



# Implementation of the Reading Write Literacy Program to Elementary School Students About the Impact of the Natural Disaster of Mount Merapi

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## ABSTRACTS

The implementation of reading and writing literacy programs for elementary school students is needed because in the modern era there is a lack of interest in reading and writing owned by elementary school students. The purpose of this research is to implement literacy regarding the mitigation of the natural disaster of Mount Merapi for elementary school students. Because there are still many elementary school students who do not know the mitigation of the natural disaster of Mount Merapi. The method used in this study is a qualitative descriptive method in the form of an instrument used in distributing pre-test and post-test questionnaires. Contains 10 questions regarding the literacy program on the impact of the volcanic natural disaster, which is directed to elementary school. This is evidenced through a pre-test questionnaire at the beginning and the average result of 10 students before being given material on natural disaster mitigation is 45%. After students were given material through online learning media, the average results obtained increased by 80%. It is proven that based on the data obtained, most of the students have good knowledge about natural disaster mitigation. The impact felt by students related to the literacy program regarding the natural disaster of Mount Merapi, students are more concerned about natural disaster preparedness.

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## 1. INTRODUCTION

Most scientists consider literacy as a human right of citizens that must be facilitated by every country. Simply put, literacy is the ability to understand, manage, and use information in a variety of contexts (Hartati, 2017). Meanwhile, literacy as the ability to read and understand text, graphs, tables, and diagrams in various contexts (Pamungkas, 2017). Literacy is an effort to apply the program of reading, writing, and understanding texts in various contexts.

The implementation of reading and writing literacy programs for elementary school students is needed because in the modern era there is a lack of interest in reading and writing owned by elementary school students. This is due to the behavior of elementary school students who still do not understand the excessive use of digital, and the lack of knowledge about the importance of literacy today. In the context of an increasingly competitive world and the rapid development of information technology, literacy skills are very important for every individual (Kartika, 2004). The low level of literacy is also caused by the lack of strategies for educators (teachers) regarding the implementation of literacy programs, especially in the concentration of reading and writing interests.

The impact of the low literacy implementation of elementary school students is the lack of knowledge about the importance of preparedness for natural disasters of Mount Merapi. Due to the geographical location in the Kasomalang area which is under the foot of Mount Tangkuban Perahu which is very likely to be affected by the natural disaster of the eruption of Mount Merapi, it is very important to make an effort to implement a literacy program for students so that they have knowledge about natural disaster preparedness for Mount Merapi. The importance of increasing knowledge about disasters must be socialized, especially children at elementary school age who still do not understand what they should do if a disaster strikes (Desfandi, 2014). In order to reduce the risk of natural disasters, the important thing in disaster mitigation efforts is knowledge and understanding of natural disasters and preparedness for natural disasters. This is taught to students at the Social Sciences Education level or commonly referred to as Social Sciences (Qodariah & Armiyati, 2013).

Disaster is an event that causes damage to facilities, losses, and threatens victims and lives caused by both natural and human factors. One of the natural disasters in Indonesia is a volcano. A volcano is a bulge on the earth's surface that causes magma to flow out of the earth.

But there are no journals that explain the impact of the natural disaster of Mount Merapi. The purpose of this study was to implement literacy regarding the mitigation of the natural disaster of Mount Merapi for elementary school students. Because there are still many elementary school students who do not know the mitigation of the natural disaster of Mount Merapi.

## 2. THEORITICAL FRAMEWORK

### 2.1. Literacy Program

Literacy is a skill that every student must have. However, according to a survey conducted by PISA, it was found that literacy habits have not been entrenched among elementary school students. Actions need to be taken to change this behaviours. The 6M program, namely observing, creating, communicating, appreciating, recording, exhibiting is a program that aims to create a literacy culture in the classroom (Akbar, 2017). In order to overcome this problem, the Government of the Republic of Indonesia through the Ministry of Education and Culture has launched the School Literacy Movement (GLS) program which aims to: 1) develop

a reading and writing literacy culture in students in schools, 2) increase the capacity of citizens and the school environment to be aware of the importance of a literacy culture, 3) making schools a fun and child-friendly learning park, and 4) presenting a variety of reading books and various reading strategies to support learning (Suragangga, 2017).

## 2.2. Natural Disaster Mitigation

Preparedness is an effort made to anticipate disasters through organizations that can reduce the risk of disasters. The level of preparedness for earthquakes can be measured by taking into account factors, namely knowledge and attitudes, emergency response plans, disaster warning systems, and resource mobilization (Rusiyah, 2017).

