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# Development of Microsoft Sway-Based Learning Media Materials for Class VII **Physical Fitness Activities**

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Info Artikel	Abstract
Article History. Received 14 April 2022 Approved 29 June 2022 Published 08 July 2022 Keywords: Learning Media, Microsoft Sway, Physical fitness activities for class VII	This study aimed to produce learning media products based on Microsoft sway tested for feasibility and effectiveness to improve student learning outcomes for class VII physical fitness activity materials. This study uses the development method with 300 samples of feasibility tests and 250 samples of effectiveness tests, consisting of 11 schools located in six provinces on the island of Java. Product development procedures, namely, 1) Conduct a needs analysis by conducting interviews and questionnaire surveys with 3 PJOK teachers and 672 students from 3 schools in the city
	of Bandung. 2) designing learning media in the form of material to be presented, 3) developing with validation of material experts and media experts as well as small group trials to find out deficiencies and revise the initial draft, 4) implement media to students by conducting a feasibility test on 300 students who are consisting of 11 different schools in six provinces on the island of Java and testing the effectiveness of the product to 250 in the provinces of Central Java and West Java, 5) evaluation of the results of the feasibility test and effectiveness test to produce a product in the form of learning media based on Microsoft sway material for physical fitness activities class VII. This research produces learning media products that are easily accessible, practical and simple. The results of the feasibility test of material experts with a percentage of 95.62% in a very decent category, media experts with a rate of 94.15% in a very decent variety, then first user teacher with a percentage of 92.08% in a very feasible category and large group trials with a rate 76.95% with proper type. The effectiveness test results in increased student learning outcomes using media that have been developed.

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# **INTRODUCTION**

The Ministry of Education and Culture Decree 0413/U/1998 states that physical education is part of education as a whole. Physical education aims develop to individuals intellectually, organically, neuromuscularly and emotionally (Winarno, 2014). Law of the Republic of Indonesia Number 3 of 2005 concerning the National Sports System Chapter I Article I paragraph (11) states that educational sports are physical education and sports that are carried out as part of a regular and continuous educational process to acquire knowledge, personality, skills, health and fitness. Indonesia has a target in 2032 in the field of sports, which is to enter the top 10 world rankings in the implementation of the Olympics, so children aged 10-12 years will be the foundation in fostering sports achievement, especially at the school level (Widyaningsih et al., 2021). The Covid-19 pandemic affects many aspects of life, including the field of education, namely school closures and learning is carried out regularly (Jandrić et al., 2020).

The Ministry of Education and Culture through Circular No. 4 of 2022 concerning National Education policies during the pandemic resulted in 68.8 million students studying from home, and 97.6% percent of schools had closed and conducted online learning (Selvani et al., 2022). The online learning process is the best solution; students learn from home with the assistance of their parents (T. T. Sari et al., 2020). In the online and learning media distributed to students as learning media (Sortwell & Ramirez-Campillo, 2021). During the current pandemic, educators' critical role in using technology is indispensable, such as smartphones (Sari et al., 2020; Subagja et al., 2019). In the learning process, formative assessment is one way for teachers to know the extent to which the material is conveyed (Winarno, 2014). In addition, Cahyadi (2019) stated that learning media is one factor that influences the learning process; good media will produce a good learning process. In line with the statement (Langub & Lokey-Vega, 2017) that digital literacy is an important aspect that must be mastered to make 21stcentury learning designs. The challenge of developing ways of learning through innovative media is very complex because an educator must continue trying to find good ways of learning based on the acceleration of technological development and the lack of technology integration in the formal education system (Andriani, 2022).

