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Development of tradition game-Based modules in learning basic athletic movement skills in elementary schools

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Abstract

This article presents analytical data on the development of a Physical Education, Sports and Health (PIOK) module based on traditional games for teaching basic athletic movement skills to fourth grade students in three elementary schools. The objectives of the research were to formulate the design of the PJOK module, to determine the validity of the module, to analyze its practicality, and to examine the effectiveness of the PJOK module based on traditional games in improving learning outcomes in basic athletic movement skills. The development process involved designing a PJOK module grounded in students' needs and oriented toward real-life application. The validity of the module was evaluated by six experts-two content/material experts, two media experts, and two language expertsfollowed by a small-group trial with 13 students. A subsequent practicality test involved four PJOK teachers and 20 students, while the effectiveness test used a quasi-experimental design with a posttest-only control group, involving 34 fourth grade students (17 in the experimental group and 17 in the control group). The results show that (1) the content/material, media, and language validity were in the valid category, with an overall validity coefficient of 0.94 (very high category); (2) the practicality test from the responses of four PJOK teachers indicated that the module was practically used in terms of content/material, presentation, and benefits, with an average score of 83%, while student responses (n = 20) showed 80.4% for material, 85% for presentation, and 86% for benefits, indicating that the PJOK module on basic athletic movement skills based on traditional games is practically applicable in the learning process; and (3) the effectiveness test using ANOVA on student learning outcomes yielded a significance value of p = 0.000 (< 0.05), indicating a significant effect. In conclusion, based on content validity testing, the developed PJOK module meets valid criteria and is suitable for field implementation; the practicality test shows that the material and display aspects are in the practical category according to PJOK teachers and students; and the effectiveness analysis using ANOVA on knowledge, attitudes, and skills learning outcomes demonstrates that the PJOK module based on traditional games is very effective for implementing learning of basic athletic movement skills in fourth grade elementary school students.

Keywords: Physical education module, Traditional games and basic athletic movement kills

Introduction

Elementary schools play a central role in shaping a generation that is intelligent, healthy, and integrated in cognitive, affective. psychomotor aspects. Learning within the psychomotor, cognitive, affective, and social domains in physical education is inseparable from the curriculum and pedagogical context for development[1]. holistic child Physical Education, Sports, and Health (PJOK) is a strategic subject because it provides direct experience in structured physical activity while instilling social and cultural values [2,3]. Physical Education, Sports, and Health, in addition to emphasizing knowledge enhancement, also focuses on mastery of basic movement skills, such as running, jumping, and throwing. as a foundation for skill development. The level of competency in basic movement skills is more active throughout the day, especially during key school periods such as lunchtime, recess, and

after school [4].

The use of learning modules is seen as a solution because they are systematically structured, support independent learning, and can be tailored to student needs [5]. tradition gamebased modules can stimulate and train motor skills, foster joy, cooperation, and preserve local wisdom [6,2]. tradition game-based Physical Education, Sports, and Health learning increases motivation, participation, and basic motor skills of elementary school students [7]. Traditional cultural game skills training (TCG) in accordance with PJOK material is more effective for knowledge and learning of gross motor skills (GMS). [8]. Traditional games such as forts, selodoran, jump rope, and can throwing contain locomotor, non-locomotor, and manipulative elements that are linear in athletic learning.

Athletics is one of the components of physical education, sports, and health which consists of

several types of numbers consisting of; running, jumping, throwing and pushing. Basic athletic movement skills are movement abilities to help each person (student) develop complex basic movements. Sports equipment and activities are provided with various types of fundamental movement skills (FMS) and activity conditions Moderate-to-vigorous physical activity (MVPA) in children during school hours (Liu et al., 2024). Mobile learning in the development of physical abilities (speed, agility, flexibility, explosive strength of the arms and legs, compatibility and endurance) is very effective in applying to students' basic education [9]. The results of initial observations conducted in December 2023 during PJOK learning at State Elementary School 2 Mujur grade IV (four) on the material of basic athletic movement skills, found that in the initial learning activities, such as warming up, it was very monotonous only limited to static and dynamic warm-ups, after that directly to the core material which sometimes triggered students to be less motivated in doing basic running, jumping, and throwing movements. The researcher then identified by distributing a basic athletic movement questionnaire, and obtained 62% of students' skills and understanding were in the low category.

Based on interviews with physical education teachers regarding the modules used, they consistently relied on existing modules aligned with the current independent curriculum, but did not add or modify topics to suit the characteristics and needs of students. Student observations revealed that another factor contributing to boredom was the use of the same learning resources, particularly textbooks. Eighty-five percent of students stated that textbooks contained too much text, lacked illustrations, and involved too much practice. Teachers rarely directed students to play traditional games before entering the core material. Developing a module that focuses on materials and media for movement activities by modifying games can help improve elementary school students' basic movement skills and is suitable for implementation in learning activities [10]. By integrating tradition games into the basic movement skills material for athletics. it is hoped that it will motivate students to be more creative and active in learning basic movement skills. Developing a tradition gamebased physical education module for learning basic movement skills for athletics is deemed necessary to anticipate potential obstacles such as the prevalence of online games, decreased physical activity, poor cooperation, decreased motivation to learn, and the infrequent use of tradition games. Developing a tradition gamebased PJOK module in learning basic athletic movement skills with the aim of improving the basic athletic movement skills of elementary school students through various traditional games that can be applied in everyday life.

