

# Digitalization of Karate Course Learning

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**Abstract.** The output of this research produces a new product in the form of digital-based karate learning media. This research was conducted at the sports science faculty, physical education, health recreation study program. The research was carried out from February to May 2024. This sample used expert testing and 15 samples as the initial sample and 35 second samples. This research model uses the ADDIE development model which consists of five steps. The instruments in this development research use data collection instruments including questionnaires. Research Results: 1. Analyze. 2. Design (Design). 3. Develop The development stage consists of 3 steps, namely for the first and second validation tests, karate experts experienced an increase of 10%. For expert testing, the first and second media experienced an increase of 25%. For the first and second language expert tests there was an increase of 25%. For expert assessments in the first and second applications there was an increase of 25%. For small group and large group tests there was an increase of 20%. The conclusion is that this media can be used as a learning medium for karate kata material

**Keywords:** Digitalization of Karate Media

## 1 Introduction

### Background of the problem

Learning is an activity that is carried out consciously by a person and thus results in a change in him in the form of knowledge or skills based on hearing, sight and experiential activities that he has carried out consciously and repeatedly. Learning is a complex process that occurs in every person throughout his life. The learning process occurs because of the interaction between a person and his environment. Therefore, learning can occur anytime and anywhere. One sign that someone has learned is a change in that person's behavior which may be caused by a change in their level of knowledge, skills or attitudes.

If there is a learning process, then with it there is also a teaching process. This is easy to understand, because if there is someone who learns, there is certainly someone who will teach, and vice versa, if someone teaches, there will certainly be someone who will learn. If there has been a process/interaction

### **Learning Resources**

Learning resources that used to be very easy to get by visiting and reading various references in public libraries or madrasas, have now shifted to being completely online using their own devices. However, in fact, not all madrasah communities can take advantage of these learning resources. with various backgrounds that cause a lack of. In a simple definition of learning resources, they are a teacher and a set of learning materials ranging from learning books, learning information, and so on. 3. Learning resources are often associated with learning media, but these two terms have different meanings. Even though they are different, learning resources can be used as learning media, and vice versa, learning media can also be used as learning resources in their use.

Learning resources can also be defined as materials that are used and needed in the process of teaching and learning activities, which can be in the form of books, texts, print media, electronic media, resource persons, the surrounding environment, and so on which can improve the quality of learning. Learning resources are also all components of the instructional system, both those that are specifically designed and that by their nature can be used or utilized as learning supports. In the learning process there is interaction between students and learning resources need wherever and whenever learning is needed (Zainal Aqib, 2013)

### **The Presence of Technology in Learning**

The rapid development of technology today indicates that the scientific system is increasingly developing and the needs of a country are increasingly urgent. Every country continues to develop all deposits in preparing a country to become a country capable of meeting the needs of its people. The increasingly rapid development of information technology in the current era of globalization cannot be separated from its influence on the world of education. Global demands require the world of education to always adapt technological developments to efforts to improve the quality of education, especially adjusting the use of information and communication technology for the world of education, especially in the learning process.

### **Development Concept**

Development research is built as a basis for model and theory construction. When we talk about research, what usually comes to mind is an attempt to solve problems to find facts in an organized manner. Meanwhile, development is an effort to expand theoretical, conceptual and moral abilities according to needs through training and education. Development research is research that aims to develop, be it products or activities. The process is divided into several processes, such as research pre-planning, research planning, research implementation, and so on. Not all development research is only on electronic materials, but development research can

also be used in the fields of social sciences such as psychology, sociology, education, management and others.

### **The Nature of Karate Martial Sports**

Many people are interested in the sport of karate to defend themselves from various dangerous attacks and threats that usually occur, especially on the streets and to maintain health. The sport of karate originates from Japan and is inspired by the Chinese martial art, Kenpo. Literally, the word karate consists of two kanji, namely "kara" (empty) and "te" (hand). So, karate can be defined as a martial sport that focuses on precise attacks with kicks and punches without tools. Karate techniques use high concentration and body strength. Apart from that, karate relies on tactics and discipline. There are three basic techniques in karate, namely kihon, kata, and kumite.

According to (Johnston, 2014) The origin of karate is a martial art that originates from Asia, namely Japan. The highly disciplined Japanese culture makes karate a necessity for the country, so that all people are required to learn karate as a necessity. Japanese karate martial arts became Karate (Empty Hands) to make it more easily accepted by Japanese society. Karate consists of two kanji. The first kanji is Kara which means empty. The second kanji, te, means hand. Two kanji together means empty hands. So essentially Karate is a martial art that relies on bare hands using attacks in the form of punches, kicks, locks, throws and so on (Suntoda & Alif, 2014).

