criteria
Media expert	19	25	14	15	91,25%	Very good

Table 3. shows the results of media feasibility from the aspects of ease of use and navigation are good by getting a percentage of 91.25% good category or “valid” from

the media expert validator. The data above shows that the shape, design that wraps mobile learning and media content design are good and can attract students' attention to learn using the mobile learning.

After conducting small group trials and revisions, it was continued with large group trials. At this stage of the large group trial, researchers used 50 research subjects with the results of the large group trial in the following table:

**Table 4 Large Group Test Results**

No	Student code	Statement number															Amount	Category
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
1	SMP 2	38	39	38	40	40	42	39	41	40	46	41	37	45	42	40	608	Good
2	SMP 4	40	37	42	44	40	37	46	40	39	39	41	44	42	40	42	613	Very good
3	SMP 6	38	40	42	37	39	39	40	42	44	43	39	41	41	39	40	604	Very good
4	SMP 12	37	39	41	37	42	41	42	39	39	40	44	42	45	38	42	608	Very good
Amount																	2.434	
Average																	608,25	

Based on the questionnaire assessment obtained through the large group test on mobile learning media on the material of volleyball games at the junior high school level in Lubuklinggau City, it is categorized as "very good" with a percentage of 84.44%. Through the results of this assessment it can be said that the learning media mobile Physical education learning material for volleyball games at the junior high school level in Lubuklinggau is practical and without revision.

#### **D. Conclusion**

Based on the results of research and development that has been carried out, it is concluded that mobile learning media learning material for volleyball games at the junior high school level in Lubuklinggau is an interesting learning media for students to use as a learning media at school. With this learning media, the material can be conveyed well and learning is more fun. The results of validation by linguists on mobile learning media on volleyball game material obtained a score with a percentage of 92.85%, The results of validation by material experts and assessment by teachers on mobile learning media on volleyball game material obtained an overall score with a percentage of 96.42% including in the criteria Very Good. The results of validation by media experts on mobile learning media on volleyball game material obtained a score with a percentage of 91.25% including the criteria Very Good. The results of small group student responses were obtained with a percentage of 90.5% including the criteria Very Good, while the results of student responses to mobile learning learning media on volleyball game material obtained an overall score of large-scale tests with a percentage of 84.44% including the criteria Good.

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