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Research Article

ISpring application-based volleyball game learning media development

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ABSTRACT
Background: Learning media is one of the essential factors in achieving learning objectives, so a subject requires appropriate learning media. Objective: This research aims to develop a volleyball game learning media for students in class VIII at State Junior High School 9 Malang. Methods: This research uses the Research and Development method ADDIE. As for the data collection instrument in the form of observation by directly observing learning activities in class VIII State Junior High School 9 Malang, namely learning volleyball games, the time is relatively short, so the teacher needs help giving students the material as a whole. Results: This research has gone through three validations, including volleyball game learning experts with an average of 74.30%, learning media experts with an average of 98.95%, and physical education, sports, and health teachers with an average of 97.5%. Then, the results of the overall product trial involving 45 class VIII students of State Junior High School 9 Malang were divided into two small group trials, with 15 students getting a result of 87.93% and the large group tryout of 30 students getting a result of 86.5%, from the results obtained it was declared very feasible. Conclusion: Based on the results of the above research, namely the product of learning media for volleyball games with the ISpring application for class VIII students of State Junior High School 9 Malang, it is included in the criteria of being very suitable for learning volleyball games.

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KEYWORDS
Learning media; volleyball; ispring application.

Introduction

Physical education, sports, and health today are learning with technology; technological developments impact physical education, sports, and health, where technological developments can make it easier for teachers and students when carrying out learning. Therefore, Muntianah et al. (2012) state that internet-based technology today is also used in education; internet-based technology has become a means of support that can smooth the learning process in the field of education. Learning media using internet technology can be an auxiliary tool during learning and teaching activities. Being a physical education teacher, sports and health must determine which learning media can be appropriate to achieve teaching objectives and increase student interest in learning when learning physical education. Hasan (2021) states that teaching media can make things related to teaching and learning easier. According to Riyanto (2012), learning media is something that can provide messages and information that has instructional material during learning so that it can stimulate students to learn. Previous research by Arisanti & Subhan (2018) stated that Internet learning media strongly influences students' interest in physical education, sports, and health materials.

Physical education is learning has a complete domain in developing students' affective, psychomotor, and cognitive domains. According to Hartono et al. (2013), physical education is a lesson using physical movement to get overall changes in individual abilities, from emotional, mental, and material. Physical education is one aspect of a person's movement and psychological and physical growth. Through physical education, students are provided with learning experiences rich in movement,

thinking skills, healthy lifestyles, and group socialization skills (Nopiyanto & Raibowo, 2019). According to Giriwijoyo (2005), to increase the effectiveness of the learning process of movement skills, the principles of correct movement learning must also be met, including (1) Systematic, (2) Variety of learning, (3) the principle of overload and quality of learning, (4) Error correction, (5) Learning goals and objectives. Kasir (2021) revealed that students are interested when physical education, sports, and health subjects are included in the high category type 78.1%; it can be seen from the encouragement, desire, and perseverance of students who are behind students having high desire when doing physical education, sports, and health activities.

Based on the opinion of Taufik (2020), learning Physical Education, Sports, and Health in junior high schools has aspirations so that students have achievements like this: (1) the development of self-processing skills in efforts to maintain and develop physical strength and a clean lifestyle model with a variety of physical movements and sports has been chosen; (2) increase psychological development and physical development by prioritizing perfection; (3) develop fundamental movement skills and abilities; (4) put moral character principles firmly using the international meaning of physical education, sports, and health; (5) improve discipline, honesty, responsibility, sportsmanship, confidence, democracy and cooperation; (6) develop skills to protect the safety of learners, the environment, and others; and (7) know the design of physical movements and exercise in clean areas for knowledge to achieve good physical development, healthy living models, skills, fitness, and a positive attitude.

In learning physical education, sports, and health, there is material for big ball games; big ball games, which are widely known as big ball games, are often given by teachers at the junior high school level. There are many kinds of big ball games, namely volleyball, basketball, sepak takraw, soccer, and others, well-known to various communities, from small children to adolescents and parents (Salmi, 2018). According to Destriana et al. (2020), volleyball consists of two teams with six players who start hitting the ball to cross over the net to get points or numbers; each team can use three touches to strike the ball. The game on the field is rectangular, measures 18 m x 9 m, and is limited by a net dividing the field. Students can play volleyball games correctly and well. Students must be able to control the basic techniques in volleyball games and have reasonable motor skills. Listina (2012) argues that volleyball is a team game in which all players must cooperate to make the team compact and resilient. With that, mastering basic techniques for volleyball games is required for individuals. In outline, the movements to be dominated by the player volleyball are (1) initial movements, including running, stepping, tiptoeing, rolling, jumping, and spinning, and (2) technical movements, the basis of the game includes the attitude of the ready position, welcoming motion, seta reach the ball, serve, lower passing, upper passing, Block, and smash (Kardiyanto & Sunardi, 2020).

