

TRADITIONAL SPORT-BASED PHYSICAL EDUCATION LEARNING MODEL IN CHARACTER IMPROVEMENT AND CRITICAL THINKING OF ELEMENTARY SCHOOL STUDENTS

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Abstract: The research aims to develop a physical education teaching model for lower grade elementary school students in order to develop and improve character and critical thinking. This learning model is expected to be used as a vehicle for student activities in instilling character values and critical thinking from an early age. This learning model is made in a circuit so that it can be played both individually and in groups and can be competed between groups in an interesting and fun way. **Method:** This development research applied the 4D development model by Thiagarajan, Semmel, and Semmel, with the following steps: (1) define, (2) design, (3) develop, and (4) disseminate. The product trials were carried out on 45 students of State Elementary School (SDN) 1 Clering, SDN 3 Clering, and SDN 2 Jugo. The data collection instruments used include: (1) observation guide for the teaching model, (2) value scale, (3) interview guide, and (4) paired sample T-test. The data analysis technique used is quantitative descriptive analysis and qualitative analysis. **Results:** The result of the study is in the form of a traditional sports-based physical education teaching model in the form of a guidebook for teaching the students. The teaching model consists of five game posts, namely: (1) letter S game, (2) letter A game, (3) letter N game, (4) letter T game, and (5) letter O game. It is packaged in the form of a series of game activities. **Conclusion:** At the end of the study, it can be concluded that the developed teaching model is very attractive, according to the characteristics of lower grade students, can be used as a way of teaching physical education, and is very effective for improving character and critical thinking.

Keywords: character, critical thinking, learning model, traditional sport.

INTRODUCTION

Learning physical education, sports and health at the elementary school level, these subjects are compulsory subjects. The learning process of sports and health physical education in elementary schools develops three aspects including cognitive, affective and psychomotor aspects. These three aspects, each of which plays a role in creating a complete human personality in accordance with the goals of national education. In the cognitive realm, learning physical education, sports and health, not only teaches knowledge, but also teaches students to think critically on every problem they face. Leigh Anderson (2017) argues that in character development, physical activity can be used as a means of instilling character values. Based on this, Benjamin (2008: 3-6) states that "physical education is able to develop nervous and kinesthetic system responses for emotional, intellectual, and social interaction development". Based on these opinions, it can be stated that the purpose of physical education in schools is not to make students into athletes or athletes but aims at developing self-potential through various physical activities.

Traditional games as a vehicle for playing are taught in physical education subjects, sports and health in elementary schools. According to Sujarno (2010: 148), traditional games are cultural products of great value for children in the context of fantasy, recreation, exercise and as a means to practice polite and skillful living in society. This game is a game activity filled with noble values, and teaches to always interact with other people. This traditional game has a lot of character values in it, including those values that have a very impact on physical, psychological and social aspects. According to Haerani Nur (2013), traditional games as children's games can be an alternative to creating the next generation with superior character. Traditional games are expected to be used as one of the right media in developing and developing character values, especially the values of cooperation, discipline, responsibility, confident and make a decision.

Character is a set of values that lead to a value system that underlies the thoughts, attitudes, and behaviors that a person displays. Character is a set of values that lead to a value system that underlies the thoughts, attitudes, and behaviors that a person displays (Kemdiknas 2010:11). According to Syamsu Yusuf et al (2013: 34-35), to carry out character education in schools are as follows: (a) Creating a conducive religious climate, (b) Organizing a socio-emotional climate, (c) Building academic culture, (d) Integrated with the learning process, (e) Integrated in extracurricular activities, (f) Cooperation with other parties. According to Lickona (1992) in order to internalize character education towards noble character in every student.

According to Ennis (2011) critical thinking is the ability to reflect and reason, focusing on what is believed or done. Critical thinking skills include the ability to clarify basic, basic decisions, draw conclusions, provide further explanation, estimate and integrate, and additional abilities. Meanwhile, Raharjo (2010) defines character education as a holistic educational process that connects the moral dimension with the social realm in the lives of students as the foundation for the formation of a quality generation that is able to live independently and has the principle of a truth that can be accounted for. According to (Richard Leptein 2006: 56) learning to think critically needs to be integrated in learning, so that students can understand and easily find a subject matter. To become a good critical thinker requires awareness and skills to maximize the work of the brain through good critical thinking steps, so that the frame of mind and way of thinking are structured in a good pattern.