Methods

Module development Physical Education based on traditional games in learning basic movement skills This elementary school student athletics program was developed using the ADDIE development model [11]. ADDIE development was chosen because this development model is very suitable and relevant to the product at hand. This research also has systematic stages. The stages of developing the ADDIE model consist of: 1). Analysis Stage. 2). Design Stages. 3). Development Stages. 4). Implementation Stage and 5). Evaluation Stage (Branch, 2009), as shown in the following diagram:

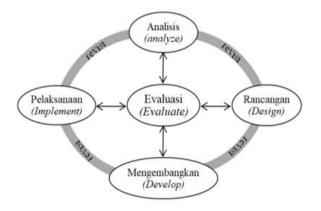


Figure 1. ADDIE model development sequence

Development research with the ADDIE model approach as shown in the figure can be carried out by; 1). Each stage is tested, revised, and evaluated, then the resulting product is valid as intended by the researcher. 2). The development of a tradition game-based PJOK module in learning basic athletic movement skills for elementary school students provides a space for learning groups to be more enthusiastic and interactive, because the learning strategies and patterns are in accordance with needs. The development process is carried out through testing by a team of experts in stages, research

subjects as a team on a small to large scale, and improvements or revisions to achieve a perfect final product.

Development procedures

1.Level of analysis

At this stage, how to thoroughly understand the learning needs of the modules used by teachers and students, learning media, learning aids and other learning resources. Therefore, in this needs analysis process, several questions will be answered, namely (1) is the PJOK module to be developed able to overcome obstacles or barriers in ongoing learning? (2) is the PJOK module developed able to support the learning functions implemented? (3) Are PJOK teachers capable of applying the modules to be developed? Next, in the first step in the needs analysis, which will be carried out by analyzing the PJOK learning objectives in order to understand PIOK learning more specifically on the material of basic athletic movement skills according to the current curriculum, and the learning achievements of the material of basic athletic movement skills.

2.Plan level

The design stage of the learning module developer designs a more detailed plan on how the PJOK teaching module based on tradition games in basic athletic movement skills can be structured for use by students. The planning stage is carried out based on the results of the analysis, including; (1). The learning module developer designs in more detail and structures it for use by students based on the results of the analysis. (2). Compiling Outline The PIOK module contains an initial plan of what will be written in the module. Generally includes the home page (cover), foreword, table of contents, module usage instructions, concept map, learning content, student activity sheets that lead to tradition games to be paired with basic athletic movement skills. (3). Designing module includes materials in the presentation of learning materials according to competencies, student activity sheets as a guide in carrying out activities to be completed in the module as well as illustrations that will be made based on tradition and lead to structured, effective learning, and in accordance with the objectives that have been set. (4). Assessment and evaluation instruments, used to measure students' basic athletic movement skills and assignment forms (LKPD), assessments (formative and summative) as student work in the form of assessment rubrics. However, before being distributed, the quality of the media developed must be validated by content experts and media and learning design experts, individual students, small groups of students and limited field tests to maintain the quality and effectiveness of the learning modules developed before being widely used.

3.Development stage

The development stage is carried out by validating the instrument, which consists of; (1). Validation test of content or material by experts in the field of learning materials with a minimum educational qualification of Doctorate. (2). Validity test of media experts by experts in the field of media with a minimum educational qualification of Doctorate. (3). Validity test of language by experts in the field of language with minimum educational qualification of Doctorate. After the validation instrument criteria are compiled and validated by the validator. If the results of the instrument analysis data are valid, if valid and feasible but slight revisions are made according to the input of experts, the product can be used for trials.

4.Level of implementation

The implementation phase involved field trials, including small group trials and large group trials. The small group trial involved 13 elementary school students using a traditional game-based physical education module for basic athletic movement skills. The goal was to determine the results of the newly developed product. If revisions were needed, the product would be revised first before proceeding to the large group trial stage. The large group trial involved 25 students from one fourth grade class. Elementary school students.

5.Evaluation Stage

At the evaluation stage, the module's effectiveness was tested by testing learning outcomes through large group trials using the method *quasi-experimental post test-only control group design*.

Table 3 1 Skema posttest only group design

Subject	Treatment	Results of basic atletic movment skills
R1	X	01
R2	-	O2

Description

R1: Treatment group.

R2: Control group. X: Treatment.

-: No treatment.

01: Test results of the treatment group.

02: Test results of the control group.

Research subjects

Research subjects It is very important to determine a sample that is representative of the population so that it can be generalized to the subjects of interest [12]. The trial subjects of this research were conducted by involving experts, physical education teachers, and students to determine the validity, practicality, effectiveness of the developed module. The validity of the module was tested using six experts, including two content or material experts, one language expert, two media experts, and one instrument expert. The content experts or material involving expert lecturers in the field of athletics PJOK, language experts involving lecturers who are experts in the field of language, media experts involving lecturers who are qualified in the field of media and one expert who is an expert in the field of instruments. Small group trials involving 13 elementary school students 1 Mujur, while the practicality test involving 4 PJOK teachers and 17 elementary school students, and effectiveness test involving 34 fourth grade students of elementary school 1 Kulem, SDN 1 Ganti in the Praya Timur District area, including 17 students as the experimental group and 17 students as the control group. determination of subjects was not used randomly. While the location of the small group trials and effectiveness tests were carried out in the Elementary School field.

