DEVELOPMENT OF BASIC KARATE TECHNIQUES BASED ON ISPRING APPLICATIONS FOR EXTRACURRICULAR KARATE STUDENTS OF STATE HIGH SCHOOL 2 PAMEKASAN

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Abstract. The trainer's statement that students had understood the basics of karate techniques but were not yet proficient in their application was the driving force behind this research development. The trainer prioritizes kumite techniques over kihon in every training exercise. After the researchers carried out needs data analysis for 16 extracurricular karate students, the researchers got the results, namely; (1) 87.5% of students do not master all basic stance techniques, (2) 87.5% of students do not master all basic punching techniques, (3) 87.5% of students do not master all basic parrying techniques, (4) 93.8% of students do not master all the basic kicking techniques, (5) as many as 100% of students say they do not have learning media, and (6) 93.8% of students need technology-based teaching media. This development research aims to develop basic karate techniques based on ispring applications. The research method used in this research is the ADDIE development model with the following steps: (1) Analyze, (2) Design, (3) Develop, (4) Implement, (5) Evaluate. The results of the analysis of assessment data from media experts are very valid (100%), the learning expert's assessment is very valid (96%), the karate expert's assessment is very valid (91%). And in the field trial data analysis it is very valid (95%), so it can be concluded that the development of basic karate techniques based on Ispring applications for karate training in the karate extracurricular at State High School 2 Pamekasan can be used.

Keywords: Basic Karate Techniques, Ispring Applications, Extracurricular.

1. INTRODUCTION

Learning occurs simultaneously with the teaching and learning process. Learning can be done without teachers, but teaching cannot be done without students. Learning is a relationship between educators, students, and learning media that has been planned to achieve learning goals. As explained by [1] learning is an educator's effort to help students in the process of acquiring knowledge. Meanwhile, [2] stated

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that learning is a relationship between teachers and students to provide information related to the material being studied. [3] believes that learning is an educator's strategy to provide opportunities for students to gain knowledge. In the learning process, of course there is a learning goal. The aim of learning according to [4] is a statement that explains the students' achievements after completing the process of learning. Learning emphasizes the combination of learning and teaching concepts. The goal of learning or instructional objectives is something that will be achieved by students [5]. [6] setting learning objectives can help educators make decisions about the type of learning sequence that best suits the intended learning objectives.

Learning activities are usually carried out in formal and non-formal education units. Formal education in the National Education System Law no. 20 of 2003 Article 1 paragraph 11 is a set of graded educational programs that includes basic, secondary, and post-secondary education. The formal education environment is often considered to be very supportive of students' efforts to improve their knowledge, abilities and competencies in all fields. Pamekasan State High School 2 is one of the best schools in Pamekasan district. The school is located at Jalan Jokotole no. 234, Pademawu sub-district has developed a lot of the potential of its students.

Systematic development of student potential in formal education units can be attempted through intracurricular and extracurricular activities. Intracurricular is carried out in a structured and scheduled manner according to the subject, while extracurricular is a learning activity carried out outside of class hours. The difference between intracurricular and extracurricular also lies in the planning and implementation process of learning. Intracurricular is structured under the applicable curriculum as a guideline for organizing learning activities to achieve national education goals. Intracurricular learning activities are carried out by teachers or educational staff and must be followed by all students. Extracurricular learning activities are carried out by educational staff who are studying a particular branch of educational science or sport and are only followed by students who are interested and talented in the branch of educational science or sport in the educational unit. The purpose of holding extracurricular activities includes improving students' skills in terms of their interests, talents, and personalities. One of the extracurricular activities at Pamekasan 2 State Senior High School is karate.