The learning model is a learning activity that must be done by teachers and students so that learning objectives can be achieved effectively and efficiently. From the source of the model of teaching book written by Joyce, Bruce and Weil, Marsha, (1996), the learning model is a set of sequential procedures to carry out learning development. Meanwhile, according to (Husdarta and Yudha M.Saputra 2000:35) the learning model is a plan that is used to design a teaching. The learning model is developed in the form of letter games where the games are arranged in a post or circuit. The letter game is in the form of letters with a total of 5 (five) posts, each post aims to stimulate character values and critical thinking skills. The learning model is named the letter game and is packaged in a manual or guidebook. This game is made based on the selection of character values from 28 types of traditional Javanese games, where the character values developed include the character of discipline, self-confidence, responsibility, decision making and cooperation. In addition, this learning model is combined from 18 character values from the Ministry of National Education and from the Physical Education curriculum. With the development of this learning model, it is hoped that it can help students understand, practice and improve the character values contained in the series of post games, as well as improve critical thinking skills in everyday life. The following is an explanation of the series of activities for each game post in table 1.

Table 1. Series of game posts

Pos	Game Form	Character Aspect	Aspects of Critical Thinking
1.(Letter S)	Players, perform an ankle movement with one leg alternately, on a triangular-shaped medium, and perform a jumping motion with both feet on a square-shaped medium.	This game aims to increase the value of disciplined characters.	Set a strategy so that in doing the movement of lifting the legs alternately, to maintain the balance of the body is maintained. In addition, players recognize form and space.
2.(Letter A)	The player, performs a running movement on a line in the shape of the letter "A", by jumping over the obstacles that have been provided.	This game aims to increase the attitude of self-confidence.	Analyze how much strength, needed to be able to jump over each obstacle and recognize letters.
3.(Letter N)	Players, run back and forth on a track in the shape of the letter "N", while bringing pieces of letters to be arranged into a sentence.	This game aims to increase the value of the character of responsibility.	Analyze the position of the letters that will be arranged into a sentence.
4(Letter T)	The player throws a plastic ball into the box or basket that has been provided with a distance of 2 meters on a line that is in the shape of the letter "T",	This game aims to improve decision-making attitudes	Strategy and accuracy in entering the plastic ball according to its color, and analyzing the correct hand position so that when throwing it is right and entered.
5(Letter O)	Players, together perform a step-by-step movement, with the help of a square pedestal to the point of stopping.	This game aims to increase the value of the cooperative character.	Carry out a strategy in setting foot steps so that there is no distance between other supports.

Based on the explanation above, the researcher wants to conduct development research, which aims to develop a traditional sports-based physical education and health-based learning model in improving character and critical thinking in elementary school students.

METHODS

The method used in this research is research and development. In this research and development method, there are several types of models. The model used is the development of a 4-D model. The 4-D development model (Four D) is a learning device development model. This model was developed by S. Thiagarajan, Dorothy S. Semmel, and Melvyn I. Semmel (1974: 5). The 4D development model consists of 4 main stages, namely: Define, Design, Develop and Disseminate. This method and model was chosen because it aims to produce a product in the form of a traditional sports-based physical education learning model in improving the character and critical thinking of elementary school students. The product developed is then tested for feasibility with validity and product testing to determine the extent to which character improvement (discipline, self-confidence, decision making, responsibility and cooperation) and critical thinking skills after learning using traditional sports-based learning models on physical and physical education material is carried out by testing the effectiveness.

RESULTS

At this stage of development to produce products that have been revised based on input and suggestions from experts. This development stage includes expert validation and development trials. It is known from the results of expert validation and trials, then revisions are made until the product is feasible and can be used as learning material. Assessment or validation by experts can be determined by the eligibility criteria obtained from the average score of the respondents. The mean score of the respondents that has been obtained is then converted according to the feasibility conversion table to determine the level of feasibility of the learning model according to the respondents. Aspects of assessment by material experts include aspects of the suitability of basic competencies, aspects of learning and aspects of material presentation. The assessment scores that have been obtained through a questionnaire are then averaged into an assessment score with a range of 1-4. The results of the average score that have been obtained are then categorized according to the level of feasibility according to the table. The data on the results of the assessment by material experts are in Table 2.

Table 2. Data on the results of the Material Expert assessment

Aspects of assessment	Expert Score	Average	Category	
Basic competence suitability	6	8	3.50	Very good
Learning	43	46	3.70	Very good
Material presentation	12	16	3.50	Very good
Rerata Total			3.57	Very good

In the aspect of conformity with basic competencies, an average score of 3.50 is obtained which means it is included in the “very good” category. In the learning aspect, the average score was 3.70, which means it is in the “very good” category. Meanwhile, in the aspect of presenting the material, it gets a score of 3.50 which means it is in the “very good” category. Based on the table of eligibility categories for learning material experts in table 2, the traditional sports-based learning model is included in the “very good” or very feasible category.

