Developing encyclopedia book of traditional games in Gresik City on learning my cultural theme in kindergarten

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Abstract

Grass motor skill and culture knowledge is important for early childhood development, however in the North Gresik Region found that children have never been introduced to local culture, lack of games variety, and there is no development of books that can support children's knowledge of children's culture and gross motor skills. So that, this study aims to develop an encyclopedia of traditional games. This development research uses the ADDIE model with involved PGRI Dalegan and Muslimat NU 41 Kindergarten (n=30) which are divided into two classes. Data collected using questionnaires and observation. This research produces a product in the form of a traditional game encyclopedia of Gresik City which is feasible and effective to be applied to the learning of my culture theme with a material validation percentage value of 95.83%, media validation of 88.63% which is classified as very good category. Data analysis used independent sample t-test with the value of = 0.000 that there was a difference in gross motor skills between the experimental class and the control class. The results obtained after applying the traditional game encyclopedia of Gresik city, children can understand and carry out activities playing various traditional games of Gresik city. This book is useful for improving children's gross motor skills and introducing local culture to early childhood, especially traditional games.

Keywords: Encyclopedia, Early Childhood, Cultural Theme, Traditional Games

INTRODUCTION

Education and culture are two things that cannot be separated due to the transfer of cultural values in the educational process. Education is a process of adding cultural value and constantly changing in accordance with the demands of cultural development, so that education always changes along with cultural developments (Rusdiansyah, 2020). The educational process is the most effective way to preserve and maintain the culture itself. According to data from the Language Agency of the Ministry of Education and Culture (2018) states that one of the main issues in the field of education and culture is the issue of national identity. The rapid currents of globalization are now increasingly threatening and eroding the existence of local cultures. The preservation of local culture in the midst of the current era of globalization can be done through strengthening local culture by introducing the younger
generation to local culture through formal and informal schools (Maulida et al., 2021). This phenomenon is a readiness to uplift and preserve local culture to become an integrative part of learning my cultural themes in school.

Culture is a rule or norm that belongs to a society (Qotrunnada, 2020). Culture can be taught through learning in schools through the development of children's character by introducing what culture exists in Indonesia by providing exposure to Indonesian culture from an early age. This is in line with Berliana et al., (2018) that SIS (Singapore Indonesia School) has implemented strengthening national character in students through cultural learning at school. Learning materials related to local culture are integrated in learning so that learning has its own meaning for children (Suardana & Retug, 2017). In kindergarten, culture can be integrated into theme-based learning. The learning theme that educators can develop to instill national character in early childhood is a theme based on local culture (Maryatun et al., 2017).

In line with Permendikbud No. 137 of 2014, the preparation of themes that are used as a reference in learning needs to pay attention to aspects of suitability, needs, stages of child development, and local culture of the region. Local cultural themes that can be taught in early childhood include regional traditional clothing, regional musical instruments, traditional dances and traditional games.

Traditional games in each region have different names and playing steps, although sometimes there are games that have the same rules with different names in different regions (Fitri et al., 2020). Related to this statement, a reconstruction of traditional games is needed so that the game can be played easily and can be more easily understood the values of each game (Lintangkawuryan & Adiati, 2017). Therefore, re-preserving traditional games is an important effort that must be made to cultivate character as early as possible in children. Play and play are a children's world (Anggita et al., 2018). Teaching traditional Indonesian games is a form of application of games that can be done to children (Hidayati, 2020). Meanwhile, children's games based on local wisdom have an effect on children's knowledge of the local culture of their area and also gross motor skills (Maulidiyah et al., 2019). Through traditional games, the child's gross motor skills can be stimulated by performing various movements. A child's gross motor skills develop when the child actively repetitions the movements of the skills that have been performed so that they develop into new, more complex skills (Lestari et al., 2019).

Traditional games, as we all know, are games that are rooted in a specific culture or period of time (Putra & Dewi PF, 2018). One of the areas that has a lot of local wisdom of traditional games is Gresik City which is located in the province of East Java. According to
data from the Gresik Tourism and Culture Office (2021) that there are three Gresik cultural heritages that are recorded as intangible cultural heritage (Intangible Cultural Heritage) and two of them are categories of traditional games, namely “damar kurung” and “okol” wrestling traditions from Setro Village, Menganti. This is in line with research conducted by Septiani et al., (2017) that Gresik has a local wisdom of traditional games of approximately 100 types of games. However, these games are not widely known by the surrounding community.