Data collection techniques

The data collection techniques used were both non-test and test. Non-test data collection

included observation, interviews, questionnaires, and documentation. The test technique involved practicing basic athletic movement skills based on traditional games, after using the Physical Education (PJOK) module on basic athletic movement skills based on tradition games.

Data collection instruments

Module validity instrument

The questionnaire for the material/content expert, media expert, and language expert test is a list of questions that must be completed by the subjects to be measured, often referred to as respondents. As seen in the following table:

Table 3 1. Grid of the Material/Content Expert Validation Instrument for the PJOK Module

No	Amost	Statement	Types of Sta	Statement Amount				
140	Aspect	Statement	Positive	Negative	0.74			
1	M-1-1 A	P1, P2, P3, P4,	P1, P2, P3, P4,	-	8 Items			
1	Material Aspect	P5, P6, P7, P8	P5, P6, P7, P8	-				
	Construction	P9, P10, P11,	P9, P10, P11,	-				
2	Aspects	P12, P13, P14,	P12, P13, P14,	-	10 Items			
2		P15, P6,	P15, P6, P17,	-				
		P17,P18	P18					
	Total Stat	ement	- 18 Items	-	18 Items			

Table 3 2. Grid of validation instruments for media experts the PJOK Module

No	A	Statement	Types of Statement	Amount	
140	Aspect	Statement	Positive	Negative	Statement
1	Module Size and Component Aspects	P1, P2, P3,	P1, P2, P3,	-	3 Items
2	Cover Aspect Module	P4, P5, P6,	P4, P5, P6,	-	3 Items
3	Module Content Design	P7, P8, P9, P10, P11,	P7, P8, P9, P10, P11,	-	9 Items
	Total Statement	P12, P13, P14, P15, 15 Items	P12, P13, P14, P15 15 Items	-	15 Items

Table 3 3. Grid of Validation Instruments for Language Experts for the PJOK Module

	A 4	Ct-t-m-mt	Types of Sta	tem en t	Amount	
	Aspect	Statement	Positive	Negative	Statement	
No	Readability	P1, P2, P3, P4,	P1, P2, P3, P4,		5 Items	
1		P5,	P5,) Hellis	
1	Communicative	P6, P7, P8, P9,	P6, P7, P8, P9,		6 Items	
2		P10, P11,	P10, P11,		o nems	
	Conformity to	P12, P13,P14,	P12, P13, P14,			
3	Indonesian	P15, P16, P17,	P15, P16, P17	-	6 Items	
	language rules					
	Total State	ement	17 Items	-	17 Items	

B Practical instruments module

The practicality assessment instrument is used to determine whether the developed module is practical to implement based on responses from PJOK teachers. The practicality aspect based on responses from PJOK teachers consists of 3 types, including (1). Module Material, (2). Module Presentation and (3). Module Benefits. The practicality assessment instrument is based on responses from PJOK teachers. As seen in the following table;

Table 3.4 Response from elementary school physical education teachers

No	A	Statement	Types of State	Amount	
140	Aspect	Statement	Positiv e	Negative	Statem ent
1	Module Material	P1, P2, P3, P4, P5,	P1, P2, P3, P4, P5,	-	5 Items
2	Presentation Module	P6, P7, P8, P9, P10,	P6, P7, P8, P9, P10,	-	5 Items
3	Benefit Module	P11, P12,P13, P14, P15, P16,	P11, P12, P13, P14, P15, P16,	-	6 Items
	Total Sta	tem ent	16 Items	-	16 Items

Tabel 3.5 Responses from Elementary School students

No	Aspect	Statement	Types of State	ement	Amount
110	Aspett	Statement	Positive	Negative	Statement
1	Module Material	P1, P2, P3, P4, P5, P6	P1, P2, P3, P4, P5, P6	-	6 Items
2	Presentation Module	P7, P8, P9, P10,	P7, P8, P9, P10,	-	4 Items
3	Benefit Module	P11, P12,P13, P14, P15, P16,P17, P18, P19, P20, P21, P22, P23, P24, P25,	P11, P12, P13, P14, P15, P16, P17, P18, P19, P20, P21, P22, P23, P24, P25,	-	15 Items
	T otal Peri	iyataan	25 Items	-	25 Items

Expert validation and practicality assessment instrument rubric in the development of the PJOK module for basic athletic movement skills material based on traditional games, as shown in the following table:

Table 3 5. PJOK module assessment rubric

No	Evaluation Criteria	Statement Score
1	Very Suitable (SS)	5
2	Suitable (S)	4
3	Less Suitable (KS)	3
4	Not Suitable (TS)	2
5	Very Unsuitable (STS)	1

Analysis data

Research data analysis was conducted in stages, adjusted to the research objectives, which include:

a.Design of a PJOK module based on traditional games in learning basic athletic movement skills. The design was analyzed using qualitative

methods through observation and interviews, becoming a needs analysis to determine how important the developed module is, whether it is suitable for implementation in the PIOK module.

b.Validity testing using the approach *Content Validity Ratio* (CVR) and *Content Validity Indexs* (CVI) from [13], with the CVR and CVI test formulas;

$$CVR = \frac{ne - \frac{N}{2}}{\frac{N}{2}}$$

Rumus Uji Lawshe CVR

Information:

CVR: content validity rasio

Ne: number of experts who answered essential

or very essential

N: total number of experts

c.The practicality test of the traditional gamebased PJOK module in learning basic athletic movement skills was analyzed using the Criteria Reference Assessment (PAK). This conversion guide is based on the Criteria Reference Assessment (PAK), as shown in the following table.

