How to Prepare Disaster Mitigation Knowledge for Prospective Teachers in Elementary School?

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How to Prepare Disaster Mitigation Knowledge for Prospective Teachers in Elementary School?

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Abstract

This study tries to identify knowledge about disaster mitigation for prospective elementary school teachers. The research method used is qualitative research. The research subjects were 69 elementary school teacher candidates. The data on disaster mitigation knowledge collected were: (a) knowledge of disaster mitigation; (b) knowledge of the type of disaster; and (c) knowledge of disaster management procedures. The results showed that the knowledge of prospective primary school teachers about the term disaster mitigation mainly stated that the notion of disaster mitigation is an effort to reduce or minimize the risk and impact of a disaster. The knowledge of prospective primary school teachers about disasters has mentioned various types of disasters, both natural and non-natural disasters. The knowledge of prospective school teachers in explaining disaster management procedures has provided answers about various disaster management procedures. The disaster management procedure that is most often refer to is flood disaster management. This study concludes that knowledge about disaster mitigation for prospective elementary school teachers is quite good.

Kata kunci:
Pengetahuan mitigasi bencana, calon guru sekolah dasar

Abstrak

Penelitian ini mencoba mengidentifikasi pengetahuan tentang mitigasi bencana bagi calon guru sekolah dasar. Metode penelitian yang digunakan adalah penelitian kualitatif. Subjek penelitian adalah calon guru sekolah dasar yang berjumlah 69. Data pengetahuan mitigasi bencana yang dikumpulkan adalah: (a) pengetahuan tentang mitigasi bencana; (b) pengetahuan tentang jenis bencana; dan (c) pengetahuan tentang prosedur manajemen bencana. Hasil penelitian menunjukkan bahwa pengetahuan calon guru sekolah dasar tentang istilah mitigasi bencana sebagian besar menyatakan bahwa pengertian mitigasi bencana merupakan upaya untuk mengurangi atau meminimalkan risiko dan

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dampak bencana. Pengetahuan calon guru sekolah dasar tentang jenis bencana telah menyebutkan berbagai jenis bencana, baik bencana alam maupun non bencana alam. Pengetahuan calon guru sekolah dalam menjelaskan prosedur penanggulangan bencana telah memberikan jawaban tentang berbagai jenis prosedur penanggulangan bencana. Prosedur penanggulangan bencana yang paling sering disebut adalah penanggulangan bencana banjir. Kesimpulan dari penelitian ini adalah pengetahuan tentang mitigasi bencana bagi calon guru sekolah dasar adalah cukup baik.

INTRODUCTION

Mitigation knowledge for prospective teachers is essential because Indonesia's geography and geodynamics have placed Indonesia as a natural disaster-prone region, which is an archipelagic country that occupies three major world plates that meet each other, namely the Indo-Australian plate, the Eurasian plate, and the Pacific plate (Akbar, Sumardi, Hadi, Purwanto, & Sabarudin, 2011). Natural disasters have a very complex impact on every aspect of life from an economic, social and health perspective (Puspita, 2020). Natural phenomena related to the threat of disasters such as tsunamis, eruptions, tectonic earthquakes, volcanic earthquakes, tremors, multiphase earthquakes, hot clouds, hot lava, cold lava, lava domes, volcanic ash are increasingly familiar to the public. That is the learning that society receives (Mustaq & Khan, 2012). People become familiar with the natural environment and its phenomena or symptoms. Natural symptoms in natural disasters do not need to be addressed negatively but should be treated positively (Noviana, Kurniaman, Munjiatun, Sismulyasih, & Nirmala, 2019).

Disaster mitigation has carried out to reduce risks and impacts caused by disasters on communities living in vulnerable areas, whether natural disasters, unnatural disasters or a combination of the two in a country or community (Government Regulation of the Republic of Indonesia Number 21 of 2008). In the context of disasters, there are two types of disasters, namely (1) natural disasters, which are a series of disaster events caused by natural factors, namely in the form of earthquakes, tsunamis, volcanic eruptions, floods, droughts, typhoons, and landslides. (2) a social disaster is a disaster caused by humans, such as social conflict, community disease and terror (https://id.wikipedia.org/wiki/Persiapan_bencana). The cultivation of knowledge in educational principles is an educational principle inherent in optimizing the role of education in environmental education (Yustina et al., 2010; Yustina & Kaspin, 2017). Mitigation learning in primary schools is an essential role for teachers and prospective teachers in providing knowledge that involves affective, cognitive, and psychomotor activities related to students' daily lives that build knowledge and abilities (Sumarni et al., 2016).

