Development of Interactive Media for Physical Education, Sports, and Health Subjects in Junior High School

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Abstract

Learning physical education, sports and health at SMP Negeri 3 Wates can be said to be less effective due to several factors. First, the limited availability of textbooks which is one of the students' learning resources. As a result, during physical education lessons, students only do practical activities in the field. The purpose of this study is to determine students' understanding of physical education material, which leads to confusion during written exams. This research and development model of multimedia learning for Physical Education, Sports, and Health for grade VII students in junior high school uses a Research and Development (R&D) approach, using the multimedia development model developed by Borg & Gall. Borg and Gall's research and development process involves 10 steps, of which researchers will apply 9 steps, including: (1) Potential and problems, (2) Data collection, (3) Product design, (4) Design validation, (5) Design revision, (6) Product trial, (7) Design revision, (8) Usage trial, and (9) Product revision. Based on the conclusions of this study, the development of Android-based interactive media is considered valid, with 75% validation from learning experts and 75% validation from media experts, signifying the validation of Android-based interactive media. Android-based interactive media is considered effective for use in learning, because it obtained a percentage of 80% in the limited trial and 86% in the broad trial.

Keywords: Interactive Media, Physical Education, Learning

Author's Contribution: a – Study Design; b – Data Collection; c – Statistical Analysis; d – Manuscript Preparation; e – Funds Collection

A. Introduction

Physical Education, Sports, and Health are among the educational disciplines within the school setting that incorporate physical activities in their processes (Mustafa et al., 2019; Sinulingga, Pasaribu, et al., 2023). Physical education is a process within the realm of education that focuses on the development of human physical activities (Dumiyanto et al., 2021; Hambali, 2022). While the primary focus is on physical development, it remains oriented towards education (Sinulingga, Bangun, et al., 2023). Physical development is not the end goal in itself but is used as a means to achieve educational objectives (Da'i et al., 2023; Kadar et al., 2020). According to (Mustafa & Sugiharto, 2020), physical education is a process of individual transformation in the field of education, encompassing both physical and emotional aspects. Therefore, it can be concluded that physical education is an educational development oriented towards physical activities to change individual behavior in the fields of physical and emotional education (Thabiso et al., 2023).

This research is motivated by students who feel confused when taking written exams or semester exams in the subject of Physical Education, Sports, and Health. This is due to the students not having access to optimal learning resources.

Students are unable to access the primary learning resource in school, namely textbooks, which results in confusion during learning and consequently leads to suboptimal performance in written exams.

In junior high school, at the end of the phase, students can demonstrate their ability to apply specific movement skills based on a proper analysis of knowledge, engage in physical activity and fitness exercises for health according to exercise principles, display personal and social responsibility behavior, and monitor it independently, while also maintaining the values of physical activities.

The following are Learning Outcomes for Physical Education, Sports, and Health Subjects for 7th, 8th, and 9th Grade Junior High School Students. Movement skill elements: At the end of this phase, students can demonstrate their ability to practice specific movement skill analyses such as games and sports, gymnastics activities, rhythmic movement activities, and water play and sports activities (conditional) (Dewi & Sepriadi, 2021). Movement knowledge elements: At the end of this phase, students can analyze facts, concepts, and procedures in performing various specific movement skills, including games and sports, gymnastics activities, rhythmic movement activities, and water play and sports activities (conditional). Utilization of movement

elements: At the end of this phase, students can analyze facts, concepts, and procedures, as well as practice physical fitness development exercises related to health (physical fitness related health) and physical fitness related skills (physicsl fitness related skills), based on exercise principles (Frequency, Intensity, Time, Type/FITT) to achieve fitness with good status. Students can also demonstrate the ability to develop healthy behavior patterns, such as preventing the dangers of free association and understanding the role of physical activity in preventing non-communicable diseases due to lack of physical activity. Character development and internalization of movement values elements: At the end of this phase, students proactively engage in and encourage the maintenance and monitoring of increased levels of physical fitness and other physical activity abilities, and demonstrate collaboration skills by referring to rules and guidelines to resolve differences and conflicts between individuals. Students can also maintain good social interaction in physical activities.

