**ANALYSIS OF PROBLEM-SOLVING ABILITY FLOOD DISASTER CLASS V ELEMENTARY STUDENTS**

Primary School Teacher Education Department

Faculty of Teacher Training and education

University of Riau

**Abstract**

The research is aimed to identify and describe the ability in solve the problem of disaster mitigation students in primary school V. This of study was implemented in SD Negeri 008 Kualu Kampar District from October to December 2019. The type of research is used qualitative research. The subject of this study was a class V elementary students amounting to 42 people. The instrument is arranged to refer to the indicator problem solving or problem-solving. After the problem is validated by experts and tested for students, it is then used to retrieve data. The data is gathered categorized and grouped according to the device already created. Based on the results of the study showed that the students ' ability has been in a very good category in carrying out problems and examining problems, while planning solutions, implement solutions that have been made, and evaluate students still in the less good category.

**Keywords**: Problem-solving, disaster mitigation, flood

**INTRODUCTION**

 Indonesia is a country that has high levels of natural disasters, such as floods, earthquakes, tsunamis, landslides, and so forth. Indonesia is a tropical country that has the characteristics of high rainfall during the rainy season. As a result in some places during the rainy season, there is a flood that raises many losses, both life, and property. Nearly every rainy season the flood disaster events often occur with varying locations and damage levels. Flooding is a natural occurrence that needs attention, as it can occur at any time and often results in loss of life, loss of property, and objects. Floods often occur in many countries especially in developing countries (Puturuhu, 2015).

 Kampar Regency is one of the areas in Riau province which is partly prone to disaster, especially flood disaster. Flood disaster routine occurs in every annual, caused by high rainfall with a long duration so that the river in Kampar district is not able to hold a lot of water and cause the river water to overflow to the residents ' settlements.

One of the feelings of the direct impact of flooding in the Kampar area in SD Negeri 008 Kualu District of Kampar District mines, geographically located on the banks of the Kampar River, which is only approximately 1 km from the banks of the river. This school has always been the target of water overflow from the Kampar River. This condition resulted in the disruption of activities of learning activities in SD Negeri 008 Kualu. Water coming into the room resulted in the destruction of educational facilities and infrastructure in the school. Buildings, tables, chairs, cabinets, and books are wet and damaged so it cannot be used to learn. In this case students as the subject of education feel directly the impact of the flood event. School activities are canceled to automatically reduce the number of hours of study that can affect the decline in student learning performance.

The many incidents of natural disasters in the last ten years that hit the state of Indonesia, make disasters as a topic that is often discussed and should be resolved and resolved immediately, including the efforts to include disasters and disaster in the curriculum at the level of primary, secondary and tertiary education (Hermon, 2012).

This action is called a disaster mitigation action. The mitigation of the disaster was popularized in the year 2010, which is associated with the handling of disasters that occurred in various Indonesian archipelago starting from flood disaster, Storm, fire, until the eruption of Mount Merapi that caused many casualties and materials (Hermon, 2015). The general purpose of such mitigation can be interpreted as an effort or action taken, which is found from the following definition, disaster mitigation is "a series of efforts to reduce disaster risk, through physical development and awareness and enhancement of disaster-facing threats" (UU No. 24 the year 2007).

Based on the background description that has been displayed, researchers conducted a study titled "Problem Solving ability of flood disaster mitigation students in state elementary V 008 Kualu District Mines Kampar District". The focus of this research is to determine the extent to which students can solve the problems caused by the flood disaster, researchers are taking class V students as a sampling, with the reason that class V students have studied natural disaster material in class IV.

**RESEARCH METHODS**

The study was conducted in SD Negeri 008 Kualu on 21 October-3 December 2019. The subject of this study was all students of class V. The type of research is conducted by qualitative research.

 The research instruments are used tests given to students containing questions made based on problem-solving indicators. The data is obtained qualitative data. The data sources were obtained from the students ' answers that filled the tests containing the questions. The data obtained is analyzed using a Category Assessment section of problem-solving capabilities, subsequently analyzed using inductive data analysis techniques.

