



Integrating Traditional Games in Learning for Students' Interests and Motor Skills

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Abstrak

Penelitian ini dilatarbelakangi oleh pentingnya pengembangan media pembelajaran yang efektif dalam meningkatkan minat dan kemampuan motorik siswa, khususnya di daerah pedalaman. Penelitian ini bertujuan untuk menguji respon siswa terhadap e-modul berbasis game harta kearifan lokal, serta untuk melihat pengaruh e-modul tersebut terhadap minat dan kemampuan motorik siswa sebelum dan sesudah penggunaannya. Jenis penelitian ini adalah penelitian pengembangan dengan menggunakan model ADDIE yang meliputi lima tahapan: Analisis, Desain, Pengembangan, Implementasi, dan Evaluasi. Subjek penelitian adalah 35 anak di desa pedalaman Mentawai yang dipilih menggunakan teknik random sampling. Instrumen yang digunakan meliputi lembar observasi untuk mengukur respon siswa terhadap e-modul, serta lembar observasi untuk mengukur kemampuan motorik kasar siswa, keduanya menggunakan skala Likert. Data dianalisis dengan uji T untuk melihat perbedaan sebelum dan sesudah penggunaan e-modul, serta uji korelasi untuk melihat hubungan antar variabel. Hasil penelitian menunjukkan bahwa terdapat perbedaan signifikan pada kemampuan motorik siswa sebelum dan sesudah menggunakan e-modul, serta perbedaan signifikan pada minat siswa sebelum dan sesudah penggunaan e-modul. Uji korelasi menunjukkan hubungan yang sangat erat antara respon siswa terhadap e-modul dengan kemampuan motorik mereka, dan antara minat belajar siswa dengan kemampuan motorik. Simpulan dari penelitian ini adalah bahwa e-modul berbasis game kearifan lokal efektif dalam meningkatkan minat dan kemampuan motorik siswa, dengan implikasi bahwa e-modul ini dapat menjadi media pembelajaran yang bermanfaat untuk diterapkan lebih luas di daerah pedalaman.

Kata Kunci: Keterampilan Motorik, Minat, E-modul, Permainan tradisional.

Abstract

This research is motivated by the importance of developing effective learning media in increasing students' interest and motor skills, especially in rural areas. This study aims to test students' responses to e-modules based on local wisdom treasure games, as well as to see the influence of the e-modules on students' interest and motor skills before and after their use. This type of research is development research using the ADDIE model which includes five stages: Analysis, Design, Development, Implementation, and Evaluation. The subjects of the study were 35 children in the interior village of Mentawai who were selected using random sampling techniques. The instruments used include observation sheets to measure students' responses to e-modules, as well as observation sheets to measure students' gross motor skills, both using the Likert scale. The data was analyzed with a T test to see the difference before and after the use of the e-module, as well as a correlation test to see the relationship between variables. The results showed that there was a significant difference in students' motor skills before and after using the e-module, as well as a significant difference in students' interest before and after using the e-module. The correlation test showed a very close relationship between students' response to the e-module and their motor skills, and between students' learning interests and motor skills. The conclusion of this study is that e-modules based on local wisdom games are effective in increasing students' interest and motor skills, with the implication that this e-module can be a useful learning medium to be applied more widely in rural areas.

Keywords: Motor Skills, Interest, E-Module, Traditional Game.

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1. INTRODUCTION

In children aged five years and over is an important period of growth and development of children. Because at that age children have strong potential in optimizing growth and development within themselves (Chen et al., 2021; Lei et al., 2024). Therefore, it is important to pay attention to the provision of a continuous and appropriate stimulus (Anam et al., 2022; Nurwiyanto et al., 2021). The role of parents, but also in educational institutions

and children's play activities. The activities that children need to do are movement activities. Doing lots of motion activities will be very helpful in the process of growth and development. This movement activity is known as gross motor skills. Motion occurs because of the motor. In the Ministry of National Education, the meaning of motor is derived from the word "motor" which means the cause of motion. According to previous research, motor is a movement that involves a coordinated system (brain, nerves, muscles, and skeleton) with complex mental processes (Mahfud & Fahrizqi, 2020; Ramadhan et al., 2023). Motor motion occurs due to coordination between organs in the body. The motoric ability of each child will certainly be different according to the maturity of the nerves and muscles of the child in the period of development and growth (Hanafiah et al., 2023; Rosalianisa et al., 2023). One of the effective activities is coordinated motor learning through physical activity.