Karate extracurricular at Pamekasan 2 State Senior High School was established in July 2015, at which time many students had achieved in the karate martial arts branch in the educational unit, and to accommodate outstanding students, this karate extracurricular was established. This karate extracurricular has 2 coaches with 16 students. Karate extracurricular training is held every Friday, Tuesday, and Wednesday. Karate is one of the famous martial arts branches in Indonesia, even karate is a martial art that is competed in the world Olympics. Everyone from all sports must have skills and master the basic techniques of the sport they are pursuing, as well as the sport of karate [7]. Therefore, as educators, both teachers and coaches must be good at delivering materials and choosing the right learning methods and media to use in the learning or training process therefore students quickly understand, convey the material given by coach.

[2] explained that learning media is everything that educators use as a source of material in learning to facilitate the delivery of information or material to students. The world of education has progressed in all aspects of learning along with advances in science and technology. Learning media that used to be in printed form have now developed into learning media that are very easy to obtain, easy to carry, and easy to use. Research by [8] discovered that the learning process may be aided by the use of electronic learning resources, or e-learning. However, from the results of the researcher's interview with the karate extracurricular trainer at Pamekasan 2 State Senior High School, the trainer said that in the karate training process in the karate extracurricular at Pamekasan 2 State Senior High.

School, learning media had not been used, the trainer only used demonstration and lecture methods. For learning media, the trainer sent videos of basic kumite techniques (matches) sourced from YouTube or personal documents via WhatsApp groups outside of Pamekasan 2 State Senior High School's extracurricular karate training hours. In the interview, the trainer said that most of the karate extracurricular students already know the basic karate technique forms, although in practice, the students have not been able to do good movements considering the need for hours of competition which causes training to focus on kumite techniques (matches) so that mastery of kihon (basic karate techniques) is left behind. The trainer needs learning media to be an alternative in the process of practicing basic karate techniques in the karate extracurricular at Pamekasan 2 State Senior High School.

Before conducting the interview, the researcher had surveyed the implementation process of learning in the karate extracurricular at Pamekasan 2 State Senior High School. [9] explained that learning is a structured activity carried out by learning elements as an effort to gain knowledge and skills. However, in real conditions that occur in the field after students warm up and the trainer gives an introduction or opens the training activity, the trainer immediately provides kumite technique material (fighting) without first providing kihon material (basic karate techniques). And when doing kumite movements, many students do not have perfect movement forms. If imperfect movements are not corrected, of course it will also have an impact on how students develop abilities or affect the overall movements produced.

After conducting surveys and interviews, several factors influence the improvement of student skills, including the learning methods and learning media used by the trainer in this extracurricular activity. One of the factors in choosing a learning method is the learning material that will be given during learning activities or exercises. If the material to be given to students has a high level of difficulty, one of the learning methods that can be used is the part and whole learning method. [10] explained that the whole method is a means of providing teaching materials by displaying overall abilities, while the part method is a way to train skills based on skills that are learned separately. This means that the use of the part and whole method can be applied in learning movements with a high level of difficulty because in its application this method begins with the introduction of movement and continues by breaking it down into several parts until it becomes a combination of all these parts.

Several previous studies show a rise in learning outcomes as a result of using the component and whole learning method in implementing movement learning. Research conducted by [11] found that bettering student learning results through the use of the part and whole learning method in physical education learning on floor gymnastics material (straddle jump). Another study was also conducted by [12] with the study's findings, which showed that learning outcomes have increased for upper passing in volleyball after the application of the part and whole method in implementing physical education learning for class XI students at State Senior High School 10 Palembang. Because basic karate technique movements also have a combination of movements of one body part with another and have a

high level of movement difficulty, researchers are interested in developing basic karate techniques using the part and whole method.