The large number of karate schools with various schools causes incompatibility between these figures, giving rise to divisions within the PORKI body. However, in the end, with the agreement of the karate figures to unite again in an effort to develop karate in the country, in 1972, as a result of the IV PORKI Congress, a karate organization was formed which was named the Indonesian Karate-Do Sports Federation (FORKI), (Suntoda & Alif, 2014).

(Suntoda & Alif, 2014) stated that the Karate Training Curriculum is divided into three elements: kihon (basics), kata (forms) and kumite (fighting). However, these three elements should not be considered separately, because these things are a unity and have a bond of mutual dependence between one another.

### **Say**

The word means shape/pattern. Kata movements contain many life philosophies. Therefore, Kata training is not only physical training, but also contains lessons about fighting principles. Each Kata has a different rhythm of movement and breathing. In Kata there is something called Bunkai. Bunkai is an application that karateka can use from basic Kata movements. Each style has different movements and different names for each Kata. For example, Kata Tekki in the Shotokan school is called Naihanchi in the Shito Ryu school. As a result, the Bunkai (word application) of each school is also different (Muhammad Fajar, 2018)

### **Understanding Android**

The increasingly rapid development of technology makes the need for media in education increasingly urgent. Education today must be in line with increasingly rapid technological advances in line with the needs of society. The communication technology that is currently used

by society is an increasingly urgent need, so that communication tools that were previously only used as message receivers have now turned into multi-functional objects which make them a necessity. The current communication tool is called Android, which is one of the operating systems that is widely used because it has features that are easy for users to understand. Technology is not something new in the current era. The use of mobile devices such as smartphones or tablets is technology that can be said to be very close to students. Currently, Android has become a very sexy object and has become popular among students, so that Android has become a learning medium that is widely used by teachers. The presence of this latest media can provide positive things, but of course it can also provide negative things, so the presence of Android media must be able to provide understanding to everyone about its function as a supporting medium in the teaching and learning process.

## **2 Methods**

The research method used in this research is development research which has a process from the basics to the discovery stage of a product. This research instrument uses questionnaires and interviews with students and experts. This research model uses the ADDIE Model which is a systematic learning design model. This model consists of five steps, namely: (1) analysis, (2) design, (3) development, (4) implementation, and (5) evaluation. (Ricky et al., 2021) (Tegeh & Pudjawan, 2015). The data collection technique in this research was carried out by filling out a questionnaire by media experts.

The instrument in this development research is to use data collection instruments, including questionnaires. According to (Prof. Dr. Sugiono, 2014) a questionnaire is a data collection technique by giving written questions to respondents to answer. Data collection in this research on kata assessment tools in the sport of karate uses a questionnaire in the form of statements, which on the next page is accompanied by a suggestion column. The questionnaire was given to media experts, material experts, Instrument Validators and students

## **3. Results**

The aim of this research is to develop a product in the form of digitalization of Android-based karateka learning media in kata categories in the physical education, health and recreation study program, Faculty of Sports Science, Medan State University. The ADDIE development model was used to create this teaching media, and the results of each stage are listed below.

### **1. Analyze**

At the analysis stage, the method that the researcher used was observation of the karate learning media used in the physical education, health and recreation study program, Faculty of Sports Science, Medan State University. Observations and interviews were carried out to determine the media needs that will be used in teaching karate courses in the kata category.

### **2. Design (Design)**

The design process is the stage of designing test standards and media. At this stage, research instrument design is also carried out to measure the suitability of the learning media used and developed.

### **3. Develop (Development)**

The development stage consists of 3 steps, namely (1) development of kata category karate learning materials (2) media development and (3) product validation. Product validation Absolute product validation must be carried out, where the product before being tested must go through validation from various experts. Validation was carried out by media experts, karate experts, language experts, and Android application experts as follows:

Expert Validation

#### **a. Karate expert validation (1)**

Based on the assessment of karate experts, the basic attitude indicator is 80% in the appropriate category, the movement accuracy indicator is 75% in the appropriate category, the beauty of movement indicator is 80% in the appropriate category, the movement speed indicator is 80% in the appropriate category, the movement agility indicator is 80% in the appropriate category. The overall assessment percentage is 80% with the category suitable for use.