learning process, the teacher makes videos

In а pandemic, problems are encountered starting from learning media, teacher delivery and student understanding (Khasanah et al., 2020). Based on a field survey conducted by researchers to 672 students and 3 PJOK teachers of SMP Negeri 5 Bandung City, SMP Negeri 42 Bandung City and SMP PGRI 7 Bandung City that 95% of students have their smartphones, 87% of students use smartphones as learning media. 93% of students consider the importance of learning media that is easily accessible. Only 3% of students who are not interested in learning media that can display videos, text materials, picture instructions and practice questions in one display then, the material for physical fitness activities has the lowest percentage of only 1.3% of students who choose it, this is in line with what was conveyed (Selvani et al., 2022) in his research at SMP Negeri 39 Padang students that during pandemic teachers and parents can work together to utilize the teaching and learning process to improve students' physical fitness, given the low level of physical fitness condition of students aged 13-15 years during the pandemic. Research conducted by Smith (2014) found that children's motor skills affect adolescents' physical activity and fitness. Therefore the ability to perform various basic skills increases the likelihood of a child participating in different physical activities throughout their life (Raharjo et al., 2021).

Based on the interviews conducted by researchers, teachers initially taught using virtual meetings, a type of zoom. However, over time students objected to the wasteful internet quota and ineffective learning because the teacher only gave lectures. According to the explanation that so far, the use of IT and digital-based media is still deficient, teachers have not been able to find media that can contain videos of examples of movements, materials, sample images and practice questions, as well as assignments and collection of assignments in one view, so far

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these features are still separated so that it is not practical. The teacher hopes that there is a learning media that can contain the features needed by the teacher in delivering learning material so that students can easily access it, be simple and impact student understanding. The use of digital-based media has excellent opportunities in the future, considering that teachers are still teaching conventionally so far. This is the same as what was stated (Guillén-Gámez et al., 2020; Mujiono & Gazali, 2020) that the digital competence of prospective teachers is a concern in the 21st century; teachers still often think practically in a conventional way by teaching as before when they were learning. Competencies that students need to master in 21st-century learning are critical thinking, creativity, collaboration and communication skills (Mustafa & Dwiyogo, 2020). The internet quota assistance provided by the Ministry of Education and Culture benefits students accessing the internet (Herlina & Suherman, 2020).

Indonesia continues to improve innovation in the field of education because a quality education system cannot be separated from the role of teachers in designing and conducting the learning process; the 4.0 era learning environment has led to the development of facilities and ease of access, one of which is the use of the internet in the teaching and learning process. Smartphones can be used in learning, such as packaging material that is systematically arranged. Some can be downloaded on the Play Store service

via an internet connection, but some applications are designed to free of charge as learning media for students (Wicahyani et al., 2018). According to (Oktavian & Aldya, 2020; Kuswari et al., 2019), Some online media that can be used include Google Classroom. Jambroad, Microsoft Sway, Youtube and similar applications. Microsoft Sway is a medium that is easy to use and interesting. Access and creation of Microsoft Sway are also fairly straightforward, it can be designed attractively, and online content is included (Gandasari & Setyasto, 2021). Training for PJOK teachers in integrating the material into online media must improve student understanding (Rozi, 2022). Learning systems that are integrated with the role of technology make it easier to achieve learning goals according to the demands of the times (Hadi, 2017)

This study aims to develop learning media for physical fitness activities based on Microsoft Sway that is easily accessible, attractive and able to display video examples of movements, materials, pictures, practice questions, assignments and collection of tasks in one practical display and easily accessible. The content can be changed in real-time. . When the teacher finishes making the Microsoft Sway; the Microsoft Sway can be shared and opened by students via the address link shared by the teacher via short messages. Besides that, the practice questions done by students will be automatically corrected so that students know where their mistakes are. The teacher knows automatically the grades of students who have scored. Enter the question form that the teacher has made.