Aspects of assessment by media experts include aspects of the accuracy of the basic basic materials, aspects of the accuracy of the layout of the game, aspects of the accuracy of the form of the game and aspects of the accuracy of the game media. The assessment scores that have been obtained through a questionnaire are then averaged into an assessment score with a range of 1-4. The results of the average score that have been obtained are then categorized according to the level of feasibility according to the table. The data on the results of the assessment by material experts are in Table 3.

Table 3. Data on the results of the media expert's assessment

Aspects of assessment	Expert Score			Average	Category
Base material accuracy	8	8	3	3.17	Very good
Game layout accuracy	15	15	6	3.00	Very good
Game form accuracy	12	11	4	3.00	Very good
Game media accuracy	24	23	11	3.22	Very good
Rerata Total				3.10	Very good

The results of the assessment of each aspect get a different average score. In the aspect of the accuracy of the basic ingredients, the average score is 3.17, which means it is included in the “very good” category. In the aspect of the accuracy of the layout of the game, an average score of 3.00 was obtained which means it is in the “very good” category. The accuracy aspect of the game form obtained an average score of 3.00 which means it is in the “very good” category. Meanwhile, the accuracy aspect of the game media gets a score of 3.22 which means it is in the “very good” category. Based on the table of eligibility categories of learning model media experts in table 19, the based learning model is included in the “very good” or very feasible category.

After the model was validated by material experts and media experts and declared suitable for use as learning material, then the traditional sports-based physical education learning model was tested on students, to get a response as a user. The questionnaire used consisted of 20 assessment items with a score range of 1-4 points. Aspects of the development trial assessment include learning aspects, material aspects, and media aspects. The assessment scores that have been obtained through a questionnaire are then averaged into an assessment score with a range of 1-4. The results of the average scores that have been obtained are then categorized according to the feasibility level as contained in table 4.

Table 4. Data from the test results Development

Aspects of assessment	Total average	Category
Learning	3.64	Very good
Theory	3.43	Very good
Media	3.51	Very good
Total average	3.53	Very good

In the trial results of the development of the traditional sports-based physical education learning model that was developed, there were 3 aspects of the assessment carried out. The results of the average score of each aspect are different. The learning aspect got an average total score of 3.64 which means it falls into the “very good” category. The material aspect got an average score of 3.43 which means it falls into the “very good” category. Meanwhile, for the media aspect, the average score was 3.51 which was included in the “very decent” category. The results of the overall development trial got an average total score of 3.53 out of a maximum score of 4.00. Based on the table for the feasibility category of the learning model in table 4, the module is included in the “very good” or very feasible category.

This research was conducted to find out how influential the traditional sport-based physical education learning model is in improving character and critical thinking. The study used a quasi-experimental method and the research design consisted of a pre-test, a mid-test and ended with a final test. From the research results obtained data that are relevant to the objectives and hypotheses. The presentation of research results can be in the form of tables, graphs, pictures or charts arranged according to the stages of research implementation. The research data was obtained from the pretest with an assessment questionnaire test on character and a critical thinking assessment questionnaire test whose scores were taken, and the measurement results can be seen in Tables 5 and 6.

Table 5. Character Assessment Questionnaire Data

No	Respondents	Indicators	Pretest	Posttest	Different
1	45	Discipline	3.36	3.54	0.18
2	45	Confidence	3.31	3.41	0.10
3	45	Responsibility	3.37	3.52	0.15
4	45	Decision-making	3.38	3.45	0.07
5	45	Cooperation	3.32	3.46	0.14
		Amount	16.74	17.38	0.64
		Average	3.35	3.50	0.15
		Standard Deviation	0.146	0.47	0.324
		Variant	0.22	0.22	0
		Minimum Value	3.10	3.20	0.10
		Maximum Value	3.75	3.85	0.10
		Increase Amount			1.95

Based on the table above, it can be seen that the results of the observation of the character aspect have an average pre-test of 3.35 standard deviation of 0.146 with a variance of 0.00 and a minimum value of 3.10 and a maximum value of 3.275. Meanwhile, for the post-test, the average value was 3.50 with a standard deviation of 0.47 with a variance of 0.00 and a minimum value of 3.10 and a maximum value of 3.85. The average difference between the pre-test and post-test is 0.15, the standard deviation is 0.32 with a variance of 0.00 and the difference between the minimum pre-test and post-test values is 0.10 while the difference between the pre-test and post-test values is 0.10. the maximum value of pre-test and post-test is 0.10. From these results, it can be seen that the traditional sports-based physical education learning model on the character aspect between pre-test and post-test gives an increase of 1.95%.