#### **b. Karate expert validation (2)**

Based on the assessment of karate experts, the basic attitude indicator is 90% in the very appropriate category, the movement accuracy indicator is 88% in the very appropriate category, the beauty of movement indicator is 90% in the very appropriate category, the movement speed indicator is 90% in the very appropriate category, the movement agility indicator is 92% in the very appropriate category. The overall assessment percentage is 90% with the category very suitable for use:

#### **a. Media Expert Validation (1)**

Based on assessments by media experts including: indicators of accuracy of material studied 75% in appropriate category, sequence of material studied 76% in appropriate category, material book guide 75% in appropriate category, ease of use of media 75% in appropriate category, final learning achievement 76% in category worthy. The overall assessment percentage is 75% in the category suitable for use with revisions.

#### **b. Media expert validation (2)**

Based on assessments by media experts including: indicators of accuracy of material studied 88% in very appropriate category, sequence of material studied 92% in very appropriate category, material book guide 90% in very appropriate category, ease of use of media 89% in very appropriate category, final learning achievement 91 % very feasible category. The overall assessment percentage is 90% in the very suitable for use category

#### **a. Linguist Validation (1)**

Based on the assessment of language experts, the editorial indicator in the opening material is 78% in the appropriate category, the subtitle indicator in each material is in the appropriate category, 75% in the appropriate category, the narrative writing indicator in each material is in the appropriate category. 76%. The overall assessment percentage is 76% with the category suitable for use.

**b. Linguist Validation (2)**

Based on the assessment of language experts, the editorial indicators in the opening material are 88% in the very appropriate category, the subtitle indicators in each material are in the very appropriate category, 92%, and the narrative writing indicators in each material are in the very appropriate category. 91%. The overall assessment percentage is 90% with the category very suitable for use

**a. Android application validation (1)**

By Android application experts with the display of instructions for using the application 75% in the appropriate category, Ease of use of material in the application 74% in the appropriate category, the attractiveness indicator of the application 78% in the appropriate category, the accompanying music indicator 75% in the appropriate category, the Slomotion indicator is 76% in the appropriate category. For the overall assessment, it got a score of 72 in the decent category.

**b. Application expert validation (2)**

By Android application experts with the display of instructions for using the application 88% in the appropriate category, Ease of use of material in the application 90% in the appropriate category, the attractiveness indicator of the application 92% in the appropriate category, the accompanying music indicator 90% in the appropriate category, the Slomotion indicator is 90% in the appropriate category. For the overall assessment, it got a score of 90% in the decent category

**a. Initial/Small Group Trial Results**

Based on the assessment of Android-based karate media carried out by a small sample of instruments with the word order indicator 75% in the appropriate category, the movement beauty indicator 80% in the appropriate category, the movement accuracy indicator 75% in the appropriate category, the sequence uniformity indicator 80% in the appropriate category, the fluidity of movement indicator 78% eligible category. The overall assessment percentage is 79% with the category suitable for use.

**4. Implementation**

After the karate learning media was carried out through several tests, it was implemented to PJKR students with a total of 65 athletes and students.

**b. Results of Large Group Trials**

Based on the assessment of Android-based karate media carried out by a small sample of instruments with the word order indicator 90% in the very appropriate category, the movement beauty indicator 89% in the very appropriate category, the movement accuracy indicator 89% in the very appropriate category, the uniformity sequence indicator 90% in

the appropriate category, the flexibility indicator movement 89% category is very feasible. The overall assessment percentage is 89% with the category very suitable for use.

#### **5. Evaluate (Evaluate)**

After going through the process of the previous stages, the development of karate learning media in the kata category received several less significant improvements that had to be made based on the results of the assessments of experts and students.

### **4 Conclusion**

For the first karate expert validation test, the overall assessment percentage was 80%, for the second test the overall assessment percentage was 90% with the category very suitable for use. For the first test by media experts the overall assessment percentage was 75% in the category suitable for use with revisions and in the second test the overall assessment percentage was 90% in the very suitable category for use. For the first language expert test the overall assessment percentage was 76% with the category suitable for use and for the second language expert test the overall assessment percentage was 90% with the category very suitable for use. For the expert assessment of the first application, the overall assessment received a score of 72 in the decent category. For the expert assessment, the second application overall received a score of 90% in the very worthy category. For the small group test, the overall assessment percentage was 79% with the category suitable for use. In the large group test, the overall assessment percentage was 89% with the category very suitable for use. Conclusion: The media can be used as a medium for learning karate kata material for students of physical education, health and recreation, Faculty of Sports Science, Medan State University

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