Education in schools by including knowledge to prospective teachers is a positive value about awareness of the vulnerability of the surrounding environment and the risk of experiencing a disaster. One of the disasters that often occurs in Riau Province is that floods and forest fires are always haze disaster every year. Riau Province is a coastal area and waters where each year there will be tides and ebbs in the sea which will result in rising water levels to the land, and besides that, there are also four large rivers that cross, namely the Siak River, Kuantan River, Indragiri River and River Kampar. Meanwhile, the haze disaster caused by the dryness of the peatlands caused by the dry season. This knowledge provides awareness to prospective teacher students to include learning material as a form of awareness with its values (Kastolani & Mainaki, 2018). Knowledge about disaster mitigation has to obtained through information media or mass media (Haddow, 2008; Mahmoud & Auter, 2009; Winkellmann, 2012), providing information to the public and interpersonal. However, prospective teachers must be able to filter helpful information for readers. Therefore, it has hoped that prospective teachers must have the ability to obtain and filter information about disasters and disaster mitigation excellently and comprehensively. It has hoped that with this ability, prospective teachers will have knowledge content about disaster mitigation which will later be transferred back to students.

METHODS

Qualitative research examines natural objects' conditions, where the researcher is a crucial instrument (Sugiyono, 2015). The difference with quantitative research is that this research departs from data, utilizes existing theories as explanatory materials and ends with a theory. The subjects in this study were 69 people taken randomly from prospective elementary school teacher students at the University of Riau, using an open questionnaire instrument, and supported by interpersonal interviews. Data collection techniques in research have sourced from interview notes, according to Moleong (2010), who suggests that data using interviews and documents in the field. The analysis technique in qualitative research uses ethnography carried out in natural conditions and factual findings in the field (Creswell, 2010), which states that data analysis is an ongoing process that requires continuous data reflection. The purpose of data collection is to provide factual and realistic data that can explain the phenomenon of the research subject. The data collected in the research are knowledge about the definition of disaster mitigation, knowledge about types of disasters and knowledge about disaster management procedures.

FINDINGS AND DISCUSSION

Based on the data collection and processing results that have carried out in the study, the following is the research data obtained from the results of open questions and interpersonal interviews from respondents, as described below.

Knowledge of the Definition of Disaster Mitigation

Knowledge of the definition of disaster mitigation is grouped based on the tendency of respondents' answers. The following are the respondents' answers regarding the term or definition of disaster mitigation as an effort to reduce or minimize the risk and impact of disasters as follows:

> RPC_003 answered: "*Upaya yang dilakukan untuk mengurangi resiko bencana, sehingga dapat memperkecil jumlah korban atau kerugian akibat bencana* (Efforts are made to reduce disaster risk, to minimize the number of victims or losses due to disasters)".
> RPC_007 answered: "*Mitigasi bencana merupakan upaya yang dilakukan untuk meminimalisir dampak/resiko bencana. Baik berupa upaya pra bencana, saat bencana, dan pasca bencana* (Disaster mitigation is an effort made to minimize the impact/risk of a disaster. Both in the form of pre-disaster, during the disaster, and post-disaster efforts)".
> RPC_009 answered: "*Serangkaian upaya untuk mengurangi resiko bencana, baik melalui pembangunan fisik maupun penyadaran dan peningkatan kemampuan menghadapi ancaman bencana* (A series of efforts to reduce disaster risk, both through physical development as well as awareness and increased capacity to face disaster threats)".
> RPC_024 answered: "*Mitigasi bencana hal atau upaya yang bisa kita lakukan untuk mengurangi resiko bencana* (Disaster mitigation is the thing or effort we can do to reduce disaster risk)".
> RPC_029 answered: "*Usaha-usaha yang dilakukan untuk mengurangi dampak dari terjadi bencana* (Efforts are made to reduce the impact of a disaster)".