#### METHODS

This research uses Research and Development and quasi-experimental methods (Ramadan & Juniarti, 2020) to test the effectiveness of learning media. The development model using ADDIE is Analysis, Design, Product Development, Implementation and Evaluation (Branch, 2009). The data presented are quantitative, qualitative and experimental. Here are the steps:



(1) Analysis: Initial observations were made regarding problems when PJOK learning was conducted online during a Pandemic. Then the researchers conducted interviews with 3 PJOK teachers and 672 students in the city of Bandung consisting of SMP Negeri 5 Bandung City, SMP Negeri 42 Bandung City and SMP PGRI 7 Bandung City. Based on the survey results, it can be concluded that teachers and students need simple, accessible media. accessed and can display many features in only one display; besides that, physical fitness activity material has the lowest percentage, which is only 1.3% considering that during a pandemic, physical fitness is essential to keep students fit and healthy.

(2) Design: Media design in collaboration with PJOK teachers by adjusting Basic Competencies, Core Competencies and Competency Achievement Indicators and involving validators of material experts and media experts for learning PJOK materials.

(3) Development: Development is carried out by combining the appearance and content of the media to make it attractive and practical. Then do a small group trial with ten students from SMP Negeri 5 Bandung and ten students from SMP Negeri 42 so that they can become learning media when learning online or independently. The following are the results of material and media experts' validation.



(4) Implementation: Testing the effectiveness and acceptability of the product after being declared valid by experts and

improvements from small group trials. The effectiveness test was carried out by involving 300 students from five schools in two different provinces, namely SMP Negeri 2 Bantarsari, Cilacap Regency and SMP PGRI 23 Cilacap Regency, Central Java and SMP Negeri 5 Bandung, SMP Negeri 42 Bandung and SMP PGRI 7 Bandung between February 2022 and by April 2022. The product feasibility test was carried out by involving 300 students from 6 provinces namely DKI, DIY, Banten, Central Java, West Java and East Java consisting of SMPN 2 Bantarsari Cilacap Regency, SMP Al Madina Wonosobo, SMPN 6 Temanggung, SMP PGRI 7 Bandung, SMPN 42 Bandung, SMPN 5 Bandung, SMPN 264 Jakarta, SMP Santo Aloysius Turi Sleman, SMPN 1 Cikande and MTSN 4 Banyuwangi. The following are the assessment criteria:

Score Interval	Category	Score
$Mi + 1,5 SBi < X \le Mi + 3, 0 SBi$	Very Decent/Very Good	75,1 - 100
$Mi < X \le Mi + 1.5 $ SBi	Decent/Good	50, 1-75
Mi – 1,5 SBi < X $\leq$ Mi	Decent enough/Good enough	25,1-50
Mi - 3,0 SBi $\leq X \leq$ Mi - 1,5 SBi	Not Worthy / Not Good	0,0-25,0

At this implementation stage, the research will test its effectiveness by conducting experimental tests on 300 students with a control group of 150 students and 150 students who will be treated. Descriptive analysis, normality test, Wilcoxon test, homogeneity test and independent-sample ttest will be carried out to see whether there is an increase in learning outcomes. As for the feasibility test, the researchers distributed a questionnaire that had been tested for validity and reliability; as many as 300 questionnaires were given to 25 students in each school to be filled out by teachers and students. (5) Evaluation: The evaluation stage is carried out after obtaining qualitative and quantitative data from the extensive group test assessment and validation of material experts and media experts.

#### FINDINGS AND DISCUSSION

There is a proper assessment from material experts, media experts, and teachers and a proper assessment from the extensive group test. In addition, students who use learning media have increased learning outcomes.

#### Findings

The results of the feasibility test of material experts, media experts, teachers and students besides that there is also a difference in the average value between students who receive treatment using Microsoft Sway-based learning media and students who use media that teachers usually use after the pretest and posttest.