**RESULTS AND DISCUSSION**

**Research results**

 Based on the results of the answer to the problem-solving ability of students, researchers categorized students ' answers by categoried very well, good and less well, hence the resulting percentage of results:

Table 4.1 recapitulation of research results aspects of problem solving

|  |  |
| --- | --- |
| **Aspects** | **Category** |
| **Excellent** | **Good** | **Not good** |
| To provide a problem | 67,5 % | 25,4 % | 7,1 % |
| Check for problems | 38,1 % | 38,9 % | 23 % |
| Planning Solutions | 4,8 % | 21,4 % | 73,8 % |
| Implementing a prepared Plan | 17,9 % | 14,3 % | 67,8 % |
| Evaluate | 30,2 % | 19,8 % | 50 % |

According to the table 4.1 shows that the aspect of the problem is to assess and examine the problem students have entered in a good category, while in the planning aspects of the solution, implementing the plan that has been made and evaluating the students still in the category is not good

**Discussion**

1. To provide a problem

In this aspect, many students are demonstrated that the aspect of the problem is very good categorized. Judging from the students ' answers to the aspect of the student's problem is able to mention more than three facts that occur in the school and its environment after a flood disaster. Students mention problems that occur in schools when they are affected by flood such as: broken tables and chairs, the recon of school buildings, and the painting of school walls, many books are wet, damaged and lost. The class became smelly and filthy, the abundance of rubbish garbage scattered, and the environment became dirty. In line with the submitted Rachmawati (2017) flood can cause many problems such as damaging various facilities and infrastructures that inflict material losses and harm the human and animal souls. Students able to mention and give reasons to the disaster category. They are mentioned that the flood disaster belongs to the category of natural disasters and mentions the reason because the flood disaster is caused environmental damage. Then, they are also able to mention the time and place of the flood disaster, because students experience directly in their daily life.

The aspect fewer students ' answers indicated that the aspect of the student's problem is in a good category. Judging from the students ' answers on the level of the issue in the category of good students can only mention the three facts that occur in the school and its environment after a flood disaster. Students mention problems that occur in school and its environment when affected by flood such as: the environment becomes dirty due to garbage scattered by the flood, the disruption of learning activities in school due to the flood that reaches the height of waist adults who do not allow to perform teaching activities in school. Students are able to mention the categories of flood disasters including natural disasters, but they have not mentioned the reason why the flood disaster belongs to the category of natural disasters. They are able to mentioned one of the time or place of flood disaster and the month in which a flood disaster occurs or mentions where flood disasters often occur.

Meanwhile, in this aspect a few students answer that indicates that the aspect of the problem is still in the less good category. Students write down the fact that occurs after the flood disaster is less than three facts, or some students are not able to fulfill the answers to the questions given. Students do not mention the category of flood disaster including natural disasters and not able to give reasons why flood disaster belongs to the category of natural disasters or not.

1. Checking for problems

In this aspect many students answer are showed that the aspect of examining a student's issue is already in a very good category. At the stage of examining the problem, students are able to mentioned more than four causes of flood disaster. They are mentioned that the cause of flood disaster due to high rainfall, settlements are in lowland, absence of forest or deforestation, disposal of garbage into rivers and river narrowing. They are able to mentioned the consequences of a flood disaster that occurs for themselves and for the environment in which he lived. They are mentioned the impact caused by the flood disaster is the emergence of various seeds of illness, damaged and loss of property, and the environment becomes dirty due to garbage and mud carried water. They also able to mentioned actions that had been done before the flood disaster occurred, when the flood disaster occurred and after the flood disaster occurred. In this aspect many students is answered that the aspect of examining a student's problem is already in a good category.

At the examining stage of the problem in good category. Students are able to mentioned the four causes of flood disaster. they are able to mentioned the consequences or effects of a flood disaster from any of the categories of either impact for themselves or the impact on its environment. In the good category, students are also able to mentioned the self-rescue action he once did two of the three categories requested namely before the flood disaster occurred, when the flood disaster occurred and after the flood disaster occurred.

In this aspect, a little answer to students indicating that the aspect of examining the problem still resides in the less good category. Students write down the causes of flood disasters of less than four causes. They are not able to mentioned the consequences of a flood disaster for themselves as well as for his environment. they are only able to mentioned the actions he once done only one category of the three categories requested. They are not able to fulfill answers to the questions given.

1. Planning Solutions

In this aspect very few students answer are suggested that aspects of planning student solutions are already in very good category. Students are able to mention more than three actions to be taken to reduce the risk of flood disasters. Students mention actions or activities undertaken to reduce the risk of flooding by making a well-being, planting more large trees, maintaining the cleanliness of the drains, raising the house building or moving the house to a flood-free area. This is in accordanced with the opinion of Susila (2019) The action that can be done to reduce the risk of flooding is to make a wells, plant more large trees, maintain the cleanliness of the drains, and move the residence to a higher area. Students are also able to mention problems that occurred before the flood, when floods occurred and after the flood occurred and were able to mention how to handle it from each category.

In this aspect there are not many student answers that suggest that aspects of planning student solutions are already in good category. Students are able to mention three actions to be taken to reduce the risk of flooding. Students are able to mention the problems that occur and how to deal with only two of the three categories requested, namely before the flood, when the flood and after the flood occurred.