Then for respondents' answers regarding the term disaster mitigation as disaster management and prevention are as follows:

> RPC_056 answered: "*Merupakan suatu langkah perencanaan terhadap bencana alam agar dapat di atasi supaya tidak menghasilkan dampak yang besar* (It is a planning step for natural disasters so that they can be overcome so as not to have a large impact)".

RPC_059 answered: "*serangkaian upaya untuk menyekat atau membendung terjadinya bencana* (a series of attempts to block or stem a disaster)".
RPC_046 answered: "*Mitigasi bencana adalah langkah-langkah atau cara-cara penanganan suatu bencana* (Disaster mitigations are the steps or ways of dealing with a disaster)".

For groups of respondents' answers regarding the term disaster mitigation as a person's readiness to face disasters are as follows:

RPC_052 answered: "*Mitigasi bencana merupakan rancangan atau pengetahuan dini mengenai tanda tanda akan datangnya sebuah bencana dan cara penanggulangannya* (Disaster mitigation is a design or early knowledge of the signs of an impending disaster and how to overcome them)".
RPC_027 answered: "*kesiapan seseorang untuk menghadapi bencana* (one's readiness for disaster)".

Respondents' answers regarding the term disaster mitigation as an effort to mitigate, reduce risk and impact of disasters as well as one's readiness to face disasters are as follows:

RPC_045 answered: "*Mitigasi Bencana merupakan upaya penanggulangan bencana baik sebelum bencana terjadi, ketika bencana terjadi dan sesudah bencana terjadi. Mitigasi bencana bertujuan memberikan pengetahuan kepada masyarakat terkait hal apa saja yang harus dilakukan sebelum, ketika bencana dan sesudah bencana untuk mengurangi dampak kerugian* (Disaster Mitigation is a disaster management effort both before a disaster occurs when a disaster occurs and after a disaster occurs. Disaster mitigation aims to provide knowledge to the community regarding what to do before, during a disaster and after a disaster to reduce the impact of losses)".

Respondents' answers regarding the term disaster mitigation as an agency to monitor or predict disasters are as follows:

RPC_047 answered: "*Adalah suatu badan yang mengawasi atau memprediksi adanya bahaya atau bencana yang ada di suatu daerah yang diawasi* (Is an agency that monitors or predicts the existence of a hazard or disaster in a controlled area)".

The respondent's answer group regarding the answer that they already know the term disaster mitigation but do not understand the meaning of the term disaster mitigation is as follows:

RPC_032 answered: "*Saya hanya pernah mendengar, tapi tidak paham maksudnya apa* (I've only heard of it, but don't know what it means)".

Meanwhile, the group of respondents' answers regarding whether or not they have never heard of the term disaster mitigation are as follows:

RPC_050 answered: "*Saya belum pernah mendengar istilah mitigasi bencana* (I have never heard of the term disaster mitigation)".
RPC_069 answered: "*Karena tidak pernah mendengar mitigasi bencana* (Because never heard of disaster mitigation)".

For groups of respondents' answers regarding not knowing the term disaster mitigation are as follows:

RPC_036 answered: "*Karena saya belum mengetahui nya* (Because I do not know yet)".
RPC_005 answered: "*Baru pertama mengetahuinya*" (It was the first time I found out)".

Moreover, for the group of respondents' answers regarding not finding out the term disaster mitigation are as follows:

RPC_058 answered: "*Karna saya tidak tahu dan belum mencari tahu* (Because I do not know and have not found out)'.

The following are responsive responses regarding the term disaster mitigation, as shown in Table 1 below.