Data from a survey of kindergarten teachers in the North Gresik region found problems, namely: 1) in learning my cultural theme, children have never been introduced to local culture, especially in traditional games; 2) in learning my cultural theme there is a lack of variety of games, especially in children's gross motor games; 3) there is no development of books that can support children's knowledge of children's culture and gross motor skills. This has an impact on the low level of gross motor skills of children and also the low sensitivity and concern of children towards the local culture of their area, especially in the traditional games of the city of Gresik.

An encyclopedia is a book that contains one topic along with detailed explanations arranged alphabetically and supported by illustrations of images using interesting colors (Hayatin et al., 2019). Encyclopedias are arranged in alphabetical order to make it easier for readers to find information, encyclopedias also contain information accompanied by images (Nurutstsyany et al., 2020). The encyclopedia provides a more detailed explanation of what to look for. Talking about the world of education in Indonesia, encyclopedias are a kind of enrichment books designed to enrich students' knowledge, skills, and personalities. Unlike other enrichment books, encyclopedias have nothing to do with the curriculum. So that this encyclopedia is able to survive the changes in the applicable curriculum. The use of encyclopedia books is very easy because it has a glossary of terms equipped with explanatory sentences arranged alphabetically, which makes encyclopedias different from other books (Schopflin, 2014). Based on this definition, this encyclopedia is very appropriate if it is used as a source of data and information for children.

The encyclopedia book of traditional games of Kota Gresik is a learning medium for early childhood that serves to describe the variety of traditional games of Gresik City so that children can get to know and preserve the game. This learning media is in the form of visual and educational media that describes the variety of traditional games of Gresik City in the form of illustrated images. This encyclopedia book is a medium with long-term benefits, where the use of encyclopedia books can make learning flexible, effective and efficient
indefinitely. Related to that, it is important to develop the media of the encyclopedia book of traditional Gresik games to support the learning of my cultural themes. The purpose of this study is to develop an encyclopedia book of traditional games in Gresik City that is worthy of use in learning my cultural themes in kindergarten.

**METHOD**

This research is a type of Research and Development (R&D) research or development research using the ADDIE model. The selection of this development model is based on simple and systematically arranged stages of product development (Cahyadi, 2019), also suggesting revisions at each stage through the validation stage of assessment by experts before product trials are carried out so as to minimize errors (Gagne's & Bloom's, 2021). The ADDIE model consists of five stages in developing learning systems, namely: (1) analyze, (2) design, (3) develop, (4) implement, and (5) evaluate (Tegeh et al., 2014).

![ADDIE Model](image)

**Fig. 1. Figure of ADDIE Model (Tegeh et al., 2014)**

This research was conducted in the kindergarten of the North Gresik region. Determination of the location of the study through purposive sampling with subjects totaling 30 children of group B consisting of 15 children of PGRI Dalegan Kindergarten and 15 children of TK Muslimat NU 41. In this study, the design used was pretest and posttest between the experimental and control classes.

Data collection techniques in this study through questionnaires and observations. The questionnaire used in this study was in the form of a closed questionnaire as a validation of material and media by experts, namely PG PAUD lecturers, which was shared through an online google form which was used to measure the feasibility of the traditional game encyclopedia book in Gresik City. Observations in this study used the type of participant observation or researchers participated in with structured observation instruments. The
observation sheet instrument is intended to see the child's gross motor skills in learning my cultural theme which is used to measure the effectiveness of the use of the traditional game encyclopedia book of the city of Gresik.

The data analysis techniques used are questionnaire data analysis and observation. The data from the questionnaire results were obtained from the validation of material and media experts to find out the feasibility of the traditional game encyclopedia book of the city of Gresik. The questionnaire was calculated and analyzed using the conversion of quantitative data into qualitative data using a reference Table 1 presentation of its assessment criteria.

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Criterion</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>76% - 100%</td>
<td>Excellent</td>
<td>Very worthy, no revision needed</td>
</tr>
<tr>
<td>51% - 75%</td>
<td>Good</td>
<td>Worth it, no revision needed</td>
</tr>
<tr>
<td>26% - 50%</td>
<td>Bad</td>
<td>Not worth it, needs revision</td>
</tr>
<tr>
<td>0% - 25%</td>
<td>Very Not good</td>
<td>Very unworthy, needs revision</td>
</tr>
</tbody>
</table>

(Source: Riduwan, 2013)

The research data were analyzed quantitatively using several tests, namely validity tests, reliability tests, normality tests, and hypothesis tests using a t-test where the average score of implementations before and after using the encyclopedia book of traditional games in Gresik city. The data from the observation sheet on the use of the encyclopedia book of traditional games in the city of Gresik which was tested on children was used to determine the level of effectiveness of learning media. In the analysis of effectiveness assessment using parametric statistics with the T-test if the results are normally distributed and if the data are distributed abnormally using non-parametric statistics with the Wilcoxon test (Nasrum, 2018).

