

Identification of University Resources in an Effort to Design a Disaster Resilience Training Module

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ABSTRACT

The current disaster management paradigm emphasizes community empowerment, thus enabling the community to become a helping subject, not an object that needs help. Data shows that Indonesia is a country prone to all sources of natural disasters. The purpose of this research is to compile modules in creating a disaster resilient campus. After the modules are compiled, the next step is to socialize the modules, conduct training of trainers, training and evaluate the training that has been carried out based on the modules that have been prepared. Research methods. Quantitative research design, with a descriptive approach. Aims to identify the potential of higher education institutions in efforts to reduce disaster risk in an effort to develop training modules. The population and sample were FGD (Focus Group Discussion) participants and disaster management experts/experts, and 100 module trial participants. The research variables were obtained from the results of literature studies and FGDs. Furthermore, the identification results are used to develop modules that can be used as Field Rehearsal guides. Modules are obtained in 3 ways: identification, FGD and expert consultation. The variables of this study are the presence of disaster courses, the presence of disaster course lecturers, the competence of lecturer training, the existence of training modules for lecturers, the diversity of potential disaster sources. Result. The results of the analysis test on all variables which are learning activities, are valid and reliable. From the results of the analysis, it can be obtained that the item score with a total score is then compared with the *r* table value (5% significance with a 2-sided test and *n* = 110) in the amount of 0.195. The decision was that all the *r* values from the analysis were more than (>) the *r* table values. Conclusion. The results showed that the modules that had been developed by conducting literature studies, FGDs and expert consults had been tried out. The results of the analysis test show that the module can be used for disaster risk reduction (DRR) training for campuses. The importance of conducting training by paying attention to the 10 learning activities as disaster training competency standards.

Keywords : Disaster Risk, Disaster Simulation, Campus Preparedness.

<https://doi.org/10.33860/jik.v16i4.2069>



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INTRODUCTION

The current disaster management paradigm emphasizes community empowerment so as to enable the community to become a helping subject, not an object that needs help. Elements in society that need to be empowered are families, groups and communities¹. Community preparedness needs

to be increased in efforts to reduce disaster risk (DRR). Disasters can be natural or man-made disasters such as earthquakes, hurricanes, hurricanes, regional conflicts or wars, and even outbreaks of infectious diseases². Disaster is a serious threat or major destruction for the community, which causes huge losses resulting in the paralysis of community functions and capabilities in many aspects³.

Indonesia is one of the countries with disaster-prone potential. Data shows that 20% of Indonesia's territory is a flood-prone area, 4% is a volcano-prone area, and 49% is a volcano-prone area, an earthquake-prone area⁴.

Individual, community, and societal preparedness needs to be properly designed and prepared. One of the preparedness plans is carried out in the form of disaster preparedness training. Preparedness through planned and periodic training needs to be carried out by all institutions, both private and government. For that we need a set of modules that serve as a reference for individuals, groups, and communities. Individual preparedness can build group and community preparedness.

Disaster Preparedness Training is useful so that everyone can understand risks, be able to manage threats so that they can contribute to encouraging community resilience from disaster threats. The culture of the Indonesian people that prioritizes social interests, cooperation, and mutual trust is an adhesive value of social capital that has been tested and continues to be nurtured, both the ability of individual groups and the community collectively is an asset for disaster risk reduction.

Types of preparedness training that can be carried out include: 1) Activation of early warning signs; 2) Self Evacuation Training; 3) Implementation Test of Temporary Refugees. Special preparedness training also involves vulnerable groups, such as children, the elderly and the homeless, persons with disabilities and people with special needs⁵.

Campus capacity in dealing with potential disaster risk relates to its ability to plan, analyze and implement disaster risk reduction activities. Therefore, the academic community needs provision to increase preparedness, through various mitigation strategies⁶.

This research seeks to prepare tools in the form of modules that are used to conduct disaster preparedness training. It is hoped that the tools produced from this research can be applied to individuals, groups and communities so that they have disaster preparedness⁷.

METHOD

This research has received ethical approval, from the Surabaya Poltekkes Health Research Ethics Commission

No.EA/525/KEPK-Poltekkes_Sby/V/202. This research is the initial stage of a series of research on the design of disaster preparedness risk training in an effort to reduce disasters. In this study using a quantitative design, with a descriptive approach. The population and sample are FGD (Focus Group Discussion) participants and disaster management experts. The research variables were obtained from the results of literature studies and FGDs. Furthermore, it will be used for Disaster Management Simulation assistance. The substance of the module is obtained in 3 ways: literature study, FGD and expert consultation.