Table 1. Respondents' Responses on Disaster Mitigation Terms

Respondents' Answers	Respondents' Answers Classification	Count	Percentage
Yes	The term disaster mitigation is an effort to reduce or minimize the risk and impact of a disaster	44	63,77%
	The term disaster mitigation refers to disaster management and prevention	11	15,94%
	The term disaster mitigation refers to one's readiness in facing disasters	2	2,90%
	The term disaster mitigation refers to efforts to overcome, reduce the risk and impact of disasters and the readiness of a person in facing disasters	1	1,45%
	The term disaster mitigation as an agency to monitor or predict disasters	1	1,45%
	Answer yes, but do not understand the meaning of the term disaster mitigation	1	1,45%
No	Not yet and never heard of the term disaster mitigation	5	7,25%
	do not know the definition of disaster mitigation	3	4,35%
	Not yet looking into the term disaster mitigation	1	1,45%
Number of Respondents		**69**	**100,00%**

Based on table 1 above, to determine the extent of the respondent's knowledge of the definition of disaster mitigation with the respondent's answer, yes or no. The number of respondents who answered yes was 60 people, and the number of respondents who answered no was nine people. The knowledge of prospective elementary school teachers about the term disaster mitigation to minimize the risk and impact of disasters has answered by 44 respondents with a percentage of 63.77%. Knowledge of the term disaster mitigation as disaster management and prevention obtained 11 respondents with 15.94%. Knowledge of the term disaster mitigation as a person's readiness in facing disasters with a total of 2 respondents gets a percentage of 2.90%. Knowledge of disaster mitigation to mitigate, reduce the risk and impact of disasters, and the person's readiness in facing disasters, with one respondent getting a percentage of 1.45%. Knowledge of the term disaster mitigation as an agency to monitor or predict disasters with one person obtains a percentage of 1.45%. Respondents who answered that they had heard the term disaster mitigation but did not understand, there was one person (1.45%). The number of respondents who had never heard of the term disaster mitigation was five people (7.25%). Respondents who did not know the term disaster mitigation were three people (4.35%). Meanwhile, the number of respondents who answered that they had never heard of disaster mitigation was one person (1.45%).

Based on the information described above, it has seen that the knowledge of prospective primary school teachers about the term disaster mitigation has mostly mentioned that definition of disaster mitigation as an effort to reduce or minimize the risk and impact of disasters (Tuswadi and Hayashi 2014). That indicates that the knowledge of the term disaster mitigation from elementary school teacher candidates is quite good. With this knowledge, prospective teachers can carry out an analysis of conceptual studies of disaster mitigation (Weichselgartner and Pigeon 2015) to transfer knowledge of disaster mitigation through the socialization process so that it can become one of the teachers' abilities (Spiekermann et al. 2015) in providing the concept of disaster mitigation in learning (Yustina and Kapsin 2017).

Knowledge of Types of Disasters

Disaster mitigation knowledge about the types of disasters mentioned by respondents were flood disasters, forest and land fire disasters, earthquake disasters, tsunami disasters, landslides, tornado disasters, natural disasters, non-natural disasters, social disasters, covid-19 outbreaks, volcanic eruptions, haze disasters, geological disasters, hydrometeorological disasters, drought, hail, abrasion, and tidal waves are as follows:

RPC_060 answered: "*Gempa bumi, tsunami, banjir, tanah longsor, kekeringan, angin kencang, kebakaran hutan dan lahan, gelombang pasang, letusan gunung berapi dan wabah penyakit* (Earthquakes, tsunamis, floods, landslides, droughts, strong winds, forest and land fires, tidal waves, volcanic eruptions and disease outbreaks)".
RPC_028 answered: "*Gempa bumi, tsunami, longsor, banjir, gunung meletus dan puting beliung* (Earthquakes, tsunamis, landslides, floods, volcanoes and tornadoes)".
RPC_003 answered: "*Banjir, tsunami, kebakaran hutan atau lahan, wabah penyakit covid-19, dll* (Floods, tsunamis, forest or land fires, covid-19 outbreaks, etc.)".
RPC_042 answered: "*Gempa bumi, banjir, tsunami, gunung meletus, tanah longsor* (Earthquakes, floods, tsunamis, volcanic eruptions, landslides)".
RPC_028 answered: "*Gempa bumi, tsunami, longsor, banjir, gunung meletus dan puting beliung* (Earthquakes, tsunamis, landslides, floods, volcanoes and tornadoes)".
RPC_044 answered: "*Banjir, tsunami, gempa, tanah longsor, gunung meletus* (Floods, tsunamis, earthquakes, landslides, volcanoes eruption)".