To strengthen the background of the existing problem, in addition to conducting surveys and interviews, the researcher also provided a questionnaire via Google Form to 16 extracurricular karate students at Pamekasan 2 State Senior High School and obtained the following results: (1) 87.5% of students practice 3 times a week, and 12.5% of students practice 2 times a week, (2) 68.8% of students have the potential to take part in championships, 31.3% of students do not have the potential to take part in championships, (3) 100% of students have been taught basic karate techniques, (4) 100% of students have been taught basic horse stance techniques, (5) 100% of students have been taught basic punching techniques, (6) 100% of students have been taught basic blocking techniques, (7) 100% of students have been taught basic kicking techniques, (8) 87.5% of students do not master all basic horse stance techniques, 12.5% of students master all basic horse stance techniques, (9) 87.5% of students do not master all basic punching techniques, 12.5% of students master all basic punching techniques, (10) 87.5% of students do not master all basic blocking techniques, 12.5% of students master all basic blocking techniques, (11) 93.8% of students do not master all basic kicking techniques, 6.3% of students master all basic kicking techniques, (12) as many as 100% of students stated that they did not have learning media as a guide for learning basic karate techniques, (13) 93.8% of students felt that technology-based learning media made learning simpler until they needed it, 6.3% of students did not need technology-based learning media. There are several technology-based basic karate techniques learning media that are already available and can be accessed publicly through online sites and videos sourced from YouTube (Dojo, 2022). However, these media are not specific based on the needs of the user. So researchers are interested in developing basic karate techniques using the part and whole method which is packaged simply.

One of the simple technology-based learning media is android devices may be used to access learning resources in the form of applications that can be utilized anywhere, at any time. The ispring application may be used to create learning materials in the form of apps that are accessible through the e-learning system. According to Anwar et al., (2019) ispring is an app that has the ability to offer software in the form of applications to help teachers present the content to be

taught. Teachers can create interesting learning applications with this program. In addition, this technology-based learning resource also has the benefit of allowing students to learn independently anytime and anywhere because the content is easily accessible via Android smartphones and comes in an easy-to-understand format.

From the results of the survey, interviews, and initial analysis of student needs, the researcher is interested in developing basic karate techniques using the part and whole learning method based on ispring applications to be used by trainers and students in learning or training activities in the karate extracurricular at Pamekasan 2 State Senior High School, especially in learning the basic techniques of karate martial arts.

2. METHOD

This research is a type of Research and Development (R&D) development research. Design research and development is a methodical examination of the planning, development, and assessment process that establishes an empirical base for developing new or enhanced tools, models, and products that are both instructional and non-instructional [14]. In other words, this research and development is a research method used to produce new products or old products that are developed and test the feasibility of the product through structured procedures or steps.

The procedures or development steps taken in this research and development refer to the ADDIE model using the subsequent procedures: (1) Analysis, that is, examining issues through observation, interviews with trainers, and distributing student needs questionnaires as initial research data; (2) Design, namely designing the product to be developed; (3) Development, namely realizing the product that has been designed; (4) Implement, namely implementing a trial of the product that has been developed to 1 media expert, 1 learning expert, 1 karate expert, and a trial to 16 students; (5) Evaluate, namely evaluation by experts and product trial results [15].

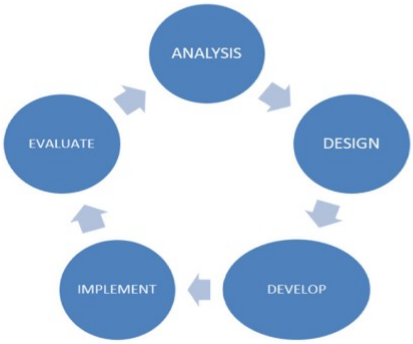

Fig. 1. Research steps

The subjects in this development research consisted of 1) the evaluation of 1 media expert, 1 learning expert, and 1 karate expert, 2) field trial subjects consisting of 16 karate extracurricular students.

The researcher distributed questionnaires to 16 karate extracurricular students of Pamekasan 2 State Senior High School as a research instrument.The researcher used quantitative data analysis techniques obtained from questionnaire answers. To analyze the data, the Likert scale formula was usedThis formula is used to determine each person's or group's attitudes, beliefs, and perceptions [16].