Physical activity is considered effective in teaching motor movement because according to previous research, in physical activities, children will be taught the concept of motion and good forms of motion so that they can improve the quality of motoric motion in children (Mahfud & Fahrizqi, 2020; Sofyan et al., 2022). One of the physical activities that can be used as media is local games (Saputra, 2017; Wulansari, 2017). One of the local games in the Mentawai Inland Village is the Treasure Search game. The Search for Treasure Game is a water activity game that is carried out in groups and practices the motion of diving to retrieve something in the water. This game aims to practice diving, develop children's ability to have body awareness, environmental awareness, and awareness of direction, as well as demanding honesty and training children's courage in diving, as well as increasing children's concentration. The main techniques needed in the game of finding treasure are diving and running techniques. According to previous research, diving can train muscle strength, especially in the leg and arm muscles (Mallen & Roberts, 2020; Saranani et al., 2019; Sukadiono et al., 2022). Meanwhile, when running, children will be trained on leg muscle strength. Leg muscle skills are very important to train because leg muscle skills are a basic component in motor movement (Arbanto et al., 2018; Kamid et al., 2022). Therefore, the game looking for treasure is one of the choices of local wisdom games from the Mentawai Inland Village that can improve motor skills.

In the application in an effort to improve motor skills, it cannot be separated from the learning carried out by the teacher, one of which is the learning media used. According to previous research, the use of e-module teaching materials can make students more independent in learning (Jannah & Mudiono, 2020; Mauliana et al., 2022; Rizal, R. et al., 2022; Uma'iyah et al., 2023). With the use of e-modules students can learn according to their level of ability and students can also find out the level of learning success (Asih et al., 2022; Asmi et al., 2024; Buchori, 2017). According to previous research, the e-module development carried out aims to make it easier for students to learn, because it can be accessed anywhere and anytime (Asrial, S. et al., 2019; Dewi, 2021; Prasetya et al., 2022). Therefore, the researchers developed an e-module game to find treasure which was originally limited to printed teaching materials.

Interest is a feeling of liking something more and a sense of interest in something or activity based on self-awareness (Awaliyah & Fitrianna, 2018; Chen et al., 2021; Fonda & Sumargiyani, 2018). Interest in learning is an activity carried out by someone in the learning process on a regular basis with feelings of pleasure without coercion by others (Ernawati et al., 2022; Kamid et al., 2022; Rojabiyah & Setiawa, 2019). Student learning interest can be measured by several indicators. Indicators of interest in learning include (a) feeling happy; (b) attention while studying; (c) interest in learning; (d) involvement in learning. Student interest in learning can be measured by several indicators. Indicators of interest in learning include (a) feeling happy; (b) attention while studying; (c) interest in learning; (d) involvement in learning (Hudaya, 2018; Nabila & Sari, 2023). Therefore student learning

interest is very important to develop in students so that they have self-awareness to learn and achieve the desired results (Kasih & Siregar, 2024; Rizal et al., 2021). The novelty of this study is the focus on the integration of traditional games in learning to improve students' interest and motor skills, which has not been widely discussed in the academic literature. This study examines how the use of traditional games in the learning process can affect students' interest in learning while strengthening their motor skills. This study aims to explore and explain the relationship between traditional games and the development of motor skills and students' learning interests. By identifying the challenges and opportunities in the application of traditional games in the modern educational environment, it is hoped that this research can provide deeper insights into how traditional games can contribute to holistic learning that integrates cognitive, affective, and psychomotor aspects in student development.