Table 3 6 PAK conversion guidelines

No	Percentile score range	Category
1	90-100	Very Practical
2	80-89	Practical
3	65-79	Quite Practical
4	40-64	Less practical
5	0-39	Very Impractical

d. Testing the effectiveness of the traditional game-based PJOK module in learning basic athletic movement skills. The effectiveness test was conducted involving 34 fourth grade students in the first semester of elementary school. test students' basic athletic movement skills in the aspects of knowledge, attitude and skills, 17 students became an experimental group and 17 students became the control group. They were taken random ly Intact-Group Comparison (whole group comparison). Furthermore, the effectiveness of the module is carried out through a field trial process using Quasi Experimental Design with shape posttest-

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only control group design. Steps taken in the effectiveness test include: (a). Arranging research subject groups using random sampling techniques, because The selected elementary school is in a different village. (b). Trying out the developed module. (c). Carrying out a skills test basic athletic movements. (d). Checking the learning outcomes of basic athletic movement skills from the differences between the two averages using the statistical test method. Analysis of Variance (ANOVA).

Result

The developmental theory of [15] states that children aged 7-12 years are at the concrete operational stage, where they learn more effectively through direct experience, real activities, and interaction with the environment. Physical activities packaged in the form of games can help conceptual understanding while developing motor skills. Recently, small-sided games into PE classes can effectively stimulate engagement and moderate-to-vigorous physical activities [16]. Students' basic motor skills are in the process of developing rapidly, including coordination, speed, agility, and balance, so that learning that involves active movement will be more easily accepted. From the needs analysis based on the results of interviews and questionnaires answered by PJOK teachers, it can be seen that: (a). The learning approach used by PIOK teachers currently uses an expository approach (lecture) and direct practice. (b). The teaching modules implemented by PJOK teachers are based on existing modules without modifying them to suit the needs of students. (c). For the steps in basic athletic movement skills material, on average, PIOK teachers write generally consisting of an introduction, core, and conclusion as stated in the existing lesson plans but very rarely in traditional game-based learning.

For the results of the questionnaire filled out by students regarding the Physical Education (PJOK) learning of basic athletic movement material, the following results were obtained: 72.57% of students said that the PJOK teacher sometimes did not provide examples when teaching, as many as 82.57% of students said that the PJOK teacher never used or combining athletic learning with traditional games, and then in the process of understanding the PJOK learning material, the material on basic athletic

movement skills stated that 86.15% of students said that they needed learning that provided examples, the need to form groups in filling out LKPD, and there was no feedback on learning that has taken place.

Design of a physical education module based on traditional games in learning basic athletic movement skills: The design of the PJOK module is arranged systematically starting from clear learning objectives, relevant learning materials, to activity steps that involve direct practice as found in the relevant module design from experts, PJOK teachers and students.

1.Design and Construction of a Physical Education Module Based on Traditional Games in Learning Basic Athletic Movement Skills.

The design of the PJOK module, in the form of a book that has been developed in the form of a learning module book, which consists of an outer cover(Cover). The cover in the foreword is the author's foreword. table of contents. introduction, module material consisting of 4 learning materials, namely: Learning activity 1 (one): Basic movement skills of 50 meter sprint based on traditional games of Bentengan and Selodoran. Learning activity 2 (two) second:

Long jump based on traditional rope jumping games. Learning activity 3 (third): Turbo throw based on traditional can throwing games, and Learning activity 4 (fourth): Shot put based on can throwing games. Each activity contains objectives, starting questions, learning activities (praying, reading the module, warming up and playing Bentengan, Selodoran, description of learning materials, student assignments, summaries, formative tests, LKPD, test answer keys, glossary, bibliography.

2.Development of a Traditional Game-Based Physical Education Module in Learning Basic Athletic Movement Skills.

After the module is compiled, the validation stage is carried out. The module validity test is carried out by 2 (two) content/material experts, 2 (two) media/design experts and 2 (two) language experts.

The validation of the content/material experts uses content validity ratio (CVR) and content validity index (CVI), The results

content/material validation by experts are described in Table 4.1 as follows.

Table 4.1 Results of data analysis of validation of content/material instruments for traditional games-based physical education modules in learning athletic movement skills

Item	Exp	ert 1	Expe	rt 2	Exp	ert 3	Expert	: 4	Exper	t 5	Exp	ert 6	Ne	N	CVR	CVI
numb er	Relevant	Irrelevant														
1			$\sqrt{}$		6	6	1	0,94								
2	√		√		√		√		√		$\sqrt{}$		6	6	1	
3			$\sqrt{}$		6	6	1									
4	$\sqrt{}$		6	6	1											
5	$\sqrt{}$		6	6	1											
6			$\sqrt{}$		$\sqrt{}$						$\sqrt{}$		6	6	1	
7													6	6	1	
8			$\sqrt{}$		$\sqrt{}$				$\sqrt{}$				6	6	1	
9													6	6	1	
10													6	6	1	
11											$\sqrt{}$		6	6	1	
12													5	6	0	
13													6	6	1	
14													6	6	1	
15													6	6	1	
16											$\sqrt{}$		6	6	1	
17											$\sqrt{}$		6	6	1	
18											$\sqrt{}$		6	6	1	
Amount															17	

Based on the results of the data analysis in table 4.1 above, the validity of the content can be found. (content validity) By using the CVI formula, with the results of this data calculation, it can be concluded that the validity of the

content instrument for the expert validation questionnaire and the practicality questionnaire was 0.94, each with a valid category which was stated as appropriate and suitable for use in trials after being revised.