Table 1. Positive Statement Rating Scale

No	Information	Category	Score
1	Strongly agree	A	4
2	Agree	B	3
3	Doubtful	C	2
4	Don’t agree	D	1

Source [16]:

The method for calculating percentage analysis of quantitative data (Akbar et al., 2011) is as follows:

$$V = \frac{TSEV}{S-max} x\,100\,\%$$

Description

V : Validity

TSEV : Total Empirical Validator Score

S – max : Maximum Score

100% : Constant Number

The data acquired can be categorized by percentage in order to process the data from the percentage analysis results. The following is a table used by researchers to determine the conclusion of the validation of the product that has been developed:

Tabel 1. Product Quality Criteria

No	Criteria	Information	Meaning
1	Very valid	75,01%-100%	Used without revision
2	Fairly Valid	50,01%-75%	Used with revision
3	Invalid	25,01%-50%	Can not be used
4	Totally invalid	00,00%-25%	Prohibited for use

Source: (Akbar et al., 2011)

3. RESULT AND DISCUSSION

3.1 Result

Researchers gathered information to assess the viability of the developed product. Researchers collected data from one media expert, one learning expert, and one karate expert, and the results of field trials to all 16 karate extracurricular students of State High School 2 Pamekasan. The following is a framework for the contents of basic karate technique material based on ispring applications with the application name kihonKARATE.

Table 2. Content framework

Basic Technique	Learning Material	
Dachi (sawhorse)	*Shizen-tai*	
	Kiba dachi	
	Zenkutsu dachi	
	Kokutsu dachi	
Zuki (blow)	*Oi zuki*	
	Kisame zuki	
	Gyaku zuki	
	Ura zuki	
Uke (defense)	*Gedan barai*	
	Age uke	
	Shuto uke	
	Uchi uke	
	Soto uke	
Geri (kick)	*Mae geri*	
	Mawashi gri	
	Ura Mawashi Geri	
	Yoko Geri Kekomi	

1. Media Expert

Media expert validation was conducted by a lecturer who had studied in the learning technology department and worked in the field of educational technology expertise. Media expert data analysis includes aspects of accuracy, attractiveness, ease, and usefulness in products developed through the development of basic karate techniques based on ispring applications for karate training in karate extracurricular activities at Pamekasan 2 State Senior High School. The following is a table of media expert analysis results:

Table 3. Media Expert Data Analysis Results

No	Criteria	Worthiness	Meaning
1	Attraction	100%	Very Valid
2	Easy of use	100%	Very Valid
3	Accuracy	100%	Very Valid
4	Expedience	100%	Very Valid
Average		100%	Very Valid

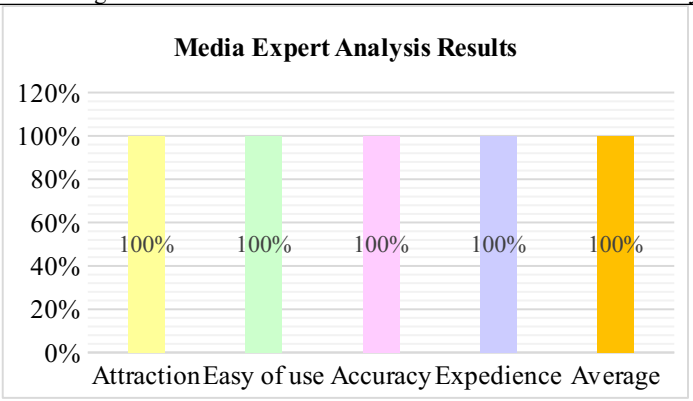

Figure 1. Media Expert Data Analysis Result Diagram

The results of the media expert validity test obtained a percentage assessment of 100%. Based on the feasibility classification table, shows that the development product is categorized as very valid, which means it is suitable for use without revision.