## 3. METHODS

This research was conducted at the Kasomalang 2 Public Elementary School, Kasomalang District, Subang Regency. The method used in this study is a qualitative descriptive method in the form of an instrument used in distributing pre-test and post-test questionnaires. The population in this study were 10 elementary school students, the sample used contained 10 questions in the form of (Yes or No) regarding the literacy program on the impact of the Mount Merapi natural disaster, which directed elementary school students to class. The data obtained will be processed and compared to conclude the results. **Table 1** shows list some of our questions that will be given to elementary school students.

**Tables 1.** Pretest and posttest questions.

No	Question	Answer	
		Yes	No
1.	Do You Know What Natural Disaster Are?		
2.	Do You Know What Natural Disaster Mitigation Is		
3.	Do you think it is important to read literacy on natural disaster precautions		
4.	Do You Know the Types of Natural Disasters?		
5.	Did Your Parents Ever Educate About Natural Disasters?		
6.	Do You Know the Natural Disaster of Mount Merapi?		
7.	Do you know the dangers of the eruption of Mount Merapi?		
8.	Do you know the cause of the eruption of Mount Merapi?		
9.	When There is a Natural Disaster Is It Important To Avoid The Location?		
10.	Do you understand how to save yourself when Mount Merapi erupts?		

## 4. RESULTS AND DISCUSSION

### 4.1. Demography

This research was conducted at State Elementary School 2 Kasomalang, Subang, Indonesia. The sample taken was 10 elementary school students in class V with the criteria of 7 male students and 3 female students. Before conducting the research, we conducted a permit for the Cooperation partner, namely the State Elementary School 2 Kasomalang after being given permission, we gave permission to the V homeroom teacher regarding the

purpose to be carried out, namely taking data on the knowledge of elementary school students about natural disaster mitigation. This research was conducted online (on a network) due to the ongoing Covid situation.

#### 4.2. Phenomena in the Learning Proses

From the sample data taken, it was found that several students did not understand the impact of the Mount Merapi natural disaster. Due to the lack of teacher application of the natural sciences.

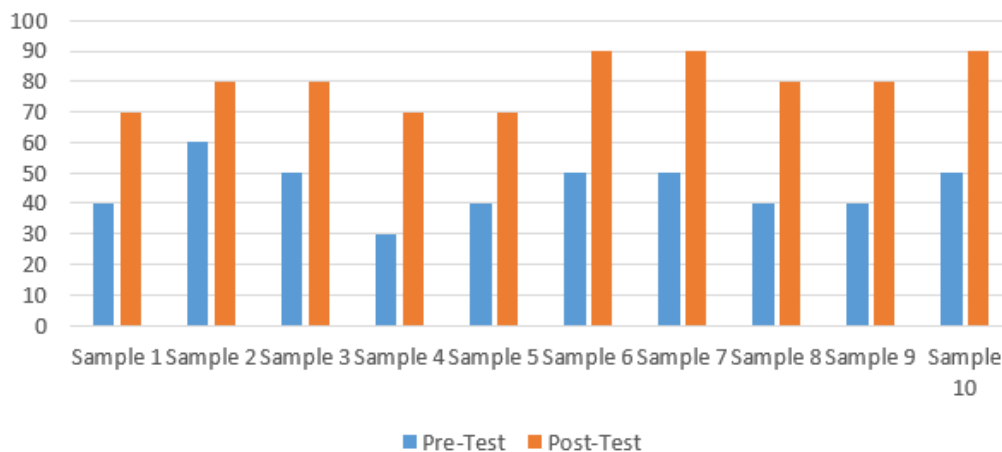
The stages of learning carried out are as follows:

- (i) The first session, conducting knowledge research to elementary school children about the impact of the Mount Merapi natural disaster
- (ii) The second session, conducted a question and answer session through a google form in the form of a pre-test
- (iii) The third session, provides material about the impact of the Mount Merapi natural disaster
- (iv) The fourth session, conducting a question and answer session through a google form in the form of a post-test
- (v) The fifth session, analyzing data from the results of the pretest and posttest

**Tables 2** it can be explained that the students' knowledge before conducting the presentation did not know about the impact of the Mount Merapi natural disaster. **Figures 1** can be seen that after conducting lectures on the impact of the Mount Merapi natural disaster, students' results changed significantly.

#### 4.3. Pre-test and Post-test Results

Learning activities at the State Elementary School 2 Kasomalang are carried out online. The learning media used are through whatsapp group, and google meet. We conducted research using a questionnaire in the form of a gform. This form is disseminated to elementary school students via whatsapp group to find out how far the knowledge of volcanic disaster mitigation is to elementary school students, this research is to find out how much knowledge elementary school students have about disaster mitigation when the post test and pretest are carried out. When the post test has been completed, we conducts a literacy movement regarding the importance of mitigating the Merapi eruption disaster. **Figures 1** describes the results of the pre-test and post-test which are depicted using graphs. **Tables 2** describes an increase in each student during the pre-test and post-test.