Table 4.2 Results of data analysis of the validity of the physical education module media instrument based on traditional games in learning basic athletic movement skills

	Exp	ert 1	Exp	ert 2	Exp	ert 3	Exp	ert 4	Exp	ert 5	Exp	ert 6				
Item num ber	Relevant	Irrelevant	Ne	N	CVR	CVI										
1	$\sqrt{}$												6	6	1	
2	$\sqrt{}$												6	6	1	
3	$\sqrt{}$												6	6	1	
4	$\sqrt{}$				$\sqrt{}$								6	6	1	
5	$\sqrt{}$				$\sqrt{}$		$\sqrt{}$		$\sqrt{}$		$\sqrt{}$		6	6	1	
6	$\sqrt{}$		$\sqrt{}$		$\sqrt{}$		$\sqrt{}$			$\sqrt{}$			5	6	0	0.02
7	$\sqrt{}$				6	6	1	0,93								
8	$\sqrt{}$				$\sqrt{}$		$\sqrt{}$		$\sqrt{}$		$\sqrt{}$		6	6	1	
9	$\sqrt{}$				6	6	1									
10	$\sqrt{}$		6	6	1											
11	$\sqrt{}$				$\sqrt{}$		$\sqrt{}$		$\sqrt{}$				6	6	1	
12	$\sqrt{}$		6	6	1											

13	$\sqrt{}$	√				V	6	6	1	
14	$\sqrt{}$				$\sqrt{}$	V	6	6	1	
15	$\sqrt{}$				$\sqrt{}$		6	6	1	
Amount										

Based on the results of the data analysis in table 4.2 above, the validity of the content can be found. (content validity) by using the CVI formula, with the results of this data calculation, it can be concluded that the validity of the media instrument for the expert validation questionnaire was obtained 0.93, each with a valid category stated as appropriate and suitable

for use in trials after being revised. Based on the expert test of the research media instrument, the expert assessment for the validation instrument in statement number 6 stated that it was less appropriate in the module cover aspect, while input from expert 5 (five) regarding this aspect was that the graphic part on the cover was clearer.

Table 4.3 Results of data analysis of the validity of the language instrument of the physical education module based on traditional games in learning basic athletic movement skills

	Expo	ert	Exp 2	ert	Exp 3	ert	Exp 4	ert	Exp 5	ert	Exp 6	ert	Ne	N	CVR	CVI
Item num ber	<-Relevant	Irrelevant	Relevant	Irrelevant	Relevant	Irrelevant	<- Relevant	Irrelevant	<- Relevant	Irrelevant	Relevant	Irrelevant				
1	$\sqrt{}$		$\sqrt{}$		$\sqrt{}$		$\sqrt{}$		$\sqrt{}$				6	6	1	
2	$\sqrt{}$						$\sqrt{}$						6	6	1	
3	$\sqrt{}$				$\sqrt{}$		$\sqrt{}$		$\sqrt{}$				6	6	1	
4	$\sqrt{}$				$\sqrt{}$		$\sqrt{}$		$\sqrt{}$				6	6	1	
5	$\sqrt{}$						$\sqrt{}$						6	6	1	
6	$\sqrt{}$		$\sqrt{}$				$\sqrt{}$		$\sqrt{}$				6	6	1	
7	$\sqrt{}$		$\sqrt{}$				$\sqrt{}$		$\sqrt{}$				6	6	1	
8	$\sqrt{}$						$\sqrt{}$						6	6	1	
9			$\sqrt{}$				$\sqrt{}$		$\sqrt{}$				6	6	1	0,94
10	$\sqrt{}$				$\sqrt{}$		$\sqrt{}$						6	6	1	
11	$\sqrt{}$		$\sqrt{}$				$\sqrt{}$						6	6	1	
12			$\sqrt{}$				$\sqrt{}$		$\sqrt{}$				6	6	1	
13	$\sqrt{}$				$\sqrt{}$		$\sqrt{}$						6	6	1	
14	$\sqrt{}$				$\sqrt{}$		$\sqrt{}$					$\sqrt{}$	5	6	0	
15	$\sqrt{}$		$\sqrt{}$		$\sqrt{}$		$\sqrt{}$		$\sqrt{}$				6	6	1	
16	$\sqrt{}$		$\sqrt{}$		$\sqrt{}$		$\sqrt{}$				$\sqrt{}$		6	6	1	
17	$\sqrt{}$				$\sqrt{}$		$\sqrt{}$		$\sqrt{}$				6	6	1	
Amour	nt														16	

Based on the results of the data analysis in table 4.3 above, the validity of the language instrument was obtained at 0.94, each with a valid category, which was stated as appropriate and suitable for use in trials after revision.

Based on the expert test of the research language instrument, the expert assessment for the validation instrument in statement number 14 stated that it was less appropriate in terms of the

suitability of Indonesian language rules, while input from 6 (five) experts regarding this aspect was more consistent in language terms. After all instruments had been declared valid by the experts, they were then tested on students, through small group trials.

The questionnaire response statements for the small group trials are presented in the following table.