Table 1. Results of Material Expert Assessment

Respondent	Aspect	Results	Information		
Material expert	Material Substance	93,75%	95,62%		
	Learning Design	100%	Very Worthy		
Media Expert	Quality Attribute (Presman)	94%			
	Learning Media Design Principles	92,5%	94,15%		
	Display (Ministry of National Education)	92,5%	Very Worthy		
Teacher	Material Substance	93,75%	92,08%		
	Learning Design	92,08%	Very Worthy		

Table 1 it is presented the results of the feasibility test carried out by material experts, media experts and teachers with instruments that experts have validated with the following results: material experts with percentage eligibility of 95.62% in the very feasible category, media experts with percentage eligibility 94.15% in the very appropriate category and teachers with a percentage of 92.08% in the very feasible category.

Table 2. Assessment of Large Group Test Results

Respondent	Aspects of Computer System Ussability						
	Application System	Application	App Display Quality				
	Uses	Information Quality					
Score	1800	1200	900				
Total Score		12004					
Number of Students		300					
Category		76,95% (Worthy)					

Table 2 it is presented the results of the large group trial of 300 students from 11 schools on the island of Java, including the provinces of Banten, DKI, West Java, Central Java, DIY, and East Java with the instrument used is the Computer System Usability with aspects of the usability of the application system, the quality of application information and the quality of the appearance of applications that get results or a total percentage score of 78% fall into the category.

Table 3 Assessment of the Effectiveness of Learning Outcomes

Information	Knowledge				Skills and Attitude			;
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
	Eks	Eks	Kon	Kon	Eks	Eks	Kon	Kon
Total students	125	125	125	125	125	125	125	125
Mean	65.72	81.60	65.76	74.32	84.99	88.60	84.46	86.97

Max	90	100	90	100	90	92	88	92	
Min	30	50	40	30	80	83	80	80	
Positiv Ranks	101		7	73		121		119	
Negativ	9		23		0		(	)	
Ranks									
Ties	15		29		4		6	5	

Table 3 shows that the test results on the effectiveness of learning outcomes for knowledge, attitudes and skills were carried out on 250 students in Central Java and West Java provinces. That there was a difference in the mean value between the control and experimental groups, which stated that the media was effective and improved student learning outcomes.

#### Discussion

As stated (Hadi, 2017), learning media in education can be used, seen, heard, and imitated to support learning activities so that students can study independently at home or anywhere and are flexible. The development of online learning resources that can be accessed anytime and anywhere can increase students' time in learning things when they are not in class; this is a breakthrough with the existence of learning media that can be accessed remotely (Masykuri, 2020). Research conducted by (Masykuri, 2020; Wihartanti & Wibawa, 2017) showed that the Microsoft Sway learning media used at PGRI Madiun University positively impacted the learning process. Meanwhile, research by (Gandasari & Setyasto, 2021) states that Microsoft Sway is effectively used in Civics Education learning and improves learning

outcomes. Innovative learning media developed by (Nurseto, 2019) produces interesting floor exercise learning media products with a very feasible category from all expert and user assessments. However, there is no media effectiveness test and content, and the problem is difficult to replace in real-time. The teacher has difficulty. This is in line with the results of this study, where students like easily accessible, practical and straightforward media, such as extensive group trial assessments, which get a percentage of 78% in the excellent category. While the assessment of material experts is 95.62% in the very appropriate category, the assessment of media experts is 94.15% in a suitable category and teacher materials experts 92.08% in a very decent category.

Research on educational technology has increased yearly (Chen et al., 2020; Wargama et al., 2021). This shows that policymakers can consider the results of research on educational technology because the demands of the times can be a reference in making decisions. The accuracy of media selection and learning methods affects student learning outcomes (Cahyadi, 2019). This is in line with the results of research conducted where there is an increase in the average learning outcomes of students who use Microsoft Sway learning media with students who use

conventional media that teachers usually use when online learning.

# CONCLUSION

This research produces learning media that teachers and students can use as learning media or learning media during online and offline learning. This media is easily accessible, and the teacher or the media maker can change the content. Learning media based on Microsoft sway is easy to access and simple but can impact student understanding; according to the results of the effectiveness and feasibility test, this media is very feasible and can be used by students in class VII learning material for physical fitness activities.

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