**Figures 1.** Pre-test and post-test results

**Tables 2.** Result pre-test and post-test scores.

Sample	Pre-test	Post-test	Gain
Sample 1	40%	70%	40%
Sample 2	60%	80%	20%
Sample 3	50%	80%	40%
Sample 4	30%	70%	40%
Sample 5	40%	70%	30%
Sample 6	50%	90%	40%
Sample 7	50%	90%	40%
Sample 8	40%	80%	40%
Sample 9	40%	80%	40%
Sample 10	50%	90%	40%

The **Figure 1** shows the results of several samples that have been taken, including:

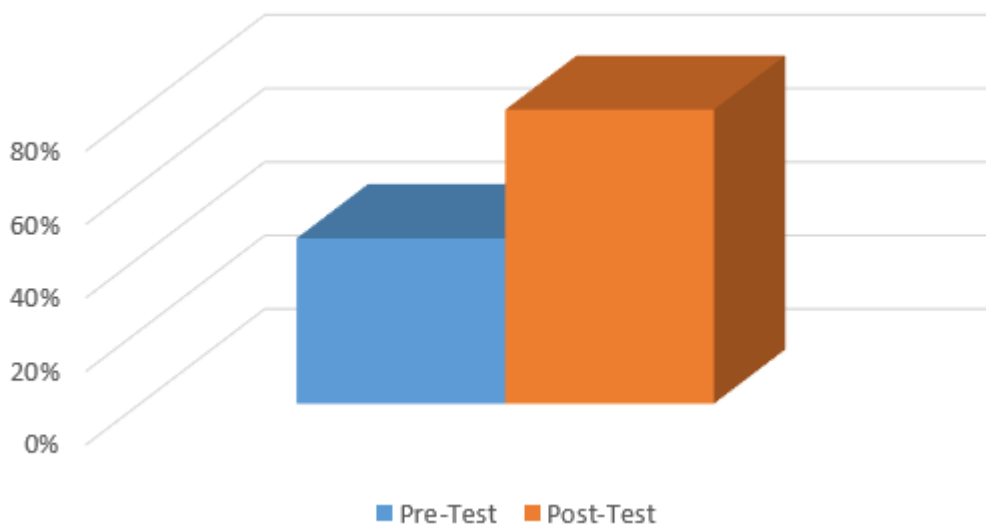
- (i) Sample 1 shows a pretest result of 40% which means that they do not know about disaster mitigation and after reading literacy, they get a change, namely an increase in knowledge of 70% which means that it can be said that the literacy movement regarding disaster mitigation has been achieved.
- (ii) Sample 2 shows a pretest result of 60% which means that they do not know about disaster mitigation and after reading literacy, they get a change, namely an increase in knowledge of 80% which means that it can be said that the literacy movement regarding disaster mitigation has been achieved.
- (iii) Sample 3 shows a pretest result of 50% which means that they do not know about disaster mitigation and after reading literacy, they get a change, namely an increase in knowledge of 80% which means that it can be said that the literacy movement regarding disaster mitigation has been achieved.
- (iv) Sample 4 shows a pretest result of 30% which means that they do not know about disaster mitigation and after reading literacy, they get a change, namely an increase in knowledge of 70% which means that it can be said that the literacy movement regarding disaster mitigation has been achieved.
- (v) Sample 5 shows a pretest result of 40% which means that they do not know about disaster mitigation and after reading literacy, they get a change, namely an increase in knowledge of 70%, which means that it can be said that the literacy movement regarding disaster mitigation has been achieved.
- (vi) Sample 6 shows a pretest result of 50% which means that they do not know about disaster mitigation and after reading literacy, they get a change, namely an increase in knowledge of 90% which means that the literacy movement regarding disaster mitigation has been achieved.
- (vii) Sample 7 shows a pretest result of 50% which means that they do not know about disaster mitigation and after reading literacy, they get a change, namely an increase in knowledge of 90% which means that it can be said that the literacy movement regarding disaster mitigation has been achieved.
- (viii) Sample 8 shows a pretest result of 40% which means that they do not know about disaster mitigation and after reading literacy, they get a change, namely an increase in knowledge of 80% which means that it can be said that the literacy movement regarding disaster mitigation has been achieved.
- (ix) Sample 9 shows a pretest result of 40% which means that they do not know about disaster mitigation and after reading literacy, they get a change, namely an increase in

knowledge of 80% which means that the literacy movement regarding disaster mitigation has been achieved.

- (x) Sample 10 shows a pretest result of 50% which means that they do not know about disaster mitigation and after reading literacy, they get a change, namely an increase in knowledge of 90% which means that it can be said that the literacy movement regarding disaster mitigation has been achieved.

