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DISASTER-PREPAREDNESS SCHOOL OF VOCATIONAL/SENIOR HIGH SCHOOLS IN KLATEN, CENTRAL JAVA 2018

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Abstract: Tectonic disasters in 2006 and the eruption of the Merapi volcano in 2010 which affected a large number of casualties and damage of property and school buildings proved that Klaten Regency has a high level of vulnerability. The high vulnerability of disasters must be balanced with students' knowledge about disaster through disaster preparedness education. The aim of the study is to analyze the knowledge of the level of preparedness of senior high school and vocational high school students (SMA / SMK) through the implementation of the disaster learning guide book for the Klaten District Government by using extracurricular learning types. This study uses a survey method, while analyzing the results using quantitative descriptive methods. The sample was determined by purposive sampling consisting of 8 schools, namely 1) SMAN 1 Karanganon, 2) SMAN 1 Klaten, 3) SMK Muhammadiyah 2 Klaten Utara, 4) SMK 1 Trucuk, 5) SMKN 1 Tulung, 6) SMAN 1 Klaten, 7) Christian Vocational School 5 Klaten, and 8) SMK 1 Klaten. Results, through the implementation of the Klaten District disaster manual, knowledge of disaster preparedness of high school and vocational high school students in Klaten district has increased.

Keywords: education, disaster, disaster preparedness knowledge

INTRODUCTION

Klaten Regency is one of the Regencies in Central Java Province which has a high level of disaster vulnerability which can be said. The high level of disasters is due to the Klaten Regency slope of the Merapi volcano, and the Bayat structural hills. Disasters that occur in the slopes of Merapi, namely the eruption of the Merapi volcano, drought, tornado, landslides and floods; while in the mountainous area of the Bayat disaster, droughts, landslides and tectonic earthquakes occur.

Tectonic earthquake disaster occurred in Klaten Regency on May 27, 2006. According to the Satlak Disaster Management (UN) Data, the number of earthquake victims in Klaten until Sunday at 14.00 WIB reached 838 people while those who were seriously injured were 842 people. The number of fatalities increased by 30 people in just two hours, from 808 at 12.00. The increase in the number of victims killed by the earthquake in Klaten occurred in hospitals which reached 119 people from just 89 people. Meanwhile the number of collapsed residential buildings reached 12,073 houses, severely damaged 1,950 housing units and slightly damaged 4,768 housing units while government buildings collapsed one unit, severely damaged 22 units and lightly damaged 111 units. Volcanic eruptions have also become one of the threats in the Klaten Regency area. According to information data from BNPB (2010) on

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November 26, 2010 the volcanic eruption disaster that occurred in Klaten District caused ± 41 people to die and 51 people injured and 107 people had to evacuate and lose assets. Drought and tornado. Drought has a special impact on the supply of clean water and agriculture. Harvest failure is due to the height of vegetation death and accelerates soil weathering. Harvest failure results in a decrease in farmers' income. While tornado winds struck at the beginning of the rainy season in some southern regions. Landslide disasters, potential areas are Prambanan, Gantiwarno, Wedi, Bayat and Cawas sub-districts bordering directly to Gunung Kidul Regency, Yogyakarta Province. Long-term disasters and landslides; on November 14, 2015, the potential for floods and landslides in the area of Klaten Regency was that there were 94 villages from 11 sub-districts covering the sub-districts of Ceper, Pedan, Prambanan, Gantiwarno, Bayat, Cawas, Karangdowo, Juwiring, Jogonalan, Wedi, Kalikotes, and Trucuk. Based on information from (BPBD) 2016 on February 2, 2016 Floods hit Klaten Regency caused by heavy rain with high intensity of flooding in 8 sub-districts, as many as 9 housing units were submerged in floods in Klaten Tengah sub-district with a observed flood depth of 30 cm. Sub-districts in Klaten Regency that were submerged by floods included Prambanan, Wedi, Cawas, Karangdowo, Gantiwarno, Klaten Tengah, Bayat, and Trucuk, there was no known material loss caused by flooding. On February 23, 2014 based on information from (BPBD) 2014, there were 5 subdistricts in Klaten Regency submerged in water, this was caused by high rainfall resulting in the collapse of dikes and overflowing Dengkeng times. Sub-districts affected by floods include Gantiwarno, Wedi, Bayat, Trucuk and Cawas. According to the Center for Data and Information (Pusdatin) BPBD Klaten the total number of people affected by the flood totaled 6,800 people. This number includes Wedi sub-districts of 250 people, Cawas (4000), Bayat (2,500) and Gantiwarno (85), while the damage to the amount of rice fields submerged by floods is a total of 731 hectares, including in Wedi around 350 ha, Trucuk (27), Cawas (135), Gantiwarno (175) and Bayat (40 ha)