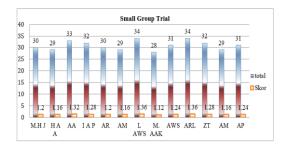


Diagram 4.1. Small group trial of material/content module

Diagram 4.4 shows that each item is scored on a scale of 1–5, then added up to obtain a total and converted into a score. The assessment results indicate the level of achievement. Which is good with an average score of 1. The variation in scores between participants is relatively small, so that equalizing learning can be done more easily and effectively.

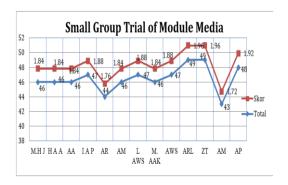


Diagram 4.1. Assessment results

Based on diagram 4.2, the assessment results show that the majority of students have mastered the material well, and achievement across participants is relatively even, with a score of 1.85. Although the difference between the highest and lowest scores is relatively small, at 6 points, this certainly indicates good equity in learning

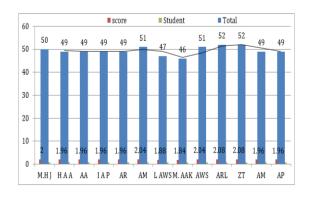


Diagram 4.3. Results of small group trials of the language aspects of the module

Diagram 4.3 These results indicate that the quality of the traditional game-based PJOK module in learning basic athletic movement skills is assessed as good with an indication that the module has met the eligibility criteria in terms of language suitability with the curriculum, clarity of learning objectives, integration of materials, and relevance to student needs. The data obtained can be used as an initial guideline in revising the development of the traditional game-based PJOK module in learning basic athletic movement skills.

Practicality of traditional games-based physical education, sports and health modules in learning basic athletic movement skills.

The practicality test was obtained based on the responses of 4 physical education teachers and 20 students regarding the implementation of a traditional game-based physical education module in learning basic athletic movement skills. The following presents the results of the practicality test based on the physical education teachers' responses.

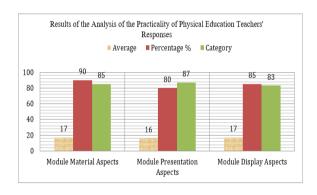


Diagram 4.3. Results of the practicality test of the teacher response module

These three aspects qualify according to the practical category (80-87).

This shows that the response of the Physical Education teachers to the Physical Education module based on traditional games in learning basic athletic movement skills that was developed received a positive response and is practical for use in the Physical Education learning process activities for athletic material. Furthermore, the results of the practicality test are based on students

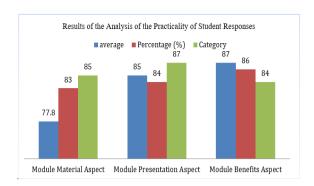


Diagram 4.4. Results of analysis of the practicality of student responses

Based on the three aspects being qualified as appropriate, this shows that the students' response to the developed module received a positive and practical response for use in traditional game-based PJOK learning activities in learning basic athletic movement skills.

Evaluation of the traditional games-based physical education and health module in learning basic athletic movement skills:

The effectiveness test was conducted on the field of SMAN 1 Praya Timur, from 3:20 PM to 5:30 PM WITA (Central Indonesian Time). The field was chosen because of its large area and its jump area. Long distance. Meanwhile, other sub-topics such as the 50-meter sprint, turbo throw, and shot put were conducted at the East Praya public field. The following presents the results of descriptive statistical analysis of learning outcomes in the knowledge, attitude, and skills aspects of the application of the traditional game-based PJOK module in learning basic athletic movement skills, in the second group, as can be seen in the following table:

These results indicate that the attitudes of students in the experimental group are positive relatively more and consistent compared to the control group. And in the aspect athletic movement skills, of basic experimental group obtained an average value of 71.65 with a standard deviation of 2.029. while the control group achieved a mean of 68.76 with a standard deviation of 2.538. It can be concluded that students in the experimental group who used the game-based PJOK module in learning traditional basic athletic movement skills were proven to be able to improve students' knowledge, attitudes, and skills effectively in improving learning outcomes at school.

Table 4.4 Results of descriptive analysis of physical education learning outcomes based on traditional games in learning basic athletic movement skills

Experimental		Std.	
Group Skills	Mean	Deviation	N
Knowledge	68,47	2,787	
Attitude	22,94	2,436	17
Motor Skills	71,65	2,029	
Control Group Skills			
Knowledge	65,18	2,789	
Attitude	22,41	2,830	17
Motor Skills	68,76	2,538	
Total	53,24	21,942	34

Test the normality of data distribution

Normality testing was performed using the Kolmogorov-Smirnov test. The test criterion is that the data has a normal distribution if the significance level obtained is greater than 0.05. The results of the data normality test are as follows.

Table 4.5 Summary of normality test of learning outcome pjok module

	Experimental Group	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Results Study	Knowledge	,120	17	,200*	,953	17	,506
	Attitude	,098	17	,200*	,963		,683
	Motor Skills	,112	17	,200*	,963		,690
	Control Group						
	Knowledge	,108	17	,200*	,960		,625
	Attitude	,114	17	,200*	,955	17	,547
	Motor Skills	,110	17	,200*	,952		,492

The learning outcome data for the knowledge, attitude and motor skills aspects has a Sig level.≥

0,05, This means the significance value (p-value) is greater than 0.05, thus the data meets the

assumption of a normally distributed data distribution. Once all the data is normally distributed, the next step is to conduct a data homogeneity test.