For those who did not provide answers regarding the following types of disasters:
RPC_050: *tidak menjawab* (no answer).
RPC_034: *tidak menjawab* (no answer).

Respondents' responses about the types of disasters have seen in Table 2 below.

Table 2. Respondents' Responses on Types of Disasters

Respondents' Answers	Respondents' Answers Classification	Count	Percentage
Yes	The types of disasters mentioned are flood disasters, forest and land fire disasters, earthquake disasters, tsunami disasters, landslides, tornadoes, natural disasters, non-natural disasters, social disasters, covid-19 outbreaks, volcanic eruptions, disasters smoke, geological disasters, hydrometeorological disasters, droughts, hail, abrasion and tidal waves.	60	86,96%
No	Does not provide answers regarding the type of disaster	9	13,04%
Number of Respondents		**69**	**100,00%**

Based on table 2 above, to determine the extent of the respondent's knowledge of the type of disaster with the respondent's answer, yes or no. The number of yes answers was 60 people, with a percentage of 86.96% and nine people receiving no answers with 13.04%. Knowledge about the types of disasters mentioned are flood disasters, forest and land fire disasters, earthquake disasters, tsunami disasters, landslides, tornadoes, natural disasters, non-natural disasters, social disasters, covid-19 outbreaks, volcanic eruptions, haze disaster, geological disaster, hydrometeorological disaster, drought, hail, abrasion, and tidal waves, totalling 60 people with a percentage of 86.96%. Nine respondents did not provide answers related to the type of disaster, with a percentage of 13.04%.

From the aspect of knowledge about the types of disasters, it has presented that the knowledge of prospective elementary school teachers has mentioned various natural and non-natural disasters. The types of disasters mentioned are flood disasters, forest and land fire disasters, earthquake disasters, tsunami disasters, landslides, tornadoes, natural disasters, non-natural disasters, social disasters, covid-19 outbreaks, mountain disasters. eruption, haze disaster, geological disaster, hydrometeorological disaster, drought, hail, abrasion and tidal waves. Knowledge of the types of

disasters from prospective elementary school teachers is the basis for providing learning about disaster mitigation (Asfani, Suswanto, and Wibawa 2016).

Knowledge of Disaster Management Procedures

The knowledge of prospective primary school teachers about disaster management procedures is as follows.

Knowledge of procedures regarding forest fire disaster mitigation procedures are as follows:
RPC_001 answered: "*Bencana: karhutla. Sebelum: tidak membakar hutan dan lahan. Saat: memberitahukan petugas pemadam kebakaran segera, menggunakan masker. Setelah: waspada terhadap kebakaran susulan* (Disasters: Forest and land fires. Before: not burning forests and land. When: notifying firefighters immediately, wearing a mask. After: alert to follow-up fires)".