2. Learning Expert

Lecturers with backgrounds in physical education, health, and recreation departments and experience in physical education assessment and evaluation carried out the validation of learning experts. Analysis of learning expert data includes aspects of attractiveness, ease, accuracy, and usefulness in products developed through the development of basic karate techniques based on ispring

applications for karate training in karate extracurricular activities at State Senior High School 2 Pamekasan. The learning expert analysis's results are shown in the table below.:

Table 4. Expert Learning Data Analysis Results

No	Criteria	Worthiness	Meaning
1	Attraction	100%	Very Valid
2	Easy of use	88%	Very Valid
3	Accuracy	100%	Very Valid
4	Expedience	100%	Very Valid
Average		96%	Very Valid

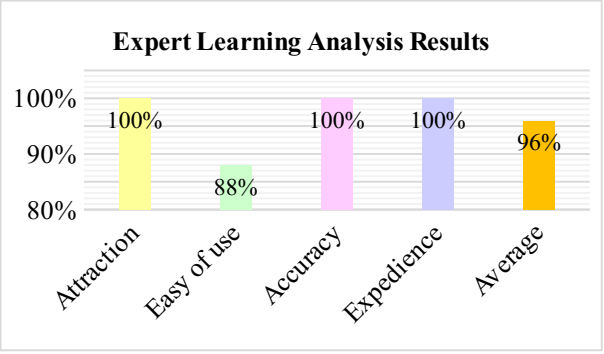

Figure 2. Learning Data Analysis Result Diagram

The results of the learning expert validity test obtained a percentage assessment of 96%. Based on the feasibility classification table, it shows that the development product is categorized as very valid, which means it is suitable for use without revision.

3. Karate Expert

The karate expert validation was conducted by a national-level licensed karate trainer who is also a national-level kata and kumite referee. The karate expert data analysis includes aspects of attractiveness, ease, accuracy, and usefulness in the product developed through the development of basic karate techniques based on ispring applications for karate training in the karate extracurricular at Pamekasan 2 State Senior High School. The following table contains the results of the karate expert analysis:

Table 5. Karate Expert Data Analysis Results

No	Criteria	Worthiness	Meaning
1	Accuracy	92%	Very Valid
2	Attraction	83%	Very Valid
3	Easy of use	92%	Very Valid
4	Expedience	100%	Very Valid
Average		91%	Very Valid

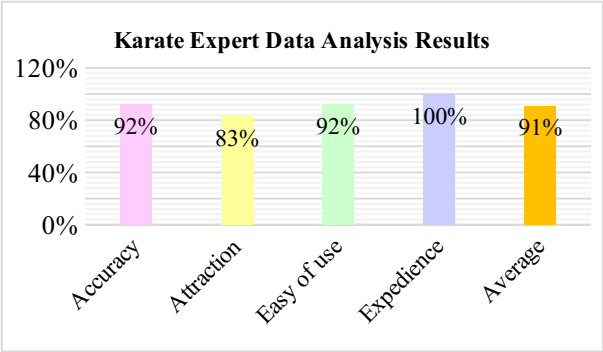

Figure 3. Karate Expert Data Analysis Result Diagram

The karate expert validity test findings yielded a 91% percentage evaluation. According to the table of feasibility classification, it is evident that the development product is categorized as very valid, which means it is suitable for use without revision.

4. Field Trial

Before the product development trial stage was carried out, most students had not performed karate movements correctly, for example, when performing the dachi movement (horse stance), most students had not paid attention to the correct direction of the feet, the distance or width between the feet and the weight of the body on the feet. In the zuki movement (punch), most students had not paid attention to the shape of the fist, the impact of the punch, and the foot support used. In the uke movement (parry), most students had not paid attention to the start and the process of forming the movement carried out, such as the initial fist which should be next to the ear and the elbow raised parallel to the shoulder, but students only raised their arms with elbows still angled downwards (not parallel to the shoulder). And in the geri movement (kick), some students had not paid attention to the impact of the kicking foot, the rotation of the supporting foot and the position of the supporting foot knee.