Meanwhile, according to Winarno et al. (2013), "In the game of volleyball, there are basic techniques for players to master, namely service, upper passing, lower passing, smash." The principle of the game, volleyball according to Dinata (2004), is to bounce the ball up in the air so that it does not fall to the ground; the ball is touched with a limit of three touches in the player's area and tries to cross the ball in the enemy area to cross over the net by making it difficult for the opponent. In previous research, Pahliwandari, Asmutiar, & Rajidin (2018) stated that motor skills influence or contribute to students' ability to play volleyball games by 58.7%, so motor skills can affect student learning scores when learning volleyball games.

Based on the needs analysis that we conducted at State Junior High School 9 Malang, namely, 1) learning using the Limited Face-to-Face Meeting (PTMT) system, 2) learning physical education, sports, and health is carried out once a week, 3) The length of time for learning physical education, sports, and health lessons is 2 hours, then 30 minutes for 1 lesson hour, 4) using learning media PowerPoint Presentation (PPT) books and Learner Worksheets (LKPD).

Learning with a limited face-to-face meeting system is carried out by dividing students partly into school and partly at home. It is tough if you have to explain together, so the teacher must prepare a solution to this situation by using media that makes it easier for the teacher to convey material and is easily accessible to students anytime and anywhere. Learning, physical education, sports, and health at State Junior High School 9 Malang is conducted once a meeting one week, using 2 hours of lesson time, where 1 hour is 30 minutes. With conditions like this, little student learning time cannot get material for all variations of basic techniques; with short time conditions, students will have difficulty understanding and performing movements when Physical Education, Sports, and Health subjects use limited face-to-face learning. The media used are books, PowerPoint Presentations (PPT), and Learner Worksheets (LKPD); with the current conditions of learning that involve physical activity, it is tough to do, especially with the media when used now must encourage students' interest in learning with the presence of movement videos that make it easier for students to imitate the movements with learning videos and pictures of volleyball game movements students can see and hear the material provided will imagine doing the movement.

Based on this needs analysis, one of the efforts to solve it is developing learning media that makes students more interested in learning. According to Magdalena et al. (2021), using learning media is good when learning, so it positively impacts students by increasing their motivation to learn. This can be seen in the results of research by Saputro et al. (2018), who found that learning media with applications affect student learning outcomes. Meanwhile, Muyaroah & Fajartia's research (2020) results show that learning using application media can increase student learning outcomes. The results of research by Astuti et al. (2018) show that learning media with applications can increase student interest in learning. Then, learning media using applications is very useful when learning. In this study, developing learning media for volleyball games using learning media products, namely the ISpring application, this media is used because this media can bring up a combination of images, text, animation, video, and audio so that the volleyball game material is more explicit.

According to Budiman et al. (2021), ISpring software is a tool that has many types of features for making learning media, namely animation, video, music, effects, text, music, and interactive quizzes. The ISpring application program is one software that can be specially created to bring up a fun multimedia program when teaching and learning online and offline. According to the results of research by Purnama Sari and Ridwan (2020), applying the ISpring application learning media can be considered because it can increase student learning outcomes and activities. The results of Handayani & Rahayu's research (2020) on ISpring application learning media are very feasible to use when conducting lessons to develop students' willingness to learn.

This learning media can later be used by teachers during volleyball game learning activities for one learning year in odd and even semesters; it will be given to students by 1) the teacher provides an application link via WhatsApp, 2) students open the link provided by the teacher using each student's cellphone 3) students download the application 4) students install the application 5) students can use the application. The product developed by researchers contains material about volleyball in the form of the ISpring application, which generally consists of 1) the opening page containing the title and picture of volleyball and 2) The material menu page containing the opening, core, and closing menus. 3) the opening menu contains learning objectives, 4) the core menu contains video learning material for volleyball games, and 5) the closing menu contains student reflections. 6) the application will have several buttons to operate it, such as play, next, back, home, and menu.

This research and development aims to develop volleyball learning through ISpring applications. The development can make it easier for teachers when learning and helping students understand volleyball games for class VIII students at State Junior High School 9 Malang. With the appearance of this application on mobile phones, students can access or do learning anywhere and anytime easily

because there are already examples of movements to do primary technical material for volleyball games as well as explanations; it is hoped that the online and offline learning process in the classroom will become more interesting so that it will further increase students' interest in learning. According to the expression that has been said, the researchers carried out a development titled: Development of ISpring Application-Based Volleyball Game Learning Media for Class VIII Students at State Junior High School 9 Malang.