RESULTS AND DISCUSSION

This development research resulted in the media of the traditional game encyclopedia book of Gresik City which was developed with the ADDIE development model consisting of five stages. The presentation of the research results is as follows:

Stage 1. Analyze

This stage carried out a needs analysis which included problem analysis and learning analysis: (1) Problem analysis showed the results that there was a lack of a variety of gross motor skills of children in PGRI Dalegan Kindergarten and Nu 41 Muslimat Kindergarten. This can be seen in the gross motor skills of group B children which are still lacking, the fact is that the child has not been able to control the movement of the limbs or coordinate the entire limb skillfully due to lack of physical exercise; (2) The analysis of learning on my cultural theme
shows that students do not know and have not been taught about the traditional game of the city of Gresik. In addition, there is no development of appropriate learning books to support children’s gross motor skills in learning my cultural themes.

Based on the results of the analysis above, a solution for selecting learning media is provided in accordance with the results of the analysis of the needs of students and teachers in the learning process, namely the Encyclopedia book of traditional games in Gresik City which is equipped with rules of the game, playing steps, and using clear reference sources. At each step of the game is clarified with visualizations that are interesting to the child and make it easier for the child to understand the content of the book.

Stage 2. Design

At this stage, the preparation of products made through several stages is carried out which include: (1) The preparation of the instrument of the traditional game encyclopedia book of the city of Gresik is arranged based on a grid of research instruments by adjusting the characteristics of the child; (2) The trial design of the encyclopedia book development product was tested using an open questionnaire given directly through observation of the application of traditional games in the city of Gresik; (3) The design of the traditional game encyclopedia book product of the city of Gresik is as follows Table 2.

<table>
<thead>
<tr>
<th>No.</th>
<th>Order</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Determination of the type of printed book media</td>
<td>The encyclopedia book of the traditional game of the city of Gresik is printed using a hardbook type of book</td>
</tr>
</tbody>
</table>
| 2.  | Cover       | a. Title: Encyclopedia book of Traditional Games City of Gresik  
b. Illustration Image:  
Adapted to the theme of the encyclopedia book |
| 3.  | Content     | a. Introduction to traditional games  
b. Types of traditional games of Gresik City  
c. Game description  
d. Rules of the game  
e. Playing steps  
f. Glossary |

Stage 3. Development

At this stage, the realization of the traditional game encyclopedia book of the city of Gresik was carried out, whose production process was made using MediBang paint and Adobe Illustrator software which functioned for the process of painting images and editing the layout of the traditional game encyclopedia book in the city of Gresik. The results of design production can show in Fig. 2.
Furthermore, the completed encyclopedia book is validated by material experts and media experts to obtain product feasibility. The results validation by material experts and media experts shown Table 3.

<table>
<thead>
<tr>
<th>Validators</th>
<th>Percentage</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material Expert</td>
<td>95.83%</td>
<td>Excellent</td>
</tr>
<tr>
<td>Media Expert</td>
<td>88.63%</td>
<td>Excellent</td>
</tr>
</tbody>
</table>

Based on Table 3, the overall percentage value of the validation of experts that has been described above, the value obtained is 95.83% and 88.63% is at a percentage interval of 76 ≤ a score of ≤ 100. According to the percentage range of the assessment level category (Table 1) the results of the validator’s assessment of the learning media of the traditional game encyclopedia book in Gresik City are classified as excellent, very feasible and not revised. After the validation stage, the instrument is then tested for reliability using the formula Cronbach’s alpha. A variable can be said to be consistent (reliable) if the value of the Cronbach Alpha coefficient ≥ 0.6. The results of the reliability test on the instrument can be seen in the table below:

<table>
<thead>
<tr>
<th>Cronbach's Alpha</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.905</td>
<td>10</td>
</tr>
</tbody>
</table>

The reliability test results with 10 question items showed that all variables of this study had an alpha Cronbach’s coefficient of 0.905 greater than 0.60. Thus, the questionnaire used as a data measuring instrument can be declared reliable or consistent.

**Stage 4. Implementation**

At this stage, the product of the traditional game encyclopedia book of the city of Gresik, which has been declared feasible, was tested on 30 children of group B and 2 class teachers. The subjects of this study were divided into two classes with each class of 15
children guided by 1 class teacher at PGRI Dalegan Kindergarten and NU 41 Muslimat Kindergarten. The implementation of the traditional game encyclopedia book of the city of Gresik uses a nonequivalent control group design method that requires one experimental class and one control class. To find out the effectiveness of the traditional game encyclopedia book of the city of Gresik, a T-test was carried out. Before that, a classical assumption test will be carried out using the accumulated data of the experimental class and the control class which includes a normality test and a homogeneity test, as follows Table 5.