After conducting the product development trial stage on all extracurricular students, there were significant changes in the student's abilities in performing basic karate technique movements, including (1) in the dachi (horse stance) movement, students were able to differentiate the direction of the feet, the distance between the feet and the weight of the feet in each horse stance movement; (2) zuki (punch), students used their fists and the impact of the punch and used the right support; (3) uke (block), students were able to perform the blocking

process correctly; and (4) geri (kick), in the kicking movement most students were able to kick by paying attention to the impact of the foot, the rotation of the supporting foot, and the position of the supporting foot knee.

In addition to conducting field trial stages, researchers also distributed questionnaires to students to assess the feasibility of the developed product. The analysis of the data from the field trial results in the form of questionnaires includes aspects of attractiveness, suitability, ease, and usefulness of the product developed through the development of basic karate techniques based on ISPRING applications for karate training in karate extracurricular activities at Pamekasan 2 State Senior High School. The findings of the karate expert analysis are shown in the table below:

Table 6. Results Of Field Trial Data Analysis

No	Criteria	Worthiness	Meaning
1	Conformity	93%	Very Valid
2	Attraction	93%	Very Valid
3	Easy of use	96%	Very Valid
4	Expedience	98%	Very Valid
	Average	95%	Very Valid

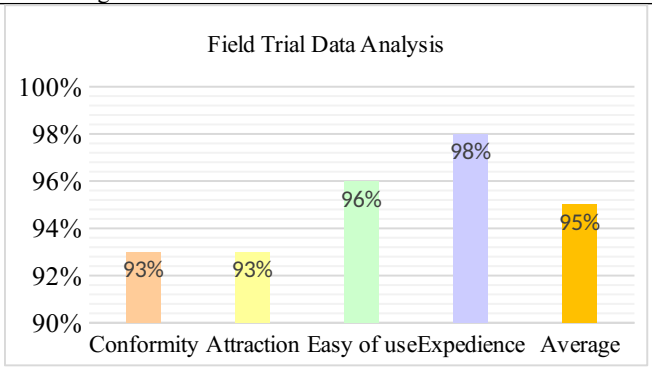

Figure 4. Field Trial Data Analysis Results Diagram

A 95% percentage assessment was achieved from the field trial findings. According to the table of feasibility classification, the development product is classified as extremely valid, which means it is suitable for use without revision.

3.2 Discussion

The development of this basic karate technique product was developed using the ISPRING application. Learning is an interaction between teachers and students that transfers information from teacher to student, according to [6]. According to [18] learning occurs when

teachers and students interact with resources in the classroom environment to support student knowledge acquisition. [19] further stated that learning is a planned, directed, and interactive process, which involves learning components. According to [20] learning elements include learning objectives, students, educators, learning materials, learning methods, learning media, and learning assessments.

In order for pupils to comprehend and apply the knowledge that teachers have imparted to them, educators must be good at delivering the material. According to Susila et al., (2024), one of the elements that determines the effectiveness of a teacher in achieving learning objectives is the use of learning methods; therefore, it is natural that the delivery of quality information is supported by appropriate learning methods and learning media. The learning method is one of the curricular aspects used in the learning process according to [22]. In addition, according to [23] the learning method is a teacher's approach to conveying knowledge. Part and whole learning approaches are used in the development of this learning. According to [24] the part and whole learning method is a progressive learning approach that begins with the introduction of movement and continues by breaking it down into several parts until it becomes a combination of the whole.

Learning media according to [25] is a tool used by teachers to transfer knowledge to students during the teaching process. The findings of [20] explain that educators use learning media as a means to help them provide educational content. [26] argues that learning media functions as a tool for teachers to communicate with students. Learning media is a tool for teachers to present material in learning so that learning becomes effective and efficient [23]

The development research of the Development of Materials for Middle School PJOK Teachers Using the ISpring Application is relevant to the author's research. This research also develops development research based on the ispring application, but in their research the researchers developed soccer materials for junior high school PJOK teachers [27]. In addition, research from [28] is another research that is relevant to this research. The research produced basic karate movement teaching materials using audiovisual as a development product in their research. Another development research from [29] is also relevant to this research. The research produced basic karate technique teaching materials for kyu 10, using the auto play 8.5 application as its development product.