Method

Research Design

Research on the development of learning media for volleyball games based on the ISpring application uses research and development by Lee and Owen (2004); this research applies actions like this: 1) needs analysis, 2) design, 3) development, 4) implementation, and 5) evaluation. Product trials are carried out to collect data and become a guideline for evaluating the product being developed. The following must be considered when testing this product: (1) Trial design. (2) Determining the test subject, (3) Type of data, (4) Developing instruments, (5) Data analysis techniques.

Participants

In the trial design, the evaluation obtained from expert input and suggestions is to cover learning media experts, volleyball game learning experts, and volleyball game experts and test on small groups and then on large groups. Researchers will assess all expert's prioritized input and suggestions to update the old product planned and made by the developer. Validation is carried out at the Evaluation stage using these three experts: (1) Volleyball game learning experts, (2) Learning media experts, and (3) Physical education, sports, and health teachers. During the trial's first phase, 15 students were in class VIII at State Junior High School 9 Malang. During the trial's first phase, 30 students in grade VIII at State Junior High School 9 Malang were used. During the pilot test, participants in this development research: 1) tried from volleyball game learning experts for research are lecturers from the Faculty of Sports Science, State University of Malang who at least have a Masters level of education and understand about learning volleyball games, 2) tried from media experts for research is a lecturer from the Faculty of Education, State University of Malang who at least has a master's degree and understands learning media, 3) the test subjects of physical education, sports and health teachers are teachers from State Junior High School 9 Malang. 4) The participants in the trial were 15 students in a small group and 30 in a large group at State Junior High School 9 Malang.

Data Analysis

The data analysis technique used by researchers is descriptive statistics. The Likert scale is used by researchers as a measurement technique when collecting data, aiming to know the opinions, perceptions, and attitudes of individuals or communities regarding social signs (Sugiyono, 2015). Likert scale answer levels include very harmful to very positive. Then the quantitative data assessment can be given a value in the following order, namely (1), (2), (3), and (4) (Sugiyono, 2015).

Results and Discussion

Result

The following is a presentation of data from preliminary studies, validation data on volleyball game learning experts, learning media experts, physical education, sports, and health teachers, and small-group and large-group trials. The findings in the literature study are:

1. Mastery of the skills of variations in basic techniques of volleyball games, including variations in lower service, upper service, lower passing, upper passing, and smash and block variations, are the objectives of learning volleyball games for class VIII.
2. In learning volleyball games, using application learning media is more exciting and more accessible to carry out the learning process.

3. In application learning media, displaying learning materials through learning videos and examples of correct movements is essential in helping students understand the proper movements.

The findings in the needs analysis (through observation) carried out in August 2021 at State Junior High School 9 Malang are: (1) From the results of observations during the Introduction to School Field Activities (PLP) at State Junior High School 9 Malang, it is known that learning uses the Limited Face-to-Face Meeting (PTMT) system, physical education, sports, and health subjects are held one meeting per week, the duration of physical education, sports, and health learning is 2 hours, in 1 hour of learning for 30 minutes, learning media used in school books, Powerpoint Presentation (PPT) and Learner Worksheets (LKPD), (2) From the results of observations it is also known that the learning media for volleyball games in class VIII only shows variations of volleyball games taught by teachers making students lack overall knowledge of volleyball game learning material for class VIII.

The findings in the Volleyball Game Learning Expert Validation were carried out on April 5, 2022, at the State University of Malang with a questionnaire instrument of 36 questions, namely: (1) From the validation of volleyball game learning experts, the results were 74.30%, so that the learning media for variations in the basic techniques of volleyball games were quite valid (used with minor revisions), (2) From the volleyball game learning expert, suggestions were obtained that in the questionnaire, there were aspects of learning formation, but in the video, there was no intended learning formation, the variety of learning was lacking, more people were involved in the video, and the implementation used complete infrastructure.

The findings in the Learning Media Expert Validation were carried out on April 8, 2022, at the State University of Malang with a questionnaire instrument of 24 questions, namely: (1) From the validation of learning media experts, the results obtained were 98.95%, so that the learning media for variations in the basic techniques of volleyball games were very valid (Used without revision). (2) From learning media experts, suggestions were obtained that it was generally perfect and potentially integrated with the school's Learning Management System (LMS).

The findings of the Validation of Physical Education, Sports, and Health Teachers were carried out on April 11, 2022, at State Junior High School 9 Malang with a questionnaire instrument of 20 questions, namely: (1) From the validation of physical education teachers, sports and health get 97.5%, so that the learning media for variations in basic techniques of volleyball games is very valid (Used without revision). (2) From the physical education teacher, sports and health suggest that they are perfect and exciting and can be done during learning.

