Lift the Flap Book Media Affect Disaster Preparedness in Early Childhood

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ABSTRAK


ABSTRACT

Children are still not aware of the dangers of disasters; knowledge of preparedness is still lacking. Another problem is that children don't know exactly what to do before, during, or after a disaster. This research aims to analyze the influence of using the lift the flap book media "Let's be prepared for disasters" on disaster preparedness in early childhood. This research uses a quantitative approach with a quasi-experimental type with a nonequivalent control group design. The subjects in this study were divided into two classes, namely the experimental class and the control class with the total number of subjects being 80 Kindergarten B children. In the experimental class there were 40 children who used lift the flap book media, and in the control class there were 40 children who used conventional learning. The instrument used is a disaster preparedness instrument in the form of an observation sheet. The analysis technique uses the Independent Sample t-Test with a significance level of 0.05. The results of the research show that there is a difference. The results of the independent t test on the disaster preparedness variable obtained a t value of 32.822 and p = 0.000 < 0.05, so Ho is rejected, so it can be concluded that the hypothesis states that there is a significant influence of the use of lift the flap book media on the introduction of preparedness disasters in children aged 5-6 years.

1. INTRODUCTION

Indonesia is one of the countries located at the confluence of active tectonic plates. On the other hand, these geological conditions make Indonesia a fertile country with abundant natural resources. In contrast, the plate’s contact area represents an earthquake path, several active volcanoes that can erupt, and tsunami-prone areas along the coast. In general, the situation of Indonesian people is very vulnerable to these disasters. People still do not have a high enough awareness of disasters. Lack of awareness can increase people's vulnerability to disaster hazards (Arasomwan & Mashiya, 2021; Deesomsak et al., 2004; Nilamsari et al., 2019). Indonesia is also in the Pacific Ring of Fire (ring of fire) which makes it vulnerable to earthquakes, tsunamis and volcanic eruptions. The Pacific Ring of Fire is a chain of volcanoes surrounding the Pacific Ocean. It is shaped like a ring, so it is called ring of fire.

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Several studies have found that mitigation education in Indonesia is still relatively low, as seen from simulations of natural disasters in several schools and found that many children are still panicked and confused (Kastolani & Mainaki, 2018; Suarmika et al., 2022; Wardana et al., 2021). The influence of disaster mitigation learning in Indonesia can be seen in the case of natural disasters. Young children are still the biggest victims of things like family loss, trauma, physical conditions and more (Esmaelzadehazad et al., 2021; Hayudityas, 2020). Actions that enable governments, organizations, communities, and individuals to respond quickly and effectively to disaster situations. Preparedness measures include creating appropriate disaster plans, saving resources and training personnel. Preparedness is part of the disaster management process, and in current disaster management concepts, improved preparedness is an important part of proactive disaster risk management before disaster occurs (Hughes et al., 2020; Kandríka et al., 2022).

Disaster preparedness is the ability of a person or group to face and respond to disasters quickly and appropriately. Training in disaster preparedness is an important topic and a diversification of the ECCE curriculum (Peek et al., 2020; Purwani & Nurfadilah, 2021). In the Regulation of the Minister of Education and Culture of the Republic of Indonesia Number 137 of 2014 has regulated the Standard Level of Child Development Achievement at the age of 4-5 years children should already understand various danger alarms (fire, flood, earthquake) and at the age of 5-6 children should know the situation that endangers themselves. This is useful so that later children are able to be prepared for disasters and be able to reduce the risk of disasters. The introduction of preparedness in early childhood is a series of efforts to reduce disaster risk through increased awareness in the face of imminent disasters. The purpose of the introduction of disaster preparedness or mitigation is to recognize risks, awareness of disaster risks, and management planning (Hamid, 2020; Nurani et al., 2022).