The variables of this study are the presence of disaster courses, the presence of disaster course lecturers, the competence of lecturer training, the existence of training modules for lecturers, the diversity of potential disaster sources.

The population in this study consisted of 49 FGD participants, namely 20 people on target-1, 20 on target-2. The experts in this study are methodologists and disaster experts. The sampel population shows that respondents in the productive age category, undergraduate education and long enough work experience have the capacity to become FGD participants. The population in this study can be divided into several criteria.

Table 1. Population table and research sample according to criteria.

No	Activity	Population	Population Size (Person)
1.	Module Trial	Diploma 4 Health Student	40
2.	TOT (Training of Trainer) Disaster Preparedness Training	Participants: Lecturer in charge of the course Trainer: BPBD instructor/volunteer Committee: Researchers and field assistants	20 15 10
3.	Implementation of training results	Students and the designated academic community	50

The analysis was carried out descriptively to describe each research variable, target population and research location using

the central tendency (8).

RESULTS

The validity of the factors is measured because the items are arranged using more than one factor. Measurement of the validity of this factor by correlating between factor scores (sum of items in one factor) with total factor scores (total factors). The validity testing technique uses Bivariate Pearson correlation ^{6,9}.

Table 2. Test Results for the Validity and Reliability of the disaster module variables on a tough campus.

No	Variabel	V	R
1.	Material about building a commitment to learning disaster	0,884	0.980
2.	Disaster preparedness management.	0,910	0.980
3.	The concept of disaster mitigation, namely: the purpose of disaster mitigation	0,902	0.980
4.	The concept of training for the campus disaster task force.	0,940	0.980
5.	Disaster types and warning services	0,917	0.980
6.	Objectives of disaster mitigation training objectives, competence of training participants, training participants, resource persons and facilitators	0,946	0.980
7.	Materials related to on-campus disaster mitigation training: objectives of on-campus disaster mitigation training, competencies, training facilitators, on-campus training organizers	0,932	0.980
8.	Field rehearsal program structure (simulation), training methods, training	0,931	0.980

	program plan (RPP).		
9.	Material on self-evacuation drills.	0,916	0.980
10.	Material on supporting information on disaster emergency preparation, related	0,942	0.980

From the table above shows that the results of the analysis test on all variables which are learning activities, are valid and reliable. From the results of the analysis, it can be obtained that the item score with a total score is then compared with the r table value (5% significance with a 2-sided test and n = 110) in the amount of 0.195. The decision was that all the r values from the analysis were more than (>) the r table values.

In conclusion, all variables are valid. Furthermore, the reliability test was carried out with an Alpha value of 0.793, while the critical r value (2-sided test) at 5% significance with n = 110 (df = n-2 = 108), was obtained at 0.980, it can be concluded that the research module items it's reliable. It can be concluded that the items of the research module are reliable, so that all learning activities in the designed module can be used to design training for the disaster-resilient campus

DISCUSSION

The potential to be optimized in dealing with disaster risks for campuses is very strong. All campuses already have disaster courses. This is certainly very positive in reducing disaster risk. High community participation is an asset in reducing disaster risk ¹⁰. The research results show that 96% have disaster courses on campus.

The results of the study show that only 8% of campuses have carried out disaster simulations. This illustrates the high risk in terms of disaster mitigation on campus. One of the reasons is because there is no disaster preparedness training learning activity module. While campuses that have held simulations regularly once a year are as much as 8%. This campus organizes training regularly once a year.

To develop disaster training learning modules, there are 10 learning activities, namely: 1) building learning commitment (BLC); 2) basic concept of disaster mitigation;

3) the concept of disaster management task force training; 4) the objective of disaster mitigation training; 5) structure of the field rehearsal program; 6) field rehearsal (disaster simulation); 7) disaster preparedness management; 8) types of disasters and warning services; 9) self-evacuation exercise; 10) supporting information on disaster emergency preparation.