<table>
<thead>
<tr>
<th>Class</th>
<th>Statistics</th>
<th>Df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest Experiments</td>
<td>0.936</td>
<td>15</td>
<td>0.338</td>
</tr>
<tr>
<td>Posttest Experiments</td>
<td>0.946</td>
<td>15</td>
<td>0.463</td>
</tr>
<tr>
<td>Pretest Control</td>
<td>0.894</td>
<td>15</td>
<td>0.077</td>
</tr>
<tr>
<td>Posttest Control</td>
<td>0.915</td>
<td>15</td>
<td>0.159</td>
</tr>
</tbody>
</table>

Based on Table 5, the calculation results using the Shapiro-Wilk test using a significance level of 0.05. The results of the normality test in the Table 5 show that there is a signification of pretest score data in the experimental class 0.338 and in the control class 0.077. While in the posttest data the experimental class is 0.463 and in the control class is 0.159. Thus, the overall data is a normally distributed sample with a signification rate of more than 0.05. So it can be concluded that the data in both classes that include pretest and posttest data are normally distributed samples.

The homogeneity test between the experimental class and the control class uses the Levene test. Based on the calculation results in the table 6, data was obtained that the signification value on the average pretest and post test data of the variance of the two classes was 0.205 with the provision that the signification level was more than 0.05 which can be said that the data had the same variance. So, it can be concluded that the data populations in the experimental class and the control class have the same or homogeneous variance.

| Based on Mean       | 1.575 | 0.205 |
| Based on Median     | 1.461 | 0.235 |
| Based on Median and with adjusted df | 1.461 | 0.236 |
| Based on trimmed mean | 1.557 | 0.210 |

After testing classical assumptions in both classes, descriptive statistical data will be obtained. The following presented a descriptive statistical analysis of pretest and posttest score data in the experimental class and the control class (Table 7). Based on the Table 7, gross motor ability data were obtained which included pretest and posttest data. The average data before treatment in the experimental class was 23.20 and 23.13 in the control class. This
shows that the pretest data between the experimental class and the control class is not much different. Furthermore, the average data after treatment in the experimental class was 36.67 and 26.20 in the control class. The experimental class showed that there was a significant improvement in gross motor ability seen from different averages of pretests and posttests. Thus, it can be concluded that there is a significant difference in the average gross motor ability in the experimental class.

**Table 7. Descriptive Statistics**

<table>
<thead>
<tr>
<th></th>
<th>Pretest Experiments</th>
<th>Posttest Experiments</th>
<th>Pretest Control</th>
<th>Posttest Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>23.20</td>
<td>36.67</td>
<td>25.13</td>
<td>26.20</td>
</tr>
<tr>
<td>Median</td>
<td>23.00</td>
<td>37.00</td>
<td>25.00</td>
<td>26.00</td>
</tr>
<tr>
<td>Mode</td>
<td>23</td>
<td>37</td>
<td>25</td>
<td>26</td>
</tr>
<tr>
<td>Minimum</td>
<td>21</td>
<td>33</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td>Maximum</td>
<td>26</td>
<td>40</td>
<td>27</td>
<td>28</td>
</tr>
<tr>
<td>N</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
</tbody>
</table>

To determine the level of significance, testing was carried out using the independent sample t-test which was used to see the difference in gross motor ability in the experimental class and control class using posttest data. The following is a table of test results for differences in gross motor ability data, as follows Table 8.

**Table 8. Independent sample t-test results**

<table>
<thead>
<tr>
<th>t-test for Equality of Means</th>
<th>t</th>
<th>Df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal variances assumed</td>
<td>16.012</td>
<td>28</td>
<td>0.000</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td>16.012</td>
<td>23.944</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Based on the results of the calculation of the independent test, the t-test sample showed the significance value of the gross motor ability posttest score data in the experimental class and control class of 0.00. The results of the test show that the significance value is less than 0.05, so it can be concluded that there is a significant difference in gross motor ability between the experimental class and the control class.

**Stage 5. Evaluation**

At the evaluation stage this is the final stage of the ADDIE development procedure. At this stage, a revision of the final stage of the encyclopedia of traditional games of the city of Gresik was carried out based on suggestions and input from teachers and observations of children's activities. This evaluation aims to produce a media that is worthy of implementation in the learning of my cultural theme.