2. METHODS

This research is a research and development (Research & Development) with ADDIE development model. ADDIE is a development model used for product development that can help the world of education. The stages of the ADDIE model include Analysis, Design, Development, Implementation, and Evaluation. The development of e-modules begins with the analysis stage, namely by analyzing student needs for e-modules. Then proceed to the design stage, namely by designing e-modules according to the needs of students at the analysis stage. After the e-module is designed, the developed e-module enters the development stage where the e-module is validated by media experts. Then the e-module is tested on students to see the student's response to the developed e-module and this is the implementation stage. The development of the traditional treasure game e-module was developed only up to the Implementation stage and not until the evaluation stage because the research objectives had been met up to the implementation stage. The e-module has gone through the stages of the development model, then descriptive and inferential analysis was carried out to see student responses to the developed e-module and to see a comparison of students' gross motor skills after using the treasure game e-module.

The population of this research is the children of the Mentawai hinterland. The population is the entire object of research that is analyzed and concluded to be used as a sample. The sample of this research is the children of SDN 2 Matotonan and SDN 10 Mara in Mentawai hinterland village with a total of 35 students. Some of the targeted population can already represent the population taken using a certain technique called sampling. The sample used in this study was obtained using a simple random sampling technique. The simple random sampling technique is a basic sampling technique and is often used in collecting research data that is carried out randomly and homogeneously. The sampling criteria were students who had participated in the treasure local wisdom game model. The data in this study were obtained using an observation sheet. The instruments used in this study were observation sheets for student responses to the development of e-module games for local wisdom treasures and observation sheets for students' gross motor skills. The tool used to collect the desired data or to measure the object of the variable to be studied is called a research instrument. By using a questionnaire, quantitative research data were obtained. The observation sheet used in this study was made using a Likert scale. The Likert scale is a scale used to measure responses to statements that focus on a person's perspective on something. The criteria for the observation sheet given can be seen in Table 1.

Table 1. Student Observation Sheet Criteria

Range	Criteria
48.76 – 60.00	Excellent

Range	Criteria
37.51 – 48.75	good
26.26 – 37.50	Less
15.00 – 26.25	Invalid

The data obtained were analyzed using descriptive statistical analysis and inferential statistics. Descriptive statistics were used to analyze the data obtained from the calculation of the mean, median, mode, standard deviation, maximum value, minimum value and range.. Inferential statistics is a data processing technique with the aim of testing the proposed hypothesis to get a conclusion. Inferential statistics consists of prerequisite tests and hypothesis testing. Prerequisite test in inferential statistics consists of prerequisite test, namely normality test, homogeneity test, and linearity test. Then proceed with hypothesis testing with t test and correlation test.

3. RESULTS AND DISCUSSION

Result

This study was conducted to analyze motor skills before and after using the e-module and to analyze students' responses to the e-module game of finding treasures based on local wisdom. The results of the data obtained from observations of 35 students in the Mentawai hinterland village. Quantitative data obtained using observation sheets with the results of descriptive statistical data analysis using SPSS 22, can be seen in [Table 2](#) and [Table 3](#).

Table 2. Statistical Results of Student Responses to E-Modules

Classification		Total	%	Mean	Min	Max
Range	Criteria					
48.76 – 60.00	Excellent	13	37%	45.58	33.00	58.20
37.51 – 48.75	good	15	42%			
26.26 – 37.50	Less	7	20%			
15.00 – 26.25	Invalid	0	0%			

From [Table 2](#), descriptive statistics on student responses to the game of finding treasure using e-modules show that 37% of students are very good (13 and 35 students), 42% of students are good criteria (15 of 35 students), and students with good criteria are 42% (15 of 35 students). sufficient criteria as much as 20% (7 of 35 students). The mean value obtained is 45.58 which is in good criteria with a minimum value of 33 and a maximum value of 58.20. These data indicate a good response from students to the e-module used.