After conducting FGDs with stakeholders, several changes in substance and material structure were obtained. Learning activities about building learning commitment (BLC) are needed. BLC is an effort to build beforehand a promise or ability, where the promise or ability is confirmed to do something or not do something⁵. Building commitment, it is intended that training participants have built commitment from the start as an important part of disaster volunteerism. With BLC, it is hoped that the training participants will have the ability to build a commitment to learning in disaster training programs through disaster learning, identifying aspects of BLC, and the learning process¹¹. Expert opinion states that BLC can be used as one of the learning activities in the disaster training module.

Disaster mitigation is an important part of disaster management. Therefore disaster mitigation is carried out when conditions are far from potential and signs of a disaster occur. In areas that are frequently hit by floods, mitigation is carried out during the dry season. So that when the rainy season arrives, it is already able to carry out preparedness efforts in dealing with disasters¹². Mitigation is a disaster risk reduction effort that requires a long-term activity and is part of sustainable development as a disaster risk reduction (DRR) effort. Through education it is hoped that disaster risk reduction with broader targets will be introduced earlier to the entire campus academic community⁹.

The concept of disaster preparedness training is a form of coordination, communication and evacuation exercises involving the entire campus academic community, from leaders to the lowest levels of staff. In essence, when a disaster occurs, there is no longer any classification of leaders and subordinates, all of them have the same opportunity to be helpers and at the same time be the ones being helped. Therefore, in the concept of preparedness training, there is a need for a fusion of the roles of all elements in the

academic community. The top leader during a disaster is the field coordinator, who may not be held by the top leadership, but carries a very important mission¹³. The entire academic community, from directors to security guards, and lowest level employees, must be involved in simulating real disaster situations, with reference to disaster scenarios that are made closer to real conditions¹³.

In the learning activities for the objectives of the training, there are 8 issues of learning activities, namely: objectives, competence of trainees, training participants, resource persons/facilitators, organizers of quiz training, games and bibliography. The academic community's understanding of basic disaster knowledge should be provided through courses. It can be general courses, compulsory courses, or local content courses. This is an academic guarantee for the process of achieving competency for students. Thus it is hoped that it can bring about the resilience of the academic community. Practical learning and games designed with the intention that students can have skills in disaster, which includes preparedness, emergency exercises, and preparing disaster management plans and contingency plans. Students are also expected to be able to apply disaster management skills well on campus and off campus. So it is expected that the outcome of the disaster learning process is the profile of graduates who have an insight into disaster risk reduction^{14,13}.

For the entire academic community, especially lecturers and education staff, it is necessary to obtain sufficient disaster preparedness. Through design training and simulations that involve the entire academic community, it is hoped that it will provide a good understanding of preparedness to become a campus that is resilient to disasters. Thus it is necessary to design a good field gladiator structure. Several considerations in preparing the structure of the gladiator include: the training process, training procedures, training methods and Training Program Plans (TPP).

It is also necessary to design procedures for self-evacuation drills which consist of: natural, non-natural, social and disaster based on local wisdom. Self-evacuation procedures require an understanding of the common types of threats and potential disasters in Indonesia, early warning systems, drills for evacuation of earthquakes, tsunamis, building fires, landslides/subsidence, volcanic eruptions,

floods, etc. Included in local wisdom are disasters that are often found in the area but not/rarely found in other places, for example tidal floods, exposure to chemicals from laboratories, etc ¹⁵.

The academic community also needs to be equipped with technical competence skills for emergency assistance during a disaster, for example first aid techniques, Basic Life Support (BLS), ambulation of disaster victims, identification of poisoning, etc. This practical knowledge is very useful when in a disaster emergency. Moreover, at that time there were no medical personnel present at the disaster site. Experience in several major disaster events shows that technical skills in emergency medical assistance like this are very useful in saving lives ¹³.

The capacity of lecturers for disaster courses has an important role in efforts to reduce disaster risk. This means that capacity building is needed for lecturers to carry out disaster training according to the standard capacity of the teacher by using the modules that have been arranged. Because if they do not have good capacity, it will be difficult in efforts to reduce disaster risk ¹⁶.

CONCLUSION

The results showed that the modules that had been developed by conducting literature studies, FGDs and expert consults had been tried out. The results of the analysis test show that the module can be used for disaster risk reduction (DRR) training for campuses. The importance of conducting training by paying attention to the 10 learning activities as disaster training competency standards. Still referring to the existence of disaster courses, the existence of disaster course lecturers, the competence of lecturer training, the existence of training modules for lecturers, the diversity of potential disaster sources. It is necessary to socialize disaster preparedness training modules in an effort to reduce disaster risk.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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