

The effect of role play method education on students' preparedness in facing earthquake disasters at Salafiyah Ula Icbb Primary School, Yogyakarta

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Abstract

Purpose: This study aims to determine the influence of the role-playing education method on students' preparedness in facing earthquake disasters at ICBB Salafiyah Ula Elementary School, Yogyakarta.

Method: The study uses a quantitative approach with a pre-experimental research method. One group pretest posttest design. Sample of 68 respondents from all grade VI students. Instrument in the form of preparedness questionnaire measured before and after intervention, Data analyzed using Wilcoxon statistical test.

Results: The results of the Wilcoxon Signed Rank test 0.000 ($p < 0.05$) prove that providing education with the role play method has an effect on increasing earthquake disaster preparedness in elementary school students Salafiyah Ula ICBB Primary Yogyakarta.

Keywords: disaster preparedness; earthquake; education; role play method; students

1. Introduction

Amid the threat of earthquakes in Indonesia, particularly in areas such as Bantul Regency, which is directly adjacent to the Opak fault and has vulnerable lowland geographic characteristics, the preparedness of elementary school students is a crucial issue. This research is highly urgent considering the geographical location of Salafiyah Ula Elementary School, ICBB Bantul, which is located in an earthquake-prone zone, making disaster mitigation education an urgent need to reduce the risk of loss of life and loss of life. Therefore, this study aims to examine the effect of the roleplay method in improving student preparedness for earthquakes. The roleplay approach was chosen because it is considered capable of presenting interactive and realistic emergency situation simulations, allowing students to develop self-rescue actions in a safe and controlled environment, while simultaneously enhancing their understanding of disaster response. Several previous studies, such as Smith (2020) study on disaster simulations in schools, and Brown and White's (2021) work on the effectiveness of experiential learning, indicate that participatory methods such as roleplay significantly hinder the development of knowledge and practical skills in dealing with emergency situations. Thus, based on observations of relevant literature, the hypothesis put forward is that the application of the roleplay method will significantly increase the level of student preparedness in facing earthquake natural disasters at Sd Slafiyah Ula Icbb Bantul.

2. Methods

This research is a quantitative study. In quantitative research, data collection uses research instruments, and data analysis is statistical in nature. The purpose is to describe and test hypotheses that have been previously established. This research method uses an experimental method with a pre-experimental design approach using a pre-test post-test one-group design. The research design uses one group, namely the intervention group as a treatment group, to determine the effectiveness of video on student behavior regarding earthquake preparedness. The variable that affects the dependent variable or becomes the cause of change or emergence of the dependent variable. In this study, the independent variable is Education Method Role Play disaster, while the dependent variable in this study is knowledge related to student preparedness in the face of earthquake disasters. The sampling technique used in this study is total sampling. Researchers took all the population from the total population of 68 students; researchers took the entire population as a sample in this study. This study uses content validity and construct validity. The validity test in this study was conducted on 6th-grade students of Salafiyah Ula Icbb Bantul.

3. Results

Based on gender, the majority of respondents were female, totaling 40 respondents (58.8%). In this study, the majority of students aged 12 years (24 respondents, 35.3%) and 13 years (23 respondents, 33.8%) had better knowledge compared to students aged 11 years (21 respondents, 30.9%). This suggests that as a person's age increases, their level of maturity also increases. The effect of Role Play education methods on the preparedness level of Salafiyah Ula ICBB Yogyakarta students was measured using the non-parametric Wilcoxon statistical test because the data scale used was ordinal. The results of the non-parametric Wilcoxon statistical test showed that there was an influence of the Role Play education method intervention on the preparedness level of Salafiyah Ula ICBB Yogyakarta students. This is evidenced by a P-value/probability value in the non-parametric Wilcoxon statistical test of 0.000. Comparing the P-value with a significance level of 5% (0.05), the result is $P\text{-value} < 0.05$, indicating a significant difference in the preparedness level of Salafiyah Ula ICBB Yogyakarta students before and after receiving Role Play education. From the pretest data calculations, the students' preparedness in facing earthquakes showed that most students were in the "not ready" category, totaling 23 students (33.8%). Meanwhile, 1 student (1.5%) was still classified as "less ready," 22 students (32.8%) were in the "almost ready" category, 18 students (26.5%) were in the "ready" category, and only 4 students (5.9%) were in the "very ready" category. Earthquake disaster preparedness is crucial, especially for school students, as schools are places where many children gather, leading to a high potential for chaos during an earthquake.

Preparedness is a proactive and essential element of disaster risk reduction activities, carried out before a disaster occurs (Narayana, Sukarja, Sukawana, & Junian, 2022). This result aligns with Narayana, Sukarja, Sukawana, & Juniari (2022), who found that student preparedness before education was still lacking. From the posttest data calculations, after receiving the Role Play education method, students' preparedness in facing earthquakes showed an increase in preparedness. The majority of students demonstrated a "very ready" attitude towards disaster preparedness, totaling 27 students (39.7%). Meanwhile, 19 students (27.9%) were in the "ready" category, 14 students (20.6%) were in the "almost ready" category, and the remaining 8 students (11.8%) were still in the "not ready" category. There were no students in the "less ready" category. This aligns with Purnomo, Mutia, Handoyo, & Jati (2024), whose research also found an increase in student preparedness after receiving education

4. Discussion

The study entitled "The Effect of Role Play Education on Students' Preparedness in Facing Earthquake Natural Disasters at Salafiyah Ula Elementary School, ICBB Putra Putri Yogyakarta" is an important study that has the potential to make a significant contribution to disaster risk mitigation in the school environment. The discussion of this study will focus on the effectiveness of the role play education method as an innovative strategy to increase students' awareness and practical skills in facing earthquakes. The role play approach allows students to actively simulate disaster situations, thus not only improving their cognitive understanding of evacuation and self-rescue steps, but also practicing appropriate emotional and physical responses. In addition, this study is expected to identify the extent to which this educational intervention can change students' behavior and perceptions of earthquake hazards, as well as build a sustainable culture of preparedness at Salafiyah Ula Elementary School, ICBB Putra Putri Yogyakarta, considering Indonesia's earthquake-prone geographical location.

5. Conclusion

Based on the research and discussion, students' preparedness in facing earthquakes using role-play education methods was assessed at Salafiyah Ula ICBB Putri Putri Yogyakarta. It can be concluded that: Most students at the Salafiyah Ula ICBB Putri Yogyakarta elementary school were not prepared (23 respondents (33.8%) before receiving the role-play method. Most students at the Salafiyah Ula ICBB Putri Yogyakarta were very prepared (27 respondents (39.7%) after receiving the role-play method. There was a significant effect after receiving the role-play method education, as seen from the results of the Wilcoxon Signed Rank test, proving that providing education using the role-play method was effective in improving earthquake disaster

preparedness among students at the Salafiyah elementary school in Yogyakarta with a significance value of 0.000 ($p < 0.05$).

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7. Author Contribution

Selvi Menalia: Conceptualization, data collection, writing the original draft.
Heri Puspito: Methodology, formal analysis, writing the review, and editing.
Budi Santoso: Supervision, project administration, writing the review, and editing.

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