Table 6. Questionnaire data for critical thinking assessment

No	Respondents	Indicators	Pretest	Posttest	Different
1	45	Analyze	3.28	3.45	0.17
2	45	Solve the problem	3.41	3.48	0.07
3	45	Able to strategize	3.30	3.42	0.12
4	45	Setting tactics	3.28	3.43	0.15
5	45	Evaluation skills	3.38	3.45	0.07
		Amount	16.65	17.23	0.58
		Average	3.33	3.44	0.11
		Standard Deviation	1.41	1.40	-0.01
		Variant	0.20	0.20	0
		Minimum Value	3.07	3.14	0.07
		Maximum Value	3.71	3.71	0
		Increase Amount			1.33

Based on the table above, it can be seen that the results of critical thinking observations have an average pre-test of 3.33 standard deviation of 1.41 with a variance of 0.20 and a minimum value of 3.07 and a maximum value of 3.71. Meanwhile, for the post-test, the average value was 3.44 with a standard deviation of 3.40 with a variance of 0.20 and a minimum value of 3.14 and a maximum value of 3.71. The mean difference value of pre-test and post-test is 0.11

standard deviation of -0.01 with a variance of 0.00 and the difference value between the minimum value of pre-test and post-test is 0.07, while the the difference between the maximum value of pre-test and post-test is 0.00. From these results, it can be seen that the traditional sports-based physical education learning model on critical thinking aspects between pre-test and post-test gave an increase of 1.33%.

After the data is normally distributed and the data is homogeneous, then proceed with the T test, this test is carried out to find out whether there are differences in the character value variables and critical thinking at the time of initial and final measurements. The results of the analysis stated that there was a difference if the significant value was less than 0.05 ($p < 0.05$). The following results of the t-test for the variable value of character and critical thinking can be seen in table 7 below.

Table 7. Test Results Paired Sample T-Test variable Character Value and Critical Thinking

Variabel	Mean	T test	Sig
Character	-3.06667	-9.630	0.000
Critical thinking	-1.60000	-6.478	0.000

The results of the paired sample T-test on character values and critical thinking variables give the results that: (1) the variance of the character values ($p = 0.000$), (2) critical thinking about the variance ($p = 0.000$). From the results of the paired sample T-test data on character values and critical thinking values, it can be concluded that there is a significant increase.

DISCUSSION

The feasibility of this traditional sports-based physical education learning model goes through several stages so that a learning model is declared feasible if it has gone through the following stages: (a) Material expert validation: Material expert validation carried out in the development of this traditional sports-based physical education learning model, involving two material experts , which consists of one material expert from a professor of fiction and one material expert from a senior teacher. Material experts were given questions through a material expert questionnaire, then asked to respond to some of the questions asked, and continued to provide suggestions and input and recommendations regarding the feasibility of traditional sports-based physical education learning model materials in improving students' character and critical thinking. After the expert questionnaire was collected, the researchers processed the data, after the data was processed, it could be concluded that the feasibility of the learning model material developed was in good category, and the model was feasible to be tested with revisions. (b) Validation of media experts, media expert validation carried out in the context of developing a traditional sports-based physical education and physical education learning model in improving students' character and critical thinking, involving three media experts, consisting of two material experts from a fictitious professor and one material expert from senior teacher. Media experts were given questions through a media expert questionnaire, then asked to respond to some of the questions asked, and continued to provide suggestions and input and recommendations regarding the feasibility of traditional sports-based physical education and physical education learning media in improving students' character and critical thinking. After the expert questionnaire was collected, the researchers processed the data, after the data was collected, it was continued by processing the data, so the results can be concluded that the feasibility of the learning model media developed in the good category, and the model deserves to be tested with revisions. (c) Product trial results. After going through a series of validations from material experts and media experts, then proceed with development trials aimed at getting user responses and input. This trial involved 45 students from 3 public elementary schools in the Donojo sub-district, Jepara. The results obtained from the trial were concluded to be categorized as very good.