From [Table 3](#), descriptive statistics of students' motor skills in the game of finding treasure before using e-modules show that 11.4% (4 and 35 students) very good students, 37.1% (13 out of 35 students) students with good criteria, 37.1% (13 out of 35 students) students with good criteria. 34.2% sufficient criteria (12 of 35 students), and students with poor criteria as many as 17.1% (6 of 35 students). The mean value obtained is 37.16 which is in sufficient criteria with a minimum value of 20 and a maximum value of 54. Meanwhile, descriptive statistical data on students' motor skills in the game of finding treasure after using e-modules shows that students are very good at 25.7% (9 and 35 students), 37.1% students with good criteria (13 out of 35 students), and 37 students with sufficient criteria. 1% (13 out of 35 students). The mean value obtained is 41.69 which is in good criteria with a minimum value of 30 and a maximum value of 57. These results indicate that students' motor skills in the game of finding treasures increased after using the e-module. After the descriptive

statistical test is done, then the student's motor skills data will be tested for differences using T-test analysis using the SPSS application. It can be seen in [Table 4](#).

Table 3. Descriptive Statistical Results of Students' Motor Skills in Treasure Hunting Games

Classification		Before				
Range	Criteria	Total	%	mean	Min	max
48.76 – 60.00	Excellent	4	11.4%	37.16	20.00	54.00
37.51 – 48.75	good	13	37.1%			
26.26 – 37.50	Less	12	34.2%			
15.00 – 26.25	Invalid	6	17.1%			
Classification		After				
Range	Criteria	Total	%	mean	Min	max
48.76 – 60.00	Excellent	9	25.7%	41.69	30.00	57.00
37.51 – 48.75	good	13	37.1%			
26.26 – 37.50	Less	13	37.1%			
15.00 – 26.25	Invalid	0	0%			

Table 4. T-Test of Students' Motor Skills

t-test for Equality of Means							
	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Equal variances assumed	-2011	68	0.048	-4.53143	2.25323	-9.02768	-0.03518
Equal variances not assumed	-2011	67	0.048	-4.53143	2.25323	-9.02796	-0.03489

From [Table 4](#) it is known that the students' motor skills in the game of finding treasure before using the e-module and after using the e-module obtained a sig. (2-tailed) value of 0.048 which <0.05 means that the data has a significant difference. Furthermore, student learning interest data will be tested to find out whether there are differences before and after students learn to use e-modules. The analysis used in the form of t-test using the SPSS application. Can be seen in [Table 5](#).

Table 5. T-Test Student Interest in Learning

t-test for Equality of Means							
	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Equal variances assumed	-2011	68	0.038	-4.43143	2.22323	-9.02768	-0.03518
Equal variances not assumed	-2011	67	0.038	-4.43143	2.21323	-9.02796	-0.03489

From [Table 5](#) it is known that students' interest in learning in the game find treasure before using e-modules and after using e-module obtaining sig. (2-tailed) The value of 0.08 which <0.05 means that data has a significant difference. After seeing the difference between before and after using the e-module. So the researchers saw how the relationship between students' motor skills and student responses to the e-module used by using a correlation test was analyzed using the help of the SPSS application, it can be seen in [Table 6](#).

Table 6. Correlation Test of Motor Skills on Student Responses

		Motor skills	Response
Motor skills	Pearson Correlation	1	0.995**
	Sig. (2-tailed)		0.000
	N	35	35
Response	Pearson Correlation	0.995**	1
	Sig. (2-tailed)	0.000	
	N	35	35

** . Correlation is significant at the 0.01 level (2-tailed).

From [Table 6](#) it is known that the value of sig.(2-tailed) is 0.000 which <0.05 means that motor skills have a correlation with student responses. And by using the Pearson product moment test formula, the correlation coefficient value of $r = 0.994$ means that the relationship between students' motor skills and student responses to the e-module game looking for treasure based on local wisdom in the Mentawai hinterland village is very closely related. Furthermore, the relationship between student learning interest will be sought with students' motor skills, presented in [Table 7](#).