Based on variations in types, the intensity and victims of disaster impacts in the Klaten Regency area need to prepare preparedness through knowledge education on high school student preparedness and competency (SMA / SMK) in the Klaten district area.

Natural disasters are disasters that cause damage to building infrastructure, casualties, environmental damage, loss of property caused by natural events. Natural disasters are also defined as a series of events caused by nature, including volcanic eruptions, landslides, drought, hurricane disasters or extreme weather, tsunami disasters, and earthquake disasters (IDEP, 2007: X). Disaster management is a science that deals with efforts to reduce risk, which includes actions to prepare, support and rebuild after a disaster or actions taken by individuals, groups or communities in managing hazards as an effort to avoid or reduce the impact of disaster activities. IDEP (2007: 7) is a series of activities carried out both before, during and after a disaster to prevent, reduce, avoid and recover from the effects of a disaster. The following cycle of disaster management according to IDEP (2007: 7).

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Figure 1. Disaster Management Cycle

Understanding of disasters is part of the mind mechanism, response, and response to disasters which are indicators of understanding carefully and intact in the sense of the level of awareness of disaster risk and response as well as mitigation that has become knowledge and perspective (Jufriadi et al., 2012: 54). Understanding of disasters according to Lazan G.B and Sarmiento in Jufriadi et al., (2012: 54) is based on integrity in thinking to understand disasters or especially disaster risk through the dynamics of thinking and acting ORID (Objective, Reflective, Interpretative, and Decision).

ORID can be revealed by the process of recalling disaster events by considering how far the sensitivity level of the community (teachers) in responding to disasters through sensory (O), the extent of the students' reflective level in experiencing the disaster experience or comparing conditions before and after a disaster, fear, and perhaps students 'positive experiences of reality awareness experienced by students in understanding the direct and indirect effects of disasters on society, families, and the future are important to be expressed (I) and students' willingness to build commitment to disasters and adaptations to changes experienced by students . The disaster prepared school needs to be implemented in schools. Students must understand about disaster in Indonesia. Big Indonesian Dictionary, defines preparedness as a state of alert. Derived from the basic word "ready" which means it is ready to be used or to act. In English, the equivalent word "preparedness" is preparedness. While the definition provided by Law Number 27 of 2007 concerning disaster management is a series of activities carried out to anticipate disasters through organizing and through effective and efficient measures. (Disaster Education Consorium 2011: 9).

UNISDR (United Nations-International Strategy for Disaster Reduction) in an alloy book on safer school construction edited in the Disaster Preparedness School

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book, states that preparedness is the knowledge and capacity developed by the government, emergency response and post-recovery professional organization disasters, communities and individuals to effectively anticipate, respond to, and recover from the impact of hazard events or conditions that can occur and will occur.