These can be used by a Physical Education, Sports, and Health teacher as considerations in developing learning materials. In this case, educators find it challenging to develop existing materials. Therefore, an innovative breakthrough is

needed to provide something new in learning, including through interactive media. This would encourage students to be more diligent in the learning process.

In this modern era, there are many ways to acquire knowledge, including interactive media learning. Interactive media learning is particularly beneficial for students. It is used to facilitate students in understanding the material and for teachers to explain the material more easily during the learning process (Munir, 2020). The success rate of students depends on the teaching method. Therefore, interactive media learning is developed, where media plays a key role in the learning process to make it more effective.

An analysis of the learning needs of physical education, sports, and health at SMP Negeri 3 Wates indicates that they still use textbook media that can be borrowed during school hours. This has been a long-standing learning medium, and there is no use of interactive media for physical education, sports, and health learning. Moreover, almost all students at SMP Negeri 3 Wates already have smartphones that can be utilized for learning.

Based on the results of observations that have been made at SMPN 3 Wates, it provides questions related to the research to be carried out, namely How to develop

media-based physical education, sports and health teaching materials for grade VII students? What is the feasibility and practicality of media-based physical education, sports and health teaching materials for seventh grade students? What is the effectiveness of media-based physical education, sports and health teaching materials for seventh grade students?

The media used for this learning is Smart Apps Creator. Smart Apps Creator is a software or application on a PC that allows the creation of an application on an Android smartphone. Smart Apps Creator can incorporate various media to support learning, such as images, audio, video, and animations, making it more engaging.

B. Methods

The research and development model for Physical Education, Sports, and Health for 7th-grade junior high school students employs the Research and Development (R&D) approach with a multimedia development model developed by Borg & Gall. The reason for using the model developed by Borg & Gall is that the researcher will develop a product in the

form of an interactive multimedia application on Physical Education, Sports, and Health for 7th-grade junior high school students. The research and development procedure, also known as the media development research flow, includes the potential and problems, data collection, product design, design validation, design revision, limited testing, product revision, extensive testing, and product revision. This development research was conducted at SMP Negeri 3 Wates, located in Wonorejo Village, Wates District, Kediri Regency, East Java Province. The research will be conducted during the second semester of the 2022/2023 academic year. The subjects are 7th-grade students of SMP Negeri 3 Wates. The data collection instrument used in this research employs a questionnaire method. The questionnaire is used to obtain data from experts, including game experts, media experts, learning experts, as well as trial data. The data analysis technique used in this research employs descriptive statistical analysis techniques. The measurement technique used utilizes the Likert scale. The assessment scale can be seen in the following table.

Table 1. Rating Scale for Positive and Negative Statements

No	Description	Positive Score	Negative Score
1.	Strongly Agree	4	1
2.	Agree	3	2
3.	Undecided	2	3
4.	Disagree	1	4

To make it easier to get conclusions from the percentage, the results obtained are classified according to the percentage obtained. According to (Tegeh et al., 2014) the percentage classification that will be used is

Table 2. Product Quality Criteria

Percentage	Description	Meaning
86-100%	Very Valid	Used Without Revision
70-85%	Fairly Valid	Used With Minor Revisions
60-69%	Less Valid	Not Fit for Use
		Not Recommended for Use
0-50%	Not Valid	Not Usable

C. Result and Discussion

Result

1. Description of Field Study Results

This field study was conducted as part of research aimed at developing Android-based interactive media that can be used in learning Physical Education, Sports and Health subjects at SMPN 3 Wates. This interactive media is designed to increase student learning interest in PJOK subjects.