Based on initial field observations conducted by researchers at Masyitoh Dukuh Imogiri Bantul Kindergarten in the Special Region of Yogyakarta, researchers found that children are still not aware of the dangers of disasters, there is still a lack of preparedness knowledge. Another problem is that children don’t know exactly what to do before, during, or after a disaster. Some of these behaviours can be traumatic, injuries to children that are not treated immediately often lead to crisis situations, often resulting in psychiatric disorders (Hidaayah, 2014; Ramos-Pla et al., 2021). Yogyakarta Special Region (DIY) is one of the areas that is quite close to the Indo-Australian and Eurasian tectonic plates with a distance of 37 Km from the south of Yogyakarta (Sudarko et al., 2023; Wijanarka et al., 2019). Researchers found that children are still not aware of the dangers of disasters, there is still a lack of preparedness knowledge. Another problem is that children don’t know exactly what to do before, during, or after a disaster. Some of these behaviours can be traumatic, injuries to children that are not treated immediately often lead to crisis situations, often resulting in psychiatric disorders (Hidaayah, 2014; O’Reilly et al., 2018).

The use of effective learning media can increase knowledge of disaster preparedness in early childhood can be done through the use of interesting media in the learning process. Learning media includes tools used to physically convey learning content (Arsyad, 2017; Sabbihatul Mustaghfaroh et al., 2021). Media is used as an intermediary or facilitator to deliver material to students and can have a positive impact and benefit in helping children maximize their learning outcomes. There are three main levels of learning media, namely hands-on experience (enactive), pictorial/ pictorial experience (Iconic) and abstract experience (symbolic). Media can also bring out children's positive attitudes towards learning materials. Various studies on the use of media in learning conclude that there are significant differences in the learning process and student learning outcomes when learning without media and learning with media (Fauziyah, 2014; Zaini & Dewi, 2017). Learning media in early childhood is an intermediary to transfer information from communicators addressed to children, which can arouse thoughts, increase enthusiasm, attention and interest of children to acquire knowledge, skills and activities that are in line with children's goals.

Information submitted (Rahmwati & Patria, 2018; Suryani & Seto, 2020).

Lift the flap book or often referred to as flap book is a book with a window that displays an image or information inside or behind it. The flap book (windowed book) is a book that has pictures in it, where the picture is equipped with a window that can be opened either up, down, right or left and has a caption behind it (Maynastiti et al., 2020; E. K. E. Sartono & Irawati, 2020). Some advantages of Media lift the flap book Among them are simple shapes, can convey summaries clearly, fun, interesting, facilitate understanding of the material, and increase children’s concentration and creativity. The content of the picture arouses the child’s learning interest to see it. The open window of the book stimulates the child's curiosity (Ciampa, 2016; Yasa et al., 2018). Hence the appointment of the media lift the flap book provide alternatives to increase interest in learning and introduction to disaster preparedness and that have the potential to attract children's attention and can provide different and more interesting learning for children during the learning process. This research aims to analyze the influence of using the lift the flap book media “Let’s be prepared for disasters” on disaster preparedness in early childhood. The novelty of this study lies...
in the discussion of disaster preparedness in early childhood which has not been widely studied, especially in Indonesia.

2. METHOD

This research is included in quantitative research using quasi-experiments. Experimentation is a type of comparison that compares the effect of giving a treatment (treatment) on an object (experimental class) and see the magnitude of the effect of its treatment, which is intended to determine whether there is an effect of "something" imposed on the subject under study. Experimental research is used if researchers want to know the causal relationship between independent variables and dependent variables (Sugiyono, 2020). The research design used is non-equivalent control group design. This design requires two sample classes, namely the experimental class and the control class. The subjects of the study were groups B3 and B4 as many as 40 children as a control group for the introduction of preparedness without using media lift the flap book and groups B1 and B2 as many as 40 children became the experimental group of media use lift the flap book to the introduction of disaster preparedness in early childhood. Data collection techniques using observation questionnaire sheets and documentation. The instrument is in the form of a description consisting of 15 questionnaire questions with all favourable statements. Each question item is related to the lift the flap book learning media. Questionnaire observation sheets were carried out twice, namely pretest was carried out at the beginning before treatment was given and posttest after treatment. Disaster preparedness instruments in children use a Likert scale of scores 1 to 4 with very bad, not good, good, and very good categories. The highest scoring category is 60 and the lowest score is 15. The research instrument grids is show in Table 1.