2.Test the normality of data distribution

The data homogeneity test to determine the equality of the experimental group class with the control group so that it is known that the variance between groups comes from the same population is carried out by *Tests of*

Homogeneity of variances

Table 4.6 Summary of results of the homogeneity test of variance distribution of physical education learning outcomes data

Levene's Test of Equality of Error Variances ^{a,b}						
		Levene Statistic	df1	df2	Sig.	
Results	Based on Mean	,704	5	96	,622	
Study	Based on Median	,630	5	96	,677	
	Based on Median and with adjusted df	,630	5	92,546	,677	
	Based on trimmed mean	,702	5	96	,623	

Based on the results of the Levene test of basic athletic movement skills between the experimental group and the control group, all values were homogeneous with a significance level of 0.622, meaning the p-value \geq 0.05 so that it is stated that the equality of the variances of the two groups is fulfilled.

3.4. Hypothesis testing

The results of the hypothesis test on the learning outcomes of the level of knowledge, attitudes and basic athletic movement skills in students who were taught using the traditional gamebased PJOK module in learning basic athletic movements and those who were taught without the module.

Table 4 7 Results of the between-subjects effects test

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	
Corrected Model	47985,647a	5	9597,129	1437,983	,000	
Intercept	289067,647	1	289067,647	43312,376	,000	
Perlakuan	47985,647	5	9597,129	1437,983	,000	
Error	640,706	96	6,674			
Total	337694,000	102				
Corrected Total	48626,353	101				
a. R Squared = ,987 (Adjusted R Squared = ,986)						

Based on the results of the test analysis, the F value was obtained = 1437.983 with a significance level of p-value <0.000. This indicates that there is a very significant difference in learning outcomes between groups.

The treatment given to each group has a different effect on student learning outcomes. Meanwhile, the R Squared value of 0.987 (Adjusted R Squared = 0.986) indicates that this study is able to explain the variation in learning outcomes by 98.7%, while the difference is only 1.3% influenced by other factors outside the module.

This means that the experimental group variable with the traditional game-based PJOK module in learning basic athletic movement skills makes a very strong contribution to changes in learning outcomes. Then the Mean Square value of 6.674 is relatively small when compared to the Mean Square in the group of 9597.129.

This shows that the variation in the group is relatively low, so that the differences between the experimental group and the control group are more visible and consistent in certain learning so that the level of effectiveness of the learning process is substantial.

Discussion

Design and construction of a physical education module based on traditional games in learning basic athletic movement skills

The design of the Physical Education (PJOK) module for basic athletic movement skills based on traditional games. The module has been produced and developed in the form of a learning module book, consisting of an outer cover.(Cover), inner cover, foreword from the author, table of contents, introduction. The material of the module consists of 4 athletics numbers, consisting of (1). Short distance running. 50 meters. (2). Turbo throw. (3). Long jump and (4) shot put. Which consists of; (a). Initial part, including; Module title, table of contents, information map, glossary, brief description, competency and initial learning test/prerequisites. (b). Core part, including; learning activities. material description, summary. assignments. tests. practice worksheets, evaluation, answer key and bibliography. According to [17], a module is a teaching material that is made systematically and interestingly where there are materials. methods, and assessments that can be used independently to obtain predetermined learning indicators. Bloom's taxonomy opinion on the cognitive domain in [18] that Knowledge is the initial foundation in recalling terminology, meaning, or concepts that have been learned previously, as well as applying previously learned knowledge to new situations, such as solving problems, responding to questions, and completing assignments. According to [5], the use of learning modules is seen as a solution because the modules are systematically arranged, support independent learning, and can be adapted to student needs.

Validity of traditional game-based physical education modules in learning basic athletic movement skills

Validation of the development product was carried out by a team of experts such as content/material experts, media/design experts and language experts by asking several experts or a team of experienced experts to assess the designed design so that its strengths and weaknesses could be identified. Based on the overall expert assessment obtained by

researchers from the development of the PJOK module based on traditional games in learning basic athletic movement skills, the validity of the developed module was in the valid criteria and was suitable for application in the field. The important point in the development of the PJOK module was the stages of implementation and modification or through traditional games so that they could meet the learning objectives.

Education physical combined with cultural education through traditional games be attributed to student's overall development of cognitive, affective, psychomotor and cultural awareness [19]. Children's traditional games will be more dominant in making movements to follow the game, the movements carried out in this game are included in basic movements, such as running, throwing, walking, jumping, jumping and so on [20]. Holistic education combined with cultural education through traditional games will contribute to the development of cognitive, affective, psychomotor, and cultural awareness of students as a whole [19].

Suggestions and input from experts were revised by the researcher so that the product of the development of the Physical Education module for basic athletic movement skills based on traditional games was suitable for application to students, making it easier and increasing student enthusiasm, which would implications for improving student learning outcomes.Traditional games have an influence on improving learning outcomes, including cognitive (can train strategy and game analysis), affective (can increase learning motivation, , train cooperation, and boost self-confidence), and psychomotor aspects (improve basic movements and movement skills in the physical fitness component) [21]. With the material. Physical fitness teaching based on traditional games, students can learn effectively and efficiently and are more motivated and active in participating in the physical education learning process [22]. Overall, from the validation results, the average score was 0.96, so the traditional game-based physical education learning model to improve students' physical fitness can be applied at the elementary school level [5].