Table 7. Correlation Test for Student Learning Interest with Motor Skills

		Motor skills	Response
Learning Interest	Pearson Correlation	1	0.984**
	Sig. (2-tailed)		0.000
	N	35	35
Motor Skills	Pearson Correlation	0.984**	1
	Sig. (2-tailed)	0.000	
	N	35	35

** . Correlation is significant at the 0.01 level (2-tailed).

From [Table 7](#) it is known that the sig.(2-tailed) value is 0.000 which is <0.05 meaning that interest in learning has a correlation with students' motor skills. And by using the Pearson product moment test formula, the correlation coefficient value is $r = 0.984$, meaning that the relationship between students' motor skills and student responses to the e-module game looking for treasure based on local wisdom in Mentawai hinterland villages is very closely related.

Discussions

The results were obtained based on descriptive statistics and inferential statistics. Based on descriptive statistical analysis, students' responses to the use of e-modules to find treasure games were better than before the use of e-modules. This is indicated by 13 students having a very good response and 15 students responding very well in the game looking for treasure as a model for learning local wisdom after using e-modules. This is supported by the mean value of 45.58 which is in good criteria. So it can be stated that the use of e-modules

for finding treasure games is effectively used as a complement to teaching materials in learning activities that use the local wisdom model for finding treasure games. Good student responses to the use of e-modules have an impact on students' motor skills which become better. Based on the results of descriptive statistics on students' motor skills before using the e-module, it shows that there are 6 students who are in the criterion not very good in the game looking for treasure as a model of learning local wisdom that is applied in learning activities. However, after the development of the e-module was carried out and students used the e-module as a learning medium, it could be seen that there were no more students who were on very poor criteria, but an increase in the number of students who had very good and good motor skills in the game of finding treasure. After using the e-module there were 9 students in the very good category and 13 students in the good category and an increase in the mean value of 41.69 which was in the good category. Although there are still students who are in the bad category, namely 13 students, there are more students who are better in the game of finding treasure.

In the results of inferential statistics on the t-test to see differences in students' motor skills before and after using the e-module, it was stated that students' motor skills in the treasure-seeking game before and after using the e-module had significant differences as indicated by the sig. (2-tailed) of 0.048. Likewise, the variables of student learning interest in treasure-seeking games before and after using the e-module have significant differences as indicated by the sig. (2-tailed) value of 0.08. Differences in motor skills experienced by students have a good difference. Where after students use the e-module students experience an increase in motor skills. E-modules equipped with learning materials and learning videos make it easier for students to understand the treasure-seeking game material. Students experienced an increase in diving skills, an increase in body balance and concentration, and an increase in student muscle strength. And through the game of searching for treasure, students are invited to have cooperation between team members to achieve success together.

After looking at the differences in motor skills before and after using the e-module in the treasure-seeking game, it is seen how the relationship between students' motor skills and student responses in using the e-module is through a correlation test. Based on the correlation test, it was stated that the relationship between students' motor skills and student responses to the e-module treasure-seeking game based on local wisdom in Mentawai inland villages was very close, as indicated by sig. (2-tailed) value 0.000. The relationship between student responses and student motor skills is very close because good student responses show an increase in student motor skills. Furthermore, in the correlation test of students' learning interest with students' motor skills, the sig value was obtained. (2-tailed) value of 0.000 means that there is a relationship between students' interests and motor skills. the strength of the relationship can be seen from the Pearson correlation value of 0.0984 which is categorized as very strong. So that the existence of students' motor skills is closely related to student responses to e-modules and is closely related to student learning interests.