Table 1. Grille of Disaster Preparedness Instruments in Children

<table>
<thead>
<tr>
<th>Variable</th>
<th>Indicator</th>
<th>Sub Indicators</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disaster Preparedness</td>
<td>Knowledge and attitude towards disasters</td>
<td>a. Knowledge of disasters</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b. Get to know the characteristics of earthquakes and tsunamis</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c. Knowledge of attitudes before disaster occurs</td>
<td>3</td>
</tr>
<tr>
<td>Early warning system</td>
<td>d. Actions taken during a disaster</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Emergency response plan</td>
<td>e. Evacuation plan</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>f. Actions taken after a disaster</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

Furthermore, the statistical test used for this normality test is Shapiro-Wilk, if the significance value obtained is ≥ 0.05 then H0 is accepted, and then an Independent Sample t-test is carried out to test the difference in the effect of using lift the flap book on the introduction of early childhood preparedness in facing disasters with the help of the computer program SPSS 20 for windows. If the t-test results show a calculated value > table and the probability of significance is less than 0.05 (p < 0.05), then the calculation results show that there is a difference in the use of lift the flap book media.

3. RESULTS OF RESEARCH DISCUSSION

Result

Pretest-Posttest Descriptive Analysis

Descriptive analysis was conducted to describe the results of Pretest and posttest tests conducted on disaster preparedness variables. The results of this test aim to determine whether there are differences in values that have previously been given to children in the form of learning using lift the flap book media. Histogram of average pretest score of disaster preparedness in children is show in Figure 1. Based on Table 1 the disaster preparedness pretest in the experimental class with a total of 40 children obtained an average score of 35.93. While the control class with 40 children obtained a score of 29.93. The pretest result obtained is the difference between the two is 6. Histogram of posttest average score of disaster preparedness in children is show in Figure 2. Based on Figure 2, the disaster preparedness posttest in the experimental class with a total of 40 children, an average score of 49.5 was obtained, an average increase of 13.57 from the pretest class. While the control class with 40 children obtained an average score of 33.83.
experienced an average score increase of 3.9. It appears that the increase in children’s preparedness has increased using lift the flap book media compared to conventional learning.

![Figure 1. Histogram of Average Pretest Score of Disaster Preparedness in Children](image)

![Figure 2. Histogram of Posttest Average Score of Disaster Preparedness in Children](image)

**Prerequisite Test (Normality Test)**

Pretest and posttest normality tests are used in experimental classes to determine whether samples come from normally distributed populations or not. Observation sheets of disaster preparedness questionnaires for children were filled in each control class and experimental class. The significance level (α) criterion is 0.05 with decision making if the pretest and posttest scores > 0.05. The results of the pretest and posttest normality test analysis were carried out with the help of SPSS 20 for windows. Pretest and posttest normality test is show in Table 2.

<table>
<thead>
<tr>
<th>Group</th>
<th>Category</th>
<th>Sig (P)</th>
<th>Condition</th>
<th>Ket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiment</td>
<td>Pretest</td>
<td>0.112</td>
<td>P&gt;0.05</td>
<td>Usual</td>
</tr>
<tr>
<td></td>
<td>Posttest</td>
<td>0.164</td>
<td>P&gt;0.05</td>
<td>Usual</td>
</tr>
<tr>
<td>Control</td>
<td>Pretest</td>
<td>0.141</td>
<td>P&gt;0.05</td>
<td>Usual</td>
</tr>
<tr>
<td></td>
<td>Posttest</td>
<td>0.285</td>
<td>P&gt;0.05</td>
<td>Usual</td>
</tr>
</tbody>
</table>