The answers to the flood disaster mitigation procedures are as follows:
RPC_002 answered: "*Bencana: banjir, sebelum: tidak buang sampah ke sungai, pengerukan sungai, tidak membangun rumah dipinggir sungai, saat: matikan listrik, mengungsi ke tempat aman, setelah: bersihkan rumah, waspada terhadap binatang berbisa, waspada jika terjadi banjir susulan* (Disaster: flood, before not throwing garbage into the river, dredging the river, not building a house beside the river, when: turning off the electricity, evacuating to a safe place, after cleaning the house, being aware of poisonous animals, being alert in case of further flooding)".
RPC_013 answered: "*Banjir. Sebelum: Membuat sumur resapan, membersihkan selokan, tidak menebang hutan atau pohon secara ilegal dan membuang sampah pada tempatnya. Saat: membersihkan bekas bencana banjir, menyediakan air bersih, dan menyediakan bahan pangan. Setelah: meningkatkan upaya menjaga kebersihan lingkungan, membersihkan selokan, menanaman pohon kembali, dan penyuluhan untuk info mengenai bagaimana cara mengatasi dan menjaga lingkungan agar tidak terjadi bencana banjir* (Flood. Before: Making infiltration wells, cleaning gutters, not cutting down forests or trees illegally and disposing of garbage in its place. When: cleaning floods, providing clean water, and providing food. After: increasing efforts to maintain environmental cleanliness, cleaning gutters, replanting trees, and counselling for information on how to deal with and protect the environment so that floods do not occur)".
RPC_025 answered: "*bencana banjir, jika membuang sampah sembarangan jika hujan turun sampah tersebut menyebabkan selokan tersumbat, jadi jangan buang sampah sembarangan. Melakukan persiapan evakuasi, menyiapkan perbekalan sekurang-kurangnya tiga hari untuk menghadapi bencana banjir. Saat terjadi banjir menyelamatkan diri ke tempat yang lebih tinggi, simak informasi dari berbagai media, matikan semua jaringan listrik setelah ada petunjuk dari pihak berwenang. Setelah terjadi bencana hindari air banjir karena kemungkinan tercampur zat-zat berbahaya, waspada listrik konslet, jangan melewati daerah yang airnya baru surut karena jalan bisa saja keropos dan lain-lain* (flood disaster, if littering if it rains the garbage will cause the gutter to become clogged, so don't litter. Make evacuation preparations, prepare supplies at least three days to deal with floods. When a flood occurs, save yourself to a higher place, listen to information from various media, turn off all power lines after instructions from the authorities. After a disaster, avoid floodwater because it may be mixed with hazardous substances, be aware of the short circuit, do not pass through areas where the water has just receded because the roads may become porous and others)".

The answers to the tsunami disaster mitigation procedures are as follows:
RPC_056 answered: "*Bencana: Tsunami. Ssebelum: membuat sebuah alat pendeteksi air, yang alat ini akan memberikan peringatan kalau akan ada tsunami yang akan datang. Saat: memberikan arah Jalan evakuasi. Setelah: membuat posko tempat tinggal sementara* (Disaster: Tsunami. Before: making a water detector, this tool will give a warning when a tsunami is coming. When: providing directions for the evacuation road. After: establishing a temporary shelter post)".

The answers to the landslide disaster mitigation procedures are as follows:
RPC_048 answered: "*Bencana: tanah longsor. Sebelum: jangan menebang pohon di daerah rawan tanah longsor seperti perbukitan. Saat: segera cari tempat untuk menyelamatkan diri atau waspada saat hujan akan turun, karena hujan juga dapt menyebabkan tanah longsor. Setelah: tanam lebih banyak pohon untuk menopang tanah agar tidak mudah longsor* (Landslide disaster. Before: do not cut trees in areas prone to landslides such as hills. When: immediately find a place to save yourself or be alert when it will rain because rain can also cause landslides. After: planting more trees to support the soil so that it doesn't slide easily)".
RPC_010 answered: "*Bencana: Tanah longsor. Sebelum terjadinya longsor alangkah baiknya kita menanggulangi dengan cara membuat semacam terasiring dan tidak menebang pohon sembarangan, saat terjadi bencana menjauhilah dari tempat tersebut, setelah terjadi bencana, setelah terjadi bencana lakukanlah penanaman pohon diatas sisa sisa longsor tersebut* (Landslide disaster. Before the occurrence of landslides, it would be better if we overcome them by making a kind of terrace and not cutting trees carelessly, when a disaster occurs stay away from that place, after a disaster, after a disaster, plant trees on top of the rest of the landslide)".