Gross motor ability is a term used to describe the behavior of movements performed by children (Hasanah, 2016; Mache & Todd, 2016). According to previous research, motor development is in line with the development of different areas of the nervous system (Hadders-Algra, 2018; Prima, 2021). According to similar research that each individual's gross motor skills are influenced by the maturity of nerve cells (Mahmud, 2019; Sulistyono et al., 2021). According to previous research that the motor development of each individual generally follows a similar pattern for everyone, but it can also be different from one child to another, meaning that the maturity of nerve cells affects the rate of motor development of each child (Khaulani et al., 2020; Pura & Asnawati, 2019). According to similar research, gross motor skills are influenced by several elements, namely coordination, balance, dexterity, agility, and speed. Based on the opinion of experts, it can be concluded that the

motor skills of each child are different from other children (Sakinah et al., 2022; F. B. Utami et al., 2023). These differences can be influenced by various factors including internal factors and external factors. With increasing age, the child's gross motor skills will increase starting with simple movements towards more coordinated movements so that children's gross motor skills have characteristics based on increasing age (Arqiya & Ramadani, 2023; Irawan et al., 2021). In improving students' motor skills, it is very important to be understood by families and teachers. Teachers can assist in developing students' motor skills through classroom learning activities (Brian et al., 2017; Cheung et al., 2023). Students' motor skills can be improved through the learning model of local wisdom games looking for treasure using e-modules as learning media. E-modules can help students understand the game material looking for treasure because students can learn through the materials listed in the e-modules and videos contained in the developed e-modules. The use of learning media in electronic form that does not only contain subject matter can help the learning process become more effective and efficient to improve students' abilities (A. R. Utami et al., 2020; Winarto et al., 2020). The use of e-modules as learning media can increase students' interest in learning which has an impact on increasing students' motor skills. Attractively designed e-modules, packaged in easy-to-understand language, and equipped with easy-to-understand videos make students motivated to learn so that they can improve students' motor skills. This study shows that the e-module of the game looking for treasure that was developed can improve students' gross motor skills which is indicated by a positive response from students in the use of e-modules.

The results of this study make an important contribution to understanding the role of traditional games in learning to improve students' interest and motor skills. This study shows that traditional games have a significant and diverse influence in increasing student engagement and developing their motor skills. The use of traditional games not only enriches the learning process, but also helps students hone their physical and social skills, which are essential for their holistic development. Efforts to integrate traditional games into learning are gaining traction, reflecting the recognition of the importance of a holistic approach to education. The contribution of traditional games to this learning shows how cultural and physical approaches can enrich our understanding of education. This is the basis for further research on how traditional games can be sustainably integrated into modern learning curricula. Furthermore, this study emphasizes the importance of an inclusive and adaptive approach to improving students' motor skills and interests. One of the limitations of this research is the influence of modern technology and digital culture that may affect students' acceptance of traditional games. External factors such as changes in lifestyle and learning preferences of students also need to be considered. Recommendations for further research include a more in-depth exploration of the influence of traditional games in the context of technology-based education and how these games can be adapted to support learning in the digital era. Future research also needs to consider an interdisciplinary approach that combines education, anthropology, and technology to enrich understanding of the impact of traditional games on the development of students' interests and motor skills.

4. CONCLUSION

Treasure search game is a water activity game that is carried out in groups and practicing diving movements to pick up something in the water. The development of the treasure game e-module using the ADDIE model was developed only at the implementation stage. Based on the results of descriptive statistics, it was stated that the students' response to the e-module was good and the students' motor skills after using the e-module had increased. Then the results of inferential statistics on the t test stated that there was a difference between

motor skills before using the e-module and after using the e-module. These differences show a good difference because there is an increase in motor skills shown by students after using the e-module which is indicated by the sig value. Furthermore, the correlation test states that the relationship between student responses and students' motor skills has a close relationship as indicated by a value. So it can be stated that when the student's response is good to the e-module, the student's motor skills after using the e-module increase. So that the existence of students' motor skills is closely related to student responses to e-modules and is closely related to student learning interests

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