Based on the summary of the pretest and posttest normality tests, Table 2 obtained sig values. The experimental class pretest is 0.112 and the experimental class posttest is 0.164 while in the Table control class a sig value is obtained. The control class pretest was 0.141 and the control class posttest was 0.285. Therefore, it can be concluded that the significance value of the control class and experimental class is greater than the significance level criterion of 0.05, so that the data taken come from a normally distributed population.

**Hypothesis Testing (Independent Sample t-test)**

The hypothesis test used is an independent sample t-test test used to determine the difference in the effect of using lift the flap book media compared to conventional learning on disaster preparedness.
recognition in children aged 5-6 years. An independent sample t-test result of disaster preparedness is show in Table 3.

Table 3. Independent Sample t-Test Results of Disaster Preparedness

<table>
<thead>
<tr>
<th>T</th>
<th>Count</th>
<th>Say</th>
</tr>
</thead>
<tbody>
<tr>
<td>32.822</td>
<td></td>
<td>0.000</td>
</tr>
</tbody>
</table>

Based on the summary of the t-test results in Table 3, the significance score of child preparedness is 32.822 > 2.024 (table N = 40. The calculation of independent sample t-test in the table shows that the variance of child preparedness between the control class and the experimental class obtained a significance of 0.000. From the results of the analysis above, it was concluded that the significance value of 0.000 was less than 0.05, it was proven that Ho was rejected and Ha was accepted, which means that the final result of this study is that there is an influence between children who follow learning using lift the flap book media with conventional learning on disaster preparedness in children aged 5-6 years at Masyitoh Dukuh Imogiri Bantul Kindergarten, Special Region of Yogyakarta. It was concluded that there is an influence of the introduction of disaster preparedness on children using lift the flap book media compared to conventional learning in the classroom. Results of independent sample t-test and introduction to disaster preparedness in children aged 5-6 years.

Discussion

In the implementation of learning using lift the flap book media, the introduction of disaster preparedness for children who are the subjects of the study will take the pretest and posttest. Before the research subjects were given treatment, the children were first tested for their initial abilities (pretest) to determine the initial state of children’s knowledge about disaster preparedness. After the pretest, treatment was given using the flap book lift media for disaster preparedness (Rahmawati & Patria, 2018; E. K. E. Sartono & Irawati, 2020). The treatment was given as many as five meetings. Learning begins with introducing lift the flap book media to children about the introduction of disaster preparedness, page by page explained by researchers to children according to what is in the lift the flap book. Children were asked to listen to what the researchers explained related to disaster recognition and disaster preparedness. Furthermore, after an explanation related to the contents in the media lift the flap book about disaster preparedness, children were asked to retell what had been explained related to disasters that had been learned today (Ardhana, 2016; Fathonah & Atharina, 2018). After introducing lift the flap book media which contains disaster preparedness, children will be invited to do simulations or practices of what to do before and after the earthquake occurs.

The results of the hypothesis test on the effect of lift the flap book media on the introduction of disaster preparedness in children showed that the results of the independent t-test on disaster preparedness variables obtained a calculated value of 32.822 and p = 0.000 < 0.05 then H₀ was rejected, so the hypothesis stated that there was a significant difference in the use of lift the flap book media The introduction of disaster preparedness in children aged 5-6 years is acceptable. Media lift the flap book helps children more easily understand the material and improve concentration because of its attractive form, this is reinforced by study which states the results of student response questionnaires of 91.6% who agree that the media lift the flap book fun, interesting, facilitate the understanding of the material, increase concentration and creativity of students (Fathonah & Atharina, 2018). Another factor in influencing research is the advantages that the media has lift the flap book That is to help children get real and fun experiences because through media lift the flap book Learning becomes interesting so that students can learn better (Puspita et al., 2019; E. Kus Eddy Sartono & Irawati, 2019).