Disaster Preparedness School is a school that has the ability to manage various disaster risks in its environment. These capabilities are measured by having disaster management plans (before, during and after disasters), availability of logistics, security, and comfort in the education, infrastructure, and emergency systems, which are supported by preparedness knowledge and capabilities, standard operating procedures), and an early warning system. This ability is to transform knowledge and practices of disaster management and disaster risk reduction to all school citizens as a constituent of educational institutions. (Disaster Education Consorium 2011: 10). Disaster Preparedness Schools are formed with goals related to the interests of a school or school safety and a conscious effort for all parties in disaster preparedness efforts. The Book of the Disaster Preparedness School 2011 Work, the purpose of the Disaster Preparedness School is to build resilience in dealing with various types of disasters by all school residents, both educators, students and other school residents who work in the school environment. A disaster preparedness culture is an absolute requirement to realize the flight of the Disaster Preparedness School. The culture will be formed if there is a supportive system, there is a process of planning, procurement, and maintenance of good school facilities and infrastructure. (Disaster Education Consorium 2011: 10).

APPROACH & RESEARCH METHOD

This research is in the form of strategies and teaching media designed in accordance with the needs of research activities, namely discussing the material in the disaster learning learning guide book. This research was conducted in Klaten Regency at the high school / vocational high school level implemented in the odd semester of the 2015/2016 academic year. The population in this study were students of SMA / SMK in Klaten Regency. The samples of this study were 3 Senior High Schools and 5 Senior High Schools in Klaten Regency which were carried out by 29 students. Earthquake disasters are in 5 junior high schools and 2 senior high schools. Drought is found in 2 schools.

RESULTS AND DISCUSSION

The research process was carried out by the collaboration between the Regional Disaster Management Agency of Klaten Regency and the Geography Education Study Program FKIP Muhammadiyah University of Surakarta. BPBD facilitates the 2014 Klaten Regency Disaster Education Guidebook, admission to schools, disaster volunteers, and Geography Education Study Program, 29 7th semester students of

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2012, learning strategies, field learning media and through geography information systems and 2013 curriculum learning process, as below:

1. SMA N 1 Karanganon

Disaster Preparedness School activities at this school were conducted by Istiqomah Nurlitasari (A610120008), Naza farauk Husein (A610120009) and Marsudi (A610120030). The results of research conducted at Karanganom 1 SMA Negeri Klaten can be concluded that the level of effectiveness of the use of True Or False strategy in learning floods with material sourced from the Disaster Guidebook in Klaten is 25.85%. This is shown from the data obtained, namely the average value of the experimental class pretest of 59.03 increased to 84.84 in the average value of the experimental class Posttest. The improvement of experimental class learning outcomes is higher when compared to the control class learning outcomes. The improvement of experimental class learning outcomes was 25.85% and the control class learning outcomes increased by 14.45%. This shows that the effectiveness level of experimental class learning using the True Or False strategy is higher than the control class which is in the learning process using conventional methods or lectures. As a result of hypothesis testing on the value of Posttest which shows a significant difference, ie 0.00 or less than 0.05.

2. SMA N 2 Klaten

This learning process is carried out by Seno Wiga Saputro (A610120020), Astrid Dery Prabowo (A610120034), Azhari Miftakhul Jannah (A610120036) and Diana Trismawati (A610120049). Research Results, Teaching materials for the Klaten District disaster learning guide book that has been experimented using the Role Playing strategy in class X MIPA 4 at SMA Negeri 2 Klaten is effective. It is said to be effectiveness because it is demonstrated by the actions that affect student learning outcomes. Actions given to students in the form of learning volcanic eruption material in teaching materials for the Klaten District disaster learning guide book by choosing one Basic Competency, namely KD 2.2 Give examples of direct action when a disaster occurs. Learning lasts for 2x45 minutes which is adjusted to the lesson hours during teaching and learning activities. Experiments were carried out on 2 classes, namely class X MIPA 4 as the experimental class and X MIPA 5 as the control class. Both classes show results that there have been changes in actions that affect student learning outcomes as evidenced by changes in the results of the Pre Test and Post Test. Hypothesis testing results using Paired Samples t-Test showed that there were differences in Pre Test and Post Test both in the experimental class and in the control class. The difference between the two classes resulted in an increase in value after being given material for volcanic eruptions. In the control class the increase occurred with an average of 13.92 while in the experimental class an increase occurred with an average of 30.24. Based on these results it can be seen that learning using the Role Playing strategy in the experimental class has an average increase in learning outcomes is higher than the average learning outcomes using conventional strategies in the

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control class, so the use of Role Playing strategies is more effective in improving learning outcomes students compared to conventional strategies.