The answers to the COVID-19 disaster mitigation procedures are as follows:
RPC_003 answered: "*Bencana: wabah penyakit covid 19, Sebelum: mensosialisasikan tentang penyakit covid 19 kepada masyarakat baik gejalanya, cara mencegah penularanya dan resiko atau bahaya covid 19, Saat: melakukan upaya pencegahan atau memutus rantai penyebaran covid 19, dengan menerapkan gaya hidup sehat, mengurangi kegiatan di luar rumah atau berkumpul di tempat umum, sering cuci tangan, memakai masker saat keluar rumah dan ikut serta dalam membantu melawan dan menanggulangi covid 19 dengan memberikan bantuan material dan non material, Setelah: tetap berupaya mencegah penyebaran covid 19, menerapkan gaya hidup yang beradaptasi dengan covid 19 dan tetap melakukan gaya hidup sehat* (Disaster: COVID-19 outbreak, Before: disseminating information about the Covid 19 disease to the public, both the symptoms, how to prevent the infection and the risks or dangers of Covid 19, When: making efforts to prevent or break the chain of the spread of Covid 19, by adopting a healthy lifestyle, reducing activities in outside the home or gathering in public places, washing hands frequently, wearing a mask when leaving the house and participating in helping fight and overcoming covid 19 by providing material and non-material assistance, After: continuing to strive to prevent the spread of covid 19, adopting a lifestyle that adapts to covid 19 and continue to live a healthy lifestyle)".

For answers regarding earthquake disaster mitigation procedures are as follows:
RPC_015 answered: "*Bencana: gempa bumi, sebelum terjadi gempa bangun rumah anti gempa, siapkan kotak p3k kemudian pelajari jalur evakuasi, saat terjadi gempa misal didalam rumah cari tmpt berlindung yg kokok seperti dibawah meja, kalau diluar cari lapangan hindari pohon dan tiang listrik pastikan tanah yg dipijak tidak terjadi erosi dan*

setelah gempa keluar dari ruangan cari informasi gempa jangan kembali keruangan setelah gempa (Disaster: earthquake, before the earthquake, build an earthquake-proof house, prepare a first aid kit then study the evacuation route, when an earthquake occurs, for example, in the house, look for a shelter that crows like under a table, if outside, look for a field, avoid trees and electric poles, make sure the ground you are stepping on is not erosion occurs and after the earthquake leaves the room looking for earthquake information do not return to the room after the earthquake)".

RPC_030 answered: "*Mitigasi Bencana: Gempa Bumi. Sebelum Gempa: Mendirikan bangunan sesuai aturan baku (tahan gempa) Kenali lokasi bangunan tempat Anda tinggal, tempatkan perabotan pada tempat yang proporsional, siapkan peralatan seperti senter, P3K, makanan instan, dll. Periksa penggunaan listrik dan gas, catat nomor telepon penting, kenali jalure evakuasi, ikuti kegiatan simulasi mitigasi bencana gempa. Ketika Gempa: Tetap tenang, hindari sesuatu yang kemungkinan akan roboh, kalau bisa ke tanah lapang, perhatikan tempat Anda berdiri, kemungkinan ada retakan tanah, turun dari kendaraan dan jauhi pantai. Setelah Gempa: Cepat keluar dari bangunan, gunakan tangga biasa, periksa sekitar Anda, jika ada yang terluka, lakukan pertolongan pertama, hindari banugnan yang berpotensi roboh* (Disaster Mitigation: Earthquakes. Before the Earthquake: Build buildings according to standard rules (earthquake resistance). Know the location of the building where you live, place the furniture in a proportional place, prepare equipment such as flashlights, first aid kits, instant food, etc. Check electricity and gas usage, record important telephone numbers, identify evacuation routes, participate in earthquake disaster mitigation simulation activities. During an Earthquake: Stay calm, avoid anything that might collapse, if possible go to the field, pay attention to where you are standing, there may be ground cracks, get off the vehicle and stay away from the beach. After the Earthquake: Quickly get out of the building, use ordinary stairs, check your surroundings, if anyone is injured, do first aid, avoiding potentially collapsing buildings)".