The first process carried out was that the researcher conducted a field survey by interviewing and giving a questionnaire to the PJOK teacher at SMPN 3 Wates. From the results of the field study conducted, it turned out that the PJOK Teacher at SMPN 3 Wates had never taught using interactive media. In addition, researchers also conducted a trial to students by giving a questionnaire. The results of this field study will be the basis for the development of android-based interactive media that is appropriate and effective for PJOK subjects at SMPN 3 Wates.

2. Interpretation of Preliminary Study Results

Based on the interpretation of the preliminary study results, it can be concluded that the development of Android-based interactive media for PJOK subjects at SMPN 3 Wates has great potential to increase student learning interest and learning effectiveness. By utilizing existing technology, this interactive media can provide a more interesting learning experience and support the delivery of PJOK material. It is expected that the development of this interactive media will help students and teachers in improving PJOK learning and also make a positive contribution to PJOK learning at SMPN 3 Wates.

3. Initial Design (draft) Model
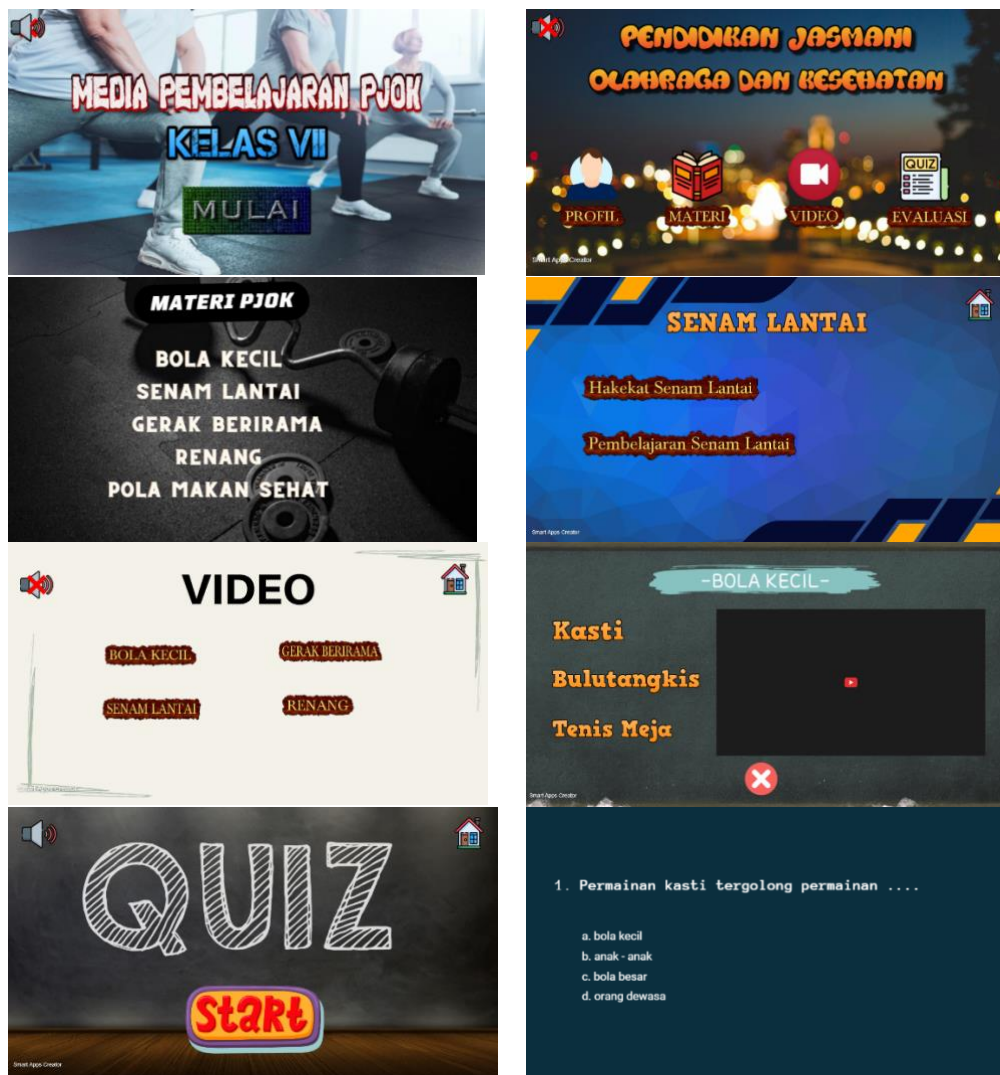
Figure 1. Initial Product Design

Validation of android-based interactive media development products is carried out by learning expert validation, media expert validation, 2 practical reviews, namely physical education teachers, sports and health of SMP Negeri 3 Wates, limited trials and broad trials. Obtained percentage results from a broad trial of 86%, then this learning media is declared very valid and can be used.

a. Validity

Based on the validation of learning experts, the results obtained are 75% which indicates that it is quite valid to be used as learning media. The results from media experts get a percentage of 75% which can be categorized as quite valid. So the android-based interactive media development product is declared valid and can be used.

b. Practicality

Results that show practicality are obtained from expert users or practitioners. The 1st practitioner got a percentage of 83% and the 2nd practitioner obtained 86%, thus the android-based interactive

media development product was declared practical.

c.   Model Effectiveness

The effectiveness of the model is obtained based on the results of evaluation instruments after using android-based interactive media. Based on the analysis results obtained through a limited trial of 80%, while the percentage results obtained from a broad trial of 86%. In this case, android-based interactive media is declared very effective for learning.

Discussion