The findings in the Small Group Trial (n = 15) were carried out on April 13, 2022, at State Junior High School 9 Malang with a questionnaire instrument of 25 questions, namely: (1) From the small group trial, the results were 87.93%, so the learning media for variations in the basic techniques of volleyball games were very feasible (Used without revision). (2) From the small group trial, we get suggestions that the application is good, it is easy to understand by using video, so far the video is excellent and varied, the application is helpful for students from the application students are not quickly bored because there are various colors and images and language that are easy to understand, the learning application is straightforward to make us learn more efficiently, it can be excellent learning for students, the application is developed again more enjoyable for the video is very good, understanding it is easy and exciting.

The findings in the Large Group Trial (n = 30) were conducted on April 14, 2022, at State Junior High School 9 Malang with a questionnaire instrument of 25 questions, namely: (1) From the large group trial, the results were 86.5%, so the learning media for variations in the basic techniques of volleyball games were very feasible (Used without revision). (2) From the large group trial, the suggestions that the learning is very inspiring and very useful for students, the application can be used during learning

to make it easier to learn volleyball games, the theme color is less attractive, the writing on the video is slightly enlarged, it really helps students in learning and is easy to understand, learning in this application is very exciting, it's just that the colors are less attractive, the application is handy and enjoyable for learning, exciting and feasible for learning, this application is handy, easy to understand and very good.

Discussion

From the results of the small group and large group trials, which received 87.93% of the small group trials and 86.5% of the large group trials, it is known that the video learning media products for variations in the basic techniques of volleyball games from this development are considered very feasible if used in the learning process of online and offline volleyball games for class VIII at State Junior High School 9 Malang.

From the results of previous research related to the development of ISpring application learning media, namely: 1) from the results of research by Cahyanti et al. (2019), ISpring application learning media was tested for students by obtaining results of 87.6% including exciting criteria. It can be concluded that ISpring is very feasible to use in online and offline tests for learning math. 2) from the results of Debora's research (2014), the ISpring application learning media was tested on students in the product trial, getting 86% with a very feasible category, in the usage trial getting 83.8%, including a very feasible category, based on the attached test, the ISpring application learning media in the learning outcomes course is very feasible to use in the learning process. 3) from the results of research by Ariyanti et al. (2020), the ISpring application learning media was tested on students in a small group trial of 85%, in a large group trial of 87% on the results of obtaining the percentage of group trial subjects, small group extensive group tests it is known that the use of ISpring application learning media in economic learning is very feasible to be applied during learning activities for class X students of Natural Sciences (IPA).

Similarities and differences with previous research are: 1) ISpring application learning media get feasible results when carrying out learning and can be used in online and offline learning. The equation of this research with previous research, 2) ISpring application learning media get results very feasible to use in the learning process and use two trial stages. The equation of this research with previous research, 3) ISpring application learning media can be used in teaching and learning activities and uses two trials, the first being small group trials and the second being large groups. The difference from the results of previous research 1) is that the learning media is used in mathematics subjects, the media is in the form of quizzes used in online and offline tests of mathematics learning, and the trial stage uses one trial. The difference from the results of previous research 2) is that the learning media is used in learning outcomes courses; the trial stages, namely product and usage trials, are different. The difference in the results of previous research 3) is that the learning media is used in class X Natural Sciences (IPA) and economic subjects.

This ISpring application learning media can be considered by teachers to be used in the teaching and learning process; in this ISpring application, there are various kinds of supporting features for making learning media for making interactive quizzes, videos, text, images, and music. Engaging in learning media makes students interested in following the learning process. As Sastrakusumah et al. (2018) states, using the ISpring application for students to deliver learning material is fascinating and makes students feel unsaturated. Meanwhile, Cahyanti et al. (2019) stated that the Android-based ISpring application can also attract students' interest in delivering learning materials.

ISpring application learning media get feasible results for learning volleyball games for class VIII students at State Junior High School 9 Malang. The existence of research and development using this volleyball game learning application product can make it easier for teachers to deliver the material. It can make it easier for class VIII students to understand volleyball game learning material.

Conslusions

Based on the results and discussion of research and development carried out by researchers, that research product. The development of learning media for volleyball games using the ISpring application results in a very feasible statement to be used as teaching media when playing volleyball class VIII material at State Junior High School 9 Malang.

Authors' contributions

IF is responsible for data compilation and analysis, article conception, writing, and revision. H is responsible for article conceptualization as well as strict and critically revised manuscripts. All authors read and approved the final manuscript.

Competing interests

The authors declare no competing interests.

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