3. SMK Muhammadiyah 2 Klaten Utara

The school learning process is carried out by, He Fatma Khoisin (A610120003), Muhammad Sigit Permadi (A610120017), Ardiana Puspitaningrum (A610120033) and Dyah Chasanah (A610120043). Pre Test and Post Test results in the experimental group showed an increase in their knowledge by 87%. The results of the Pre Test and Post Test in the control group increased knowledge by 81.2%. Numbered Heads Together strategy for the extracurricular Disaster Preparedness School (Disaster Mitigation Team) on earthquake disaster material starting from the cause of the earthquake, steps to mitigate it to the procedures for handling it. The use of NHT strategies can achieve learning goals, this is evidenced by the increase in the average value in Post Test between the experimental class and control class as much as 5.8%.

4. SMKN 1 Trucuk

The learning process in this school is carried out by, Nurul Fahminingrum (A610120011), Oktavia Ayu Puspitaningrum (A610120022), Alvian Fajri Angga Putra (A610120048). This can be seen from the average value of post-test experimental class 1 of 85.33 and the average value of post-test experimental class 2 is 78.29.

5. SMKN 1 Tulung

The learning process in this school is carried out by Utami (A610120007), Puji Lestari (A610120025), and Ikun Onesia (A610120037). Use of teaching materials for the book "Klaten District Disaster Learning Guide" on volcanic eruption material through an effective card sort strategy is used in learning extracurricular Disaster Preparedness School (SSB) and Chasing Learning Activities (KBM). This is seen from the average value of the post test extracurricular class of Disaster Preparedness School 92.42 and the average post test X TKJ B 83.14.

6. SMAN 1 Klaten

The learning process in this school is carried out by Ro'idah Raudlatul Jannah (A610120013), Ermin Yesi Saputri (A610120023), Anggun Puji Astuti (A610120031) and Okto Dwi Winarso (A610120046. The teaching materials for the Klaten Regency disaster guide book using the Role Playing strategy in the class X IPS 2 at Klaten State 1 Senior High School is effective for learning.Increasing student learning outcomes is shown by increasing the average value of Post Test class 1 experiment by 12.4% and the average value of experimental class Post Test 2 by 7.2%.

7. SMK Kristen 5 Klaten

The learning process in this school was carried out by Ibn Wahid Rahmadi (A610120014), Klife Aryani (A610120016), Swastika Nugraheni (A610120026). The

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results of the study that the Klaten District disaster learning guide book can help improve student learning outcomes about the material of flood disaster, which in the delivery of the material is assisted by the index card match learning strategy.

8. SMKN 1 Klaten

The learning process in this school was carried out by Eka Nur Aliyah (A610120024), Rizka Atikah (A610120038) and Muhammad Khanif (A610120039). The t-test results from experimental class 1 (XI TKJ 1) and Experiment 2 class (XI TKJ 3) showed no significant differences from the two average post-test learning outcomes of the two classes, namely 0.153> 0.05. Because in the same treatment, only distinguished from the level of student ability, it can be concluded that the teaching materials for the book "Disaster Learning Guide in Klaten District" in the volcanic eruption disaster using the Talking Stick strategy at SMK 1 Klaten can be effective. So that it can be seen that class XI TKJ 3 with low ability can match class XI TKJ 1 with a higher ability.

CONCLUSION

The disaster learning guide for Klaten Regency is very effective to be used as a guide for disaster learning in SMA / K in Klaten district. This is evidenced by research that has been done using learning strategies. Learning outcomes from pretest to posttest have a high increase based on the treatment given.

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