Previous research by (Wiguno et al., 2023), entitled "Development of Interactive Multimedia Teaching Materials for Physical Education, Sports, and Health Subjects for 7th Grade Students," stated that learning through interactive multimedia is far superior because it allows for more flexible learning times and locations without requiring an internet connection (offline). In terms of presentation, interactive multimedia is also more engaging, which increases students' motivation to learn. Previous research by (Haryanto et al., 2016), titled "Development of Volleyball Game Learning Using Interactive Media at SMP Negeri 6 Situbondo Regency," stated that the overall research results fall into the "good" category, indicating that the

produced product can yield numerous benefits. This development makes it easier for students at SMP Negeri 6 Situbondo to obtain more information, and it facilitates physical education and sports teachers in explaining the taught material, with the expected learning objectives being achieved. Previous research by (Wiguno et al., 2023), titled "Development of Interactive Multimedia for Physical Education Subjects at the Junior High School Level," stated that the developed multimedia product has several advantages. It includes step-by-step guidance and supporting images that make learning easier to understand. Another advantage of this product is that it is equipped with descriptions of goals, facilities and infrastructure used, activity steps, and appealing images that make it easier to comprehend and learn.

Based on the exploratory findings conducted by the researchers regarding previous interactive media development, several differences have been identified. In the older version, the majority still used PC-based or computer-based applications, with only one subject matter and containing only learning materials. In contrast, the researcher's version employs an Android-based medium, encompasses more than one subject, and includes both materials and problem discussions.

D. Conclusion

Based on the research findings from "Development of Android-Based Interactive Media for Physical Education, Sports, and Health Subjects at SMP Negeri 3 Wates," the following conclusions can be drawn 1) The development of Android-based interactive media is deemed valid, as evidenced by the validation results from the learning expert at 75% and the media expert at 75%. This implies that Android-based interactive media is considered valid. 2) Android-based interactive media is considered effective in learning, as it achieved a percentage of 80% during limited trials and 86% for extensive trials.

Android-based interactive media for physical education, sports, and health subjects developed in this study can serve as a solution for teachers to employ new teaching methods. It can also capture students' attention and prevent them from getting bored during learning activities.

E. Acknowledgments

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F. Conflict of Interest

No conflict of interest

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