As a differentiator from previous studies, researchers are interested in developing basic karate techniques based on ispring applications as an update in research. The final product of this study is a basic karate technique application that can be accessed via smartphone. This development product explains learning objectives, karate history material, karate definition, and basic karate techniques using text, images, audio, and video. This application-based development research is one of the supporting elements in achieving learning objectives. This product is specifically designed for use in learning basic karate techniques for karate extracurricular activities at Pamekasan 2 State High School. In this application, there is basic karate technique material using the part and whole method and there are variations of exercises to be used as examples of exercises by students. The contents of the application include basic karate technique material, variations of exercises, and assessments in the shape of drill questions.

This application is designed through an online design platform, namely Canva, by entering basic karate technique materials, after which the design results are downloaded in PowerPoint format. Furthermore, the author connects or hyperlinks the features contained in the design that is already in Microsoft PowerPoint format. Then the design is developed and converted into Flash or HTML format via Ispring Suite 10 software which has previously been connected to Microsoft PowerPoint. After that, the HTML file is converted again using the Website 2 APK Builder application software into a final product in the form of an application that can be used on a smartphone.

Product revision in response in response to advice and commentary from specialists. Expert opinions or recommendations from the media expert, and an average result of 100% was obtained, consisting of the aspect of attractiveness by obtaining a result of 100%, namely the attractiveness of the appearance, design, and overall content of the material or content, the aspect of ease with a result of 100%, namely the ease of material and product content, the aspect of accuracy with a result of 100%, namely the accuracy of content, and material that includes the appearance and design of the product, the aspect of usefulness with a result of 100%, namely the usefulness of the product and the product is suitable for use without revision and can be tested.

From the learning expert there are suggestions and input for researchers to revise the product with notes to add karate history material and karate understanding. Validation from the learning expert

obtained an average result of 96% consisting of the aspect of attractiveness by obtaining a result of 100%, namely the attractiveness of the overall content of the material and content, the aspect of ease with a result of 88%, namely the ease of coverage of the material and access to product content, the aspect of accuracy with a result of 100%, namely the accuracy of coverage of the material and content, the aspect of usefulness with a result of 100%, namely the usefulness of the product, and the product can be tested with revisions first.

From karate experts there are comments that the developed product is very good and useful for karate athletes especially for beginners, the development product is very useful and helps trainers. The results of the karate expert validation obtained an average result of 91% consisting of the accuracy aspect of 92%, namely the accuracy of the entire material and content, the attractiveness aspect with an average of 83%, namely the attractiveness of the entire content of the material and content, the ease aspect with an average of 92%, namely the ease of coverage of the material and content, the usefulness aspect with an average of 100%, namely the usefulness of the product and the product is suitable for use without revision and can be tested.

From the results of the field trial, an average of 95% was obtained, consisting of the suitability aspect of 93%, namely the overall suitability of the material and content, the attractiveness aspect of 93%, namely the overall attractiveness of the material and product content, the ease aspect of 96%, namely the ease of coverage of the material and content, and the usefulness aspect of 95%, namely the usefulness of the product being developed.

By creating the development of basic karate techniques based on ispring applications, it is hoped that it can improve students' abilities in performing basic karate technique movements with the correct form, motivate students to increase the interest and understanding of extracurricular karate students in basic karate technique materials and add training references for students and trainers.

4. CONCLUSION

From the results of the expert validation data analysis, and the results of the product trial data analysis for extracurricular students of Senior High School 2 Pamekasan, it can be concluded that the research product for the development of basic karate techniques based on ispring applications for karate training in the karate extracurricular

activities of Senior High School 2 Pamekasan can be used in the implementation of basic karate technique learning in the karate extracurricular activities of Senior High School 2 Pamekasan.

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