The practicality of the physical education, sports and health module based on traditional games in learning basic athletic movement skills: Results Practicality analysis

of the Physical Education module for basic athletic movement skills based on traditional games developed by questionnaires based on responses from Physical Education teachers and students. Referring to the data analysis of Physical Education teachers' responses to the Physical Education module based on traditional games in learning basic athletic movement skills, the responses of Physical Education teachers were obtained as appropriate and practical for application in learning. Game-based assessment provides a holistic and multidimensional orientation in physical activity and makes it easier for Physical Education teachers to better understand students' knowledge [23]. The traditional game learning model for basic movement skills is very effective to be implemented in schools to improve basic movement skills, cognitive abilities, according to students' interests [24].

Practicality based on student responses has a very positive and practical response to the use of the traditional game-based Physical Education module in learning basic athletic movement skills that was developed. This attractive design is composed of interesting illustrations and images according to the athletic material Physical provided. education learning interventions with the implementation of physical games have been shown to provide beneficial and effective results in increasing the enjoyment felt by children and adolescents [7,35]. Game-based learning and gamification in physical education as a learning method significantly affect student motivation, academic achievement. and their commitment improving health and physical performance [25]. The movement activity module through game modification can improve motor skills in elementary school children and is suitable for implementation in learning [26].

The effectiveness of traditional games-based physical education, sports, and health modules in learning basic athletic movement skills.

Based on the results of the descriptive statistical analysis, the learning outcomes in the knowledge, attitude, and skills aspects in the experimental group were more effective than those in the control group. This proves that the learning of physical education on athletics material is influenced by the traditional game-

based PJOK module in learning basic athletic movement skills. The results of the data analysis showed a 5% effect of traditional games on basic movement skills in students [27]. The Sports Education Model combined with Traditional Teaching has proven effective in improving students' attitudes towards physical learning [28]. Groups of students who used traditional games to improve motor skills showed better learning outcomes compared to students who did not use traditional games [29].

Based on the results of the ANOVA test data analysis, by looking at the Between-Subjects Effects, the statistical value of the Corrected Model with F = 143.983 and a sig. The value of 0.000 is smaller than 0.05 (p-value ≤ 0.05). From the results of the analysis, it was found that there were differences in learning outcomes in the aspects of knowledge, attitudes, and motor skills between groups. Experiment and control. While in the treatment, the F value = 1437.983 with a significance level of p-value ≤ 0.005 . Thus, the PJOK module based on traditional games in learning basic athletic movement skills is effective in improving student outcomes between the experimental groups. Selected exercises effectively improve fine motor skills in overweight and obese Iraqi children aged 8 to 9 years, without significant differences between boys and girls [30]. Fulfillment of basic psychological needs and internal motivation for sports is higher in terms of environmental support so that they are physically active, enjoyment, and to reduce student boredom levels [31]. Physical Education (PIOK) learning basic athletic movement skills in traditional games can influence students' motor skills [32].

The development of the Physical Education (PIOK) module creates conditions that can communication influence interactions in students' demonstrating lives. strong collaboration, thus motivating them to learn together to achieve satisfactory learning outcomes. The use of a traditional game-based PJOK module in learning basic athletic movement skills is a learning module for students to collaborate, as stated in the module's contents. There is a relationship between sports psychology and ethnic cultural education; empirically, it can increase student persistence by 45% [33,36]. This increase of traditional games that can encourage children to be actively involved in learning, want to do movements and

effectively improve physical fitness [34].

Conclusion

Based on the data obtained from the results of the validity test, practicality test, and product effectiveness test as well as the discussion of the research results, the following conclusions can be drawn:

The procedure for the PIOK module based on traditional games in learning skills basic athletic movements of elementary school students with a design consisting of an outer cover (Cover), an inner cover, a foreword from the researcher, a table of contents, an introduction, material consisting of 4 athletic material numbers, learning activities including: a). 50 Meter Short Distance Running Number. b). Long Jump Number. c). Turbo Throw Number, and d). Shot Put Number. Next is the sequence of the module. 1). Initial parts such as; Module Title, Table of Contents, Information Map, Glossary, Brief Description, Competencies and Initial Learning Test/Prerequisites. 2). Core Parts such as; Material Description, Learning Activities, Summary, Assignments, Tests and Practical Worksheets, 3). Evaluation/Assessment, such Diagnostic Assessment, Formative Assessment and Curative Assessment. 4). Answer Key. 5). Bibliography.

Based on content validity testing(content validity) The overall expert assessment of the developed PJOK module was obtained as being in accordance with the valid criteria and suitable for application in the field with revisions.

Practicality test based on the responses of 4 PJOK teachers on the module material aspect, the module display aspect is in the practical category for use. Furthermore, based on the responses of 20 students, on the module material aspect, the module presentation aspect and the module benefit aspect have good and practical responses from the module content. Based on the results of the practicality data analysis obtained based on the responses of PJOK teachers and students to the PJOK module based on traditional games in learning basic athletic movement skills, it states that it is practical to be applied to students in the learning process.

Testing the effectiveness of the module based on

the results of data analysis with the ANOVA test related to the learning outcomes of students' knowledge, attitude and skills aspects is very effective, with the results of the hypothesis test that H0 rejected means that the implementation of the traditional game-based PJOK module in learning basic athletic movement skills is effective in improving the learning outcomes of basic athletic movement skills for fourth grade students in elementary schools.

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