The answers to the volcano disaster mitigation procedures are as follows:
RPC_057 answered: "*Meletus Gunung Merapi. Sebelum: Selalu memantau status gunung merapi, jika sudah diketahui akan meletus segera mengikuti perintah petugas. Saat: Mengikuti arah petugas segera bergegas menjauhi gunung merapi berjalan menjauhi arah angin karena akan keluar abu vulkanik, memakai masker serta bersama keluarga mengungsi membawa barang yang sangat penting. Setelah:Pantau informasi kemudia tetap memakai masker jauhi dulu daerah yang terkena abu vulkanik jika sudah ada dari petugas sdh bisa untuk kembali ke rumah kemudian membersihkan atap yang terkena abu*"(Mount Merapi erupts. Before: Always monitor the status of Mount Merapi, if it is known that it will erupt immediately follow the officer's orders. When: Following the direction, the officers immediately rushed away from Mount Merapi, walking away from the wind because volcanic ash would come out, wearing masks and with their families evacuating very important items. After: Monitor the information then keep wearing a mask first stay away from areas affected by volcanic ash if there are already available from the officers, they can return home then clean the roof affected by ash)".

Respondents who do not know disaster mitigation procedures are as follows:
RPC_055 answered: "*Bencana alam, sebelum terjadi bencana, saat terjadi bencana dan setelah terjadinya bencana* (Natural disasters, before a disaster occurs, during a disaster and after a disaster)".

Respondents' responses to disaster management procedures have seen in Table 3 below.

Table 3. Respondents' Responses on Disaster Management Procedures

Respondents' Answers	Respondents' Answers Classification	Count	Percentage
Yes	Forest fire mitigation procedures	3	4,35%
	Flood mitigation procedures	32	46,38%
	Tsunami mitigation procedures	1	1,45%
	Landslide mitigation procedures	5	7,25%
	Covid-19 mitigation procedures	3	4,35%
	Earthquake mitigation procedures	14	20,29%
	Volcano mitigation procedures	1	1,45%
	Not knowing disaster mitigation procedures	1	1,45%
No	Does not provide answers to disaster mitigation procedures	9	13,04%
Number of Respondents		**69**	**100,00%**

Based on table 3 above, to find out to what extent the respondent's knowledge of disaster mitigation knowledge about disaster management procedures with the respondent's answer is yes or no. The number of answers to yes was 60 people, and the answer was not nine people. The knowledge of prospective elementary school teachers about forest fire mitigation procedures amounted to three people with a percentage of 4.35%. Knowledge of flood mitigation procedures totaled 32 people, with a percentage of 46.38%. Knowledge of tsunami disaster mitigation procedures is one person with a percentage of 1.45%. There were five people with knowledge of landslide mitigation procedures with a percentage of 7.25%. Knowledge of covid-19 disaster mitigation procedures amounted to 3 people with a percentage of 4.35%. Knowledge of earthquake disaster mitigation procedures totaled 14 people, with a percentage of 20.29%. Knowledge of volcano disaster mitigation procedures as much as 1 person with a percentage of 1.45%. Meanwhile, the number of respondents who did not know disaster mitigation procedures was 1 person with a percentage of 1.45%. and respondents who did not provide answers about disaster mitigation procedures were 9 people with a percentage of 13.04%.

Regarding the knowledge aspect, prospective school teachers in explaining disaster management procedures have provided answers about various disaster management procedures. The classification of disaster management procedures from respondents' answers consists of forest fire mitigation procedures, flood disaster mitigation procedures, tsunami disaster mitigation procedures, landslide disaster mitigation procedures, covid-19 disaster mitigation procedures, earthquake disaster mitigation procedures, and mountain mitigation procedures fire. It proves that prospective teachers are cognitively able to mention disaster management procedures. The most frequently mentioned disaster management procedure is flood disaster management because most of the respondents live in coastal areas and waters. Therefore, in knowledge transfer and socialization, a local wisdom approach is needed (Munjiatun et al. 2020) in learning.

CONCLUSION

Based on the results of research and discussion, it has concluded that the knowledge of disaster mitigation for elementary school teacher candidates is quite good as seen in (a) knowledge of the term disaster mitigation, students of prospective elementary school teachers can understand the term disaster mitigation as an effort to reduce or minimize risks and disaster impact; (b) knowledge of disaster mitigation regarding types of disasters, student prospective elementary school teachers can mention the types of disasters both natural and non-natural disasters; and (c) knowledge of disaster mitigation on disaster management procedures, student elementary school teacher candidates can mention disaster management procedures. Disaster management procedures are mostly flood management procedures.

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