In this aspect of the entire student, more than half of students ' answers show that on the aspect of planning the student solution is still in the less good category. Students are only able to mention less than three actions to be taken to reduce the risk of flooding. Students are only able to mention the problems that occur along with how to deal with only one of the three requested categories. Students write answers but are unable to fulfill answers to the questions given.

1. Implementing a plan that has been made

On the aspect of implementing a plan that has been made very little answers students who show already in the category very well. Students are able to mention more than two parties, the agency or the institution to be contacted to help implement the completion steps of the flood disaster problem. Students are not a national agency for Disaster Management (BNPB), teachers, village heads, and people who will be contacted to help implement a flood-solving problem. This is in accordance with the aforementioned Rachmawatie (2017), to minimize losses caused by government disasters forming a body in charge of helping coordinate the disaster i.e. BNPB (National Disaster Management Agency), and for in the area of parties that can help carry out the steps of flood problem solving are community leaders, Lurah, village heads, as well as RT and RW.

On the aspect of implementing a plan that has been made there are not many answers students who enter in a good category. Students are able to mention the steps that will be taken to overcome the issue of flooding two of the three categories requested is at the time of the flood, before the flood disaster, and after the flood disaster occurred. Students are also able to mention the two parties, the agency or the institution to be contacted to be able to help implement the steps of flooding disaster problems.

On the aspect of implementing a plan that has been made more answers students are in a less good category. This is because students have not been able to give solutions what to do to overcome flood problems, so that students are unable to implement the solution. Students are only able to mention one of the three categories requested at the time of the flood disaster, before the flood disaster, and after the flood disaster occurred. Students write answers but are unable to fulfill answers to the questions given.

1. Evaluate

On the aspect of evaluating the solution not many answers students who show already in the category very well. Students write the answer that a given solution can and can be used to address flood problems. Students write down a reason why the solution it gives can be used to address flood problems. Students are also able to mention more than two ways to convey and communicate the solution he has made to be delivered to the multitude. Students mention how to convey them by creating flood-themed posters, making videos about flooding, and making posts about flooding distributed through social media. This is in line with the delivered Puturuhu (2015), the implementation of the flood information system with direct dissemination to the community and the publication of press releases or explanations to the press and dissemination of information about the flood through print and electronic mass media, i.e. TV station, radio stations, online media, blogs, official web, social media and so on.

On the aspect of evaluating fewer solutions students whose answered goes into good category. Students wrote the answer that the solution he gave was able to overcome the problem of flood disaster, but the students were unable to give the reason why the solution was given to overcome the problem of flooding. Students are able to mention two outcomes that will be obtained from the flood disaster mitigation solution he made. Students are also able to mention two ways to convey and communicate the solution he has made to be conveyed to the multitude.

In the aspect of evaluating the solution more students are answered into less good categorized. This is due to the inability of the students to estimate the solution to be obtained from disaster mitigation actions that have been made and not knowing the right media to communicate the disaster mitigation solutions. Students write answers but are unable to fulfill answers to the questions given. Students are unable to mention that the results obtained from the mitigation of the disaster he has made it. Students mention less than two ways to convey and communicate the solution he has made to be delivered to the multitude.

Based on the results of the study it can be found that students already have an excellent ability to predate problems and examine problems, but students are still not good at planning solutions, carrying out plans that have been created and evaluated.

**CONCLUSION AND RECOMMENDATION**

**Conclusion**

Based on the results of the research of class V elementary School in SD, 008 Kualu already has a very good ability to verify problems and examine problems, but students are still lacking in planning, implementing and evaluating flood disaster mitigation solutions so that the problem solving skills of flood disaster mitigation students are still in less good category.

**Recommendation**

Based on the research is conducted that the researcher recommended to all of components school, teachers and headmaster, to include disaster mitigation studies into the school curriculu.It is advisable for teachers to conduct simulated activities for students to face a flood disaster.

**REFERENCES**

BNPB. 2017. *Buku Saku Tanggap Tangkas Tangguh Menghadapi Bencana*. Jakarta : Badan Nasional Penanggulangan Bencana.

Futuruhu, Ferad. 2015. *Mitigasi Bencana dan Penginderaan Jauh*. Yogyakarta : Graha Ilmu

Hermon, Dedi. 2012. *Mitigasi Bencana Hidrometeorologi*. Padang : UNP Press

Hermon, Dedi. 2015. *Gegrafi Bencana Alam*. Jakarta: PT Raja Garafindo Persada

Rachmawatie, S. J. (2017). *Ensiklopedia Mitigsi Bencana Banjir*. Surakarta: Borobudur Inspira Nusantara

Susila, P. H. 2019. *Bencana Alam Hidrologi*. Jakarta : PT Pustaka Tiga Kelana

Undang- Undang Nomor 24 Tahun 2007 tentang Penanggulangan Bencana.