The results of the study are in line with previous research which also states Media lift the flap book In the metamorphosis material in grade IV elementary school, it can be known its effectiveness with the level of effectiveness based on the pretest results obtaining an average value of 65.7 with quite effective criteria (Rahmawati & Patria, 2018). While the posttest results obtained an average value of 86.4 which was declared very effective. Other research results from Rahmayani’s use of Media lift the flap book effectively improve the ability of children with autism in elementary school UNP Laboratory Development in recognizing the weather based on the information they receive at each meeting. Before being helped using visual media lift the flap book, The child’s ability to recognize the weather is greatly reduced. However, this ability increased greatly after intervention using the media lift the flap book (Lau et al., 2011; E. Kus Eddy Sartono & Irawati, 2019). This was also expressed by Blaine who stated "...the lift-the-flap project was engaging to students and motivated them to focus their attention...". Which means that lift the flap book can make learning more interesting and encourage children to focus on learning material (Atwood-Blaine, 2017; E. Kus Eddy Sartono & Irawati, 2019).
Based on the results of the study, it was obtained that the use of media lift the flap book can improve the introduction of child preparedness in facing disasters in children aged 5-6 years. Children look more enthusiastic, focused, active, enthusiastic and interested in disaster preparedness material in the classroom learning process. Media use lift the flap book the learning process becomes interactive and interesting, able to increase the knowledge of early childhood children about disasters and how to deal with disasters in disaster preparedness knowledge materials, in addition to the media lift the flap book. Also, children can learn about concrete steps to take when facing a disaster, such as how to exit buildings, shelters, and evacuation procedures when an earthquake occurs. This makes it easier for children to understand the teacher’s explanation. With the understanding gained, children become more confident and not shy to express opinions in front of friends in class. This indicates that media use lift the flap book. Have a positive influence on the introduction of disaster preparedness in children aged 5-6 years. In addition, teaching and learning activities also become more effective and efficient. Previous study states that books lift the flap interesting to students and encourages students to concentrate (E. Kus Eddy Sartono & Irawati, 2019). From this statement it can be interpreted that lift the flap book can make learning more interesting and encourage students to focus on the learning material. Another factor influencing research is the advantages that the media has lift the flap book that is to help children get real and fun experiences because through the media lift the flap book. Learning becomes interesting so that students can learn better (Puspita et al., 2019). Other advantages are also mentioned including: 1) the shape is simple, efficient, economical, and the material is easy to obtain; 2) can convey summaries easily; 3) able to overcome space and time limitations; 4) does not require special equipment; 5) can compare a change to vary between one media and another (Ardhana, 2016).

Related to previous research, the use of lift the flap book media for the introduction of disaster preparedness is still rarely found. Most research on disaster preparedness in children is mostly done with print media such as picture books and audio-visual media such as animated videos. There are several studies that use lift the flap book media but to improve reading skills, mathematical logic, regional culture and improve motor skills in children but no one has discussed disasters in early childhood. Therefore, research on the use of print media in the form of elevator the flap book or window book on the introduction of disaster preparedness in children is certainly a novelty when compared to previous research.

4. CONCLUSION

The use of lift the flap book media makes the learning process interactive and interesting and can increase early childhood knowledge about disasters and how to deal with disasters in disaster preparedness. In addition, through the lift of the flap book, children can also learn about specific steps to take in the event of a disaster, such as leaving the building, sheltering and evacuation measures in case of an earthquake. This makes it easier for children to understand the teacher’s explanation. Based on the results of the analysis and discussion, there is an influence on the introduction of disaster preparedness in children aged 5-6 years after the use of lift the flap book media.

5. REFERENCES


Karima Ulya Ulfah / Lift the Flap Book Media Affect Disaster Preparedness in Early Childhood