Based on the results of the t-test analysis on the effect of the traditional sports-based physical education learning model in character building. The results of the analysis of the increase in character values, that with a significance level of $p = 0.000$ ($p < 0.05$), the statement that there is a difference in character level between the pretest and post-test is accepted. In other words, it can be stated that there is a significant difference between the pretest and posttest. Based on the results of the analysis, it turns out that the posttest character level is better than the pretest, this means the research hypothesis states that there is an increase in physical education and traditional sports-based sports in

character building. From the hypothesis test above, it can be concluded that physical education and sports learning based on traditional sports have increased character. Traditional games can develop character values, proving that traditional games are effectively used to build character. (Marlina, S.2016). According to Fadlillah, M. (2016) through games can instill various character values such as the character of discipline. This is also stated by Dubnewick, M. conducting research related to traditional games that traditional games can build self-confidence. (Dubnewick, M., et al, 2018). in addition to increasing character with sports exercises carried out with circuit models, it is quite effective to improve physical fitness, (Susanto, et al, 2021)

The highest increase in the character variable is the character of discipline, as seen in the increase of 0.18. An increase in the discipline variable occurred at the letter S game post, in this game students carried out activities including (1) when playing the game students obeyed the rules of the game by queuing, (2) students performed ankle movements or walked by lifting one leg in turn. on the shape plane. triangle and square. While the lowest is in the decision-making variable, this variable has increased by 0.07 which can be seen in table 21. The lack of improvement in the decision-making variable occurs in the letter T game post, in this post game students rush to throw the target ball in the form of a basket. and does not take into account the magnitude of the force required to throw. Through traditional games can improve children's social development such as cooperative characters (Y. T. Saleh, et al, 2017). In addition, doing regular physical movements can affect the working system of the lungs and other functions (Susanto et al, 2020).

Based on the results of the t test about the effect of the traditional sports-based physical education learning model in improving critical thinking. The results of the analysis on increasing the value of critical thinking, that with a significant level of $p = 0.000$ ($p < 0.05$) so the statement that there is a difference in critical thinking level between the pretest and posttest is accepted. In other words, it can be stated that there is a significant difference between the pretest and posttest. Based on the results of the analysis, it turns out that the posttest critical thinking level is better than the pretest, this means that the research hypothesis states that there is an increase in traditional sports-based physical education and sports learning in increasing critical thinking. From the hypothesis test above, it is concluded that traditional sports-based physical education and sports learning has an increase in critical thinking. The highest increase in this critical thinking variable is in the component of analyzing activities, an increase of 0.17. This increase occurs because every time students will do a series of games, students always pay attention to the examples of movements given by the teacher and always pay attention to their friends doing each game post, so students can easily practice each game. While the variable with the lowest increase occurred in the component of problem solving and evaluation skills, each of which increased by 0.07. Lack of problem solving at each game post, occurs due to students' lack of coordination between friends or their team, and lack of evaluation skills occurs because mistakes are always repeated in every repetition of the game. Students' critical thinking according to (Nuryanti, L. Et al (2018), is the ability of students to find learning information independently and actively create cognitive structures in students. Teaching students to think critically is one of the main goals of education (Kazempour, 2013; Kaleiloglu & Gulbahar, 2014; Zubaidah, 2010) Thinking skills are an indispensable ability in facing life's challenges.

CONCLUSION

The research product resulting from this development research is in the form of a traditional sports-based physical education learning model that is appropriate as a learning model, which is equipped with a guide book. The product of physical education learning research with the title "Development of Physical Education Learning Model in improving the character and critical thinking of elementary school students". This learning model can be used for enrichment of learning models in order to improve character and critical thinking. Based on the discussion from the previous chapter, the following conclusions can be drawn: (1) The traditional sports-based physical education learning model after going through a series of expert validations and trials that have been carried out is declared worthy of a physical education learning model that develops and improves the character and critical thinking of school students base. (2) The traditional sports-based physical education and physical education learning model can develop and improve the character of lower grade elementary school students. The characters developed are the character of discipline, the character of self-confidence, the character of responsibility, the character of decision-making and the character of cooperation. The characters developed greatly affect students' productivity in the learning process and other supporting activities. (3) The traditional sport-based physical education and physical education learning model can develop and improve the critical thinking of

elementary school students. Critical thinking developed includes: analysing activities, solving problems, formulating strategies, developing tactics and evaluating. Critical thinking activities are very well applied to students from as early as possible, this can support students in the learning process activities.

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Conflict of Interest

The authors declare that there are no conflicts of interest.

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