Based on the sample obtained in the reading literacy program, it shows that the knowledge of elementary school students has increased significantly. Here is a graph of the average results.

Based on **Figures 2** above, the results of the pre-test to get the results that 45% of elementary school students still do not know about the disaster mitigation of the eruption of Mount Merapi. The sample taken was as many as 10 elementary school students, and after the literacy movement was carried out to elementary school students regarding the mitigation of the Mount Merapi eruption, the students became more aware of disaster mitigation and the students' knowledge also increased, it was known through the results of the study. from the post test, that as much as 80% of elementary school students experienced an increase in knowledge about mitigating the eruption of Mount Merapi. that the factor affect a person's level of knowledge derived from the information it receives, with more sources of information will increasing knowledge so that it is winder (Wawan, 2012).



**Figures 2.** Average result

## 5. CONCLUSION

We concludes that there are still many elementary schools that do not carry out the literacy movement because the program is still hampered by the lack of facilitators or counselors regarding the literacy movement. We take the problem that is the low application of the literacy movement to fifth grade elementary school students regarding disaster mitigation of the eruption of Mount Merapi. We carried out a literacy movement on the topic of the problem, through the results of the pre test as many as 45% of elementary school students still did not know about disaster mitigation, and after the literacy movement was carried out and the post test was carried out, it was found that 80% of elementary school students experienced an increase in knowledge about natural disaster mitigation of the volcanic eruption of Mount Merapi.

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## 7. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

## 8. REFERENCES

- Agustiana, I. G. A. T., Wibawa, I. M. C., and Tika, I. N. (2013). Pengaruh model pembelajaran mitigasi bencana terhadap pemahaman dan keta-hanmalangan siswa. *Jurnal Pendidikan dan Pengajaran*, 46(2). 97-105
- Akbar, A. (2017). Budayakan literasi dengan program 6M di sekolah dasar. *Jurnal Pendidikan Sekolah Dasar*, 3(1), 42-52.
- Andreastuti, S. D., Newhall, C., and Dwiyanto, J. (2006). Menelusuri kebenaran letusan gunung merapi 1006. *Indonesian Journal on Geoscience*, 1(4). 201-207.
- Desfandi, M. (2014). Urgensi kurikulum pendidikan kebencanaan berbasis kearifan lokal di Indonesia. *SOSIO-DIDAKTIKA: Social Science Education Journal*, 1(2), 191-198.
- Hartati, T. 2017. Multimedia in literacy development at remote elementary schools in West Java (multimedia dalam pengembangan literasi di sekolah dasar terpencil Jawa Barat). *EduTech*, 15 (3), 301- 310
- Kartika, E. 2004. Memacu minat membaca siswa sekolah dasar. *Jurnal Pendidikan Penabur*, 3(8), 113–128.
- Pamungkas, A. S. 2017. Pengembangan bahan ajar berbasis literasi pada materi bilangan bagi mahasiswa calon Guru SD. *Jurnal Pendidikan Sekolah Dasar*, 3(2), 228–240.
- Qodariah, L., and Armiyati, L. (2013). Nilai-nilai kearifan lokal masyarakat adat Kampung Naga sebagai alternatif sumber belajar. *SOCIA: Jurnal Ilmu-Ilmu Sosial*, 10(1). 10-20
- Qurrotaini, L., and Nuryanto, N. (2020). Implementasi pendidikan mitigasi bencana alam gempa bumi dalam pembelajaran IPS SD. *Trapsila: Jurnal Pendidikan Dasar*, 2(1). 37-44.
- Rusiyah, R. (2017). Hubungan pengetahuan dengan kesiapsiagaan bencana gempabumi pada siswa taman pendidikan al-qur'an al-khair Kabupaten Bonebolango. *Jurnal Swarnabhumi: Jurnal Geografi dan Pembelajaran Geografi*, 2(1), 1-5.
- Surangga, I. M. N. (2017). Mendidik lewat literasi untuk pendidikan berkualitas. *Jurnal Penjaminan Mutu*, 3 (2), 154-163.



- Wawan, W. (2012). Mutu kinerja perguruan tinggi agama islam swasta Jawa Barat. *Jurnal Administrasi Pendidikan*, 14(1), 20-32.
- Wiratsiwi, W. (2020). Penerapan gerakan literasi sekolah di sekolah dasar. *Refleksi Edukatika: Jurnal Ilmiah Kependidikan*, 10(2). 230-238.
- Wulanjani, A. N., and Anggraeni, C. W. (2019). Meningkatkan minat membaca melalui gerakan literasi membaca bagi siswa sekolah dasar. *Proceeding of Biology Education*, 3(1). 26-31.