DISASTER MITIGATION EDUCATION MODEL BASED SOCIAL LEARNING THEORY

by Muhammad Rais

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ABSTRACT

This study aims to produce a model of self-awareness education to the environment, education and disaster preparedness through social learning. This study was designed in two parts: (1) the first part, consisting of three stages, namely 1) the analysis phase, 2) the design phase, and 3) the development stage; (2) the second part of the implementation phase. The results showed that: 1) people already have knowledge of disaster and require the need for socialization of natural disasters, the community already has a self-awareness of the environment, but people cannot escape from his habits are agricultural and open land in the vicinity of the riverbanks, 2) learning materials self-awareness of the environment and disaster preparedness has a very useful criterion, decent, and right in an effort to prepare the attitude of community preparedness for disasters.

Keywords: Disaster Mitigation Education, Social Learning Theory

A. Background

South Sulawesi as one of the disaster-prone areas passed three tectonic faults, causing some of its territory is threatened earthquakes at certain times. According to Mustam Arif Workshop Plans Contingency CSO-Media in Disaster Relief in the city of Makassar, said that the conditions of Sulsel whose position is located in the peninsula of the island of Sulawesi, the south and east, not apart as disaster-prone areas, such as floods and landslides (Antara 2008) ,

Associated with disasters, people living in disaster-prone areas need information that is systematic, simple and easy to understand about disaster prevention and strategies to deal with it. Various problems experienced by the community, both physically and sychologically, especially those living in disaster-prone areas. According Permana (2008), such a society should be given an understanding to have preparedness against possible natural disasters that can happen at any time. Feelings of anxiety, fear and even prolonged trauma as a result of the disaster should be managed positively to then better prepared tactically and strategically deal with it.

In contextual disaster management cycle which generally starts from mitigation, disaster preparedness, disaster events, rescue and relief, rehabilitation and reconstruction and realignment of the disaster seems to deserve a study on an ongoing basis. According Permana (2008), disaster management in Indonesia until now it seems still trapped on the issue of cliches such as: the slow emergency

response, uneven relief, evacuation of disaster victims who lack the equipment, refugee inadequate, until the communication and coordination of disaster response chaotic.

Some of the factors that cause the problems cliché over by Permana (2008) noted, first, is a fundamental factor that is the lack of knowledge and understanding of the disaster itself. Second, understanding and knowledge, as noted above bring the community on attitudes and behavior are very passive disaster. That is, the new community will want to deal with disaster when a disaster has occurred. Ignorance that the contribution of social, economic and even politics of everyday life can make a disaster occurs leads to ignorance, inadvertence, inattention.

Necessary educational process based on the integration potential of technological, social, cultural nations and regions in order to increase self-awareness of the public about the disaster, preparing food supplies, preparing a place for food supplies, providing emergency training, preparing a hazard map, take inventory and identify vulnerabilities. Model disaster mitigation education adopts social learning theory developed by Bandura (1977). Bandura's social learning theory is a combination of learning theory behaviorist with reinforcement and cognitive psychology, the principles of behavior modification. The learning process is centered on strengthening, only occurs directly in interacting with its environment. (Bigge, 1984; Tan, 1981).

Through social learning, the public will be conditioned on the situation of self-awareness to want to change themselves into communities that are of potential can be adaptive and friendly to the environment, to understand each other between individuals to each other in a particular community. According to Twigg (2007), plans for disaster preparedness/ contingency plans can be developed with a participatory method, and understood and supported by all members of society. This support is important to appear confident that based on the within the community for their ability to take effective action in disaster situations. In the end the public will have the perception that