This development research resulted in a learning media for the traditional game encyclopedia book of the city of Gresik in the form of a printed book with a hard book type.
This encyclopedia book of traditional games in the city of Gresik was developed based on the analysis of learning needs in PGRI Dalegan Kindergarten and NU 41 Muslimat Kindergarten with the aim that teachers can carry out learning with students by utilizing available media to facilitate the learning process. The implementation will be carried out within one month from May 10, 2022 to 10 June 2022. Before the implementation, researchers made observations to find out the initial condition of students during the learning process at PGRI Dalegan Kindergarten and Muslimat NU 41 Kindergarten. The next step, in the experimental and control class, pretest data was taken to determine the gross motor skills of students before being given treatment. After obtaining the pretest data, the experimental class was given treatment using the traditional game encyclopedia book of the city of Gresik which was carried out 4 times with each meeting applied 2 types of games. Application at the 1st meeting of the conch and “ongtrota” racing game, the 2nd meeting of the office and incumbent “desekan” game, the 3rd meeting of the game of rosin and “wok-wokan”, the 4th meeting of the game of “jumpritan” and scramble.

The implementation of the traditional game of the city of Gresik begins with dividing the children into 4 groups. Furthermore, to determine the playing order of each group represented by one person to perform the suit, the group that gets the first order will try the game while the group that has not had their turn to play will be the spectators. Each group that has finished playing in turn will move on to the other game until the game is over. After the application was carried out, posttest data on students' gross motor skills was taken after being given treatment. This stage of implementation is carried out with the aim of knowing the effectiveness of the traditional game encyclopedia book of the city of Gresik that has been developed. The implementation of traditional games in the city of Gresik is carried out in the classrooms and school play yards so that children are able to learn to adjust themselves by interacting directly with the surrounding environment. In line with the findings of Taheri & Chahian (2015) which explains that children's physical-motor abilities can increase when children play and interact in an open environment.

The traditional game encyclopedia book that has been implemented has proven useful to help teachers in implementing my cultural theme learning activities in kindergarten. Teachers can plan learning by applying traditional games to improve the child's gross motor skills. This is in line with Hayati and Asmawi (2017) which states that the application of traditional games to students has an effect on increasing gross motor skills which increase significantly compared to students who are not taught traditional games.
The results of the effectiveness test in this study found that by applying traditional games can effectively improve motor skills which include object control, locomotor and skills. In line with what was conveyed Akbari et al. (2009) that by doing traditional games children can perform various movements, so that these activities can be an alternative to stimulate children's gross motor skills. In addition, traditional games are new activities played by children, so that in doing the game the child feels happy. Therefore, children's gross motor skills when doing game activities can increase significantly, this is because they get stimulation from traditional game activities carried out. This is in accordance with Mutiah (2012) which states that a learning process in children will grow in tandem if play activities are carried out with happy feelings.

The encyclopedia book of traditional games of the city of Gresik was developed aimed at assisting teachers in planning learning on my cultural themes. In addition, encyclopedia books can also be used as learning resources. So that through this encyclopedia book of traditional Gresik games, the learning process carried out by the teacher can achieve learning goals and can improve children's gross motor skills.

The use of encyclopedia books of traditional games of the city of Gresik in learning has several advantages including that there are various types of traditional games of the city of Gresik which are grouped into games that are played with tools and without tools. There are game descriptions, rules of the game and playing steps in each type of game. Images and illustrations are arranged in a structured manner so that it can make it easier for teachers and students to understand the material. In addition, this encyclopedia book has an interesting color.

CONCLUSION

This development research aims to develop an encyclopedia book of traditional games of the city of Gresik that is worthy of use in learning my cultural themes. Based on the validator's assessment, material validation results were obtained with a percentage value of 95.83%, as well as media validation results with a percentage value of 88.63% which is classified as an excellent category. The results showed that the use of the traditional game encyclopedia book of the city of Gresik had a significant effect on circumcising children's gross motor skills. The results of the independent test of the t-test sample with the acquisition of a value of $\alpha = 0.000$ that there is a difference in gross motor ability between the experimental class and the control class. The results obtained after the application of the
encyclopedia book of traditional games of the city of Gresik, children can understand and carry out activities to play a variety of traditional games of the city of Gresik. This application is useful for improving children's gross motor skills and introducing local regional culture to early childhood, especially traditional games. This research has limitations, we recommend some suggestions for researchers or developers to further be expected to develop more variety of traditional games so that teachers can implement the learning process in a number of themes in kindergarten institutions.

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The researcher thanks the principal and students of two kindergarten schools in the city of Gresik: TK Muslimat NU 41 and TK PGRI Dalegan for allowing us to conduct the research. Researchers hope this research can contribute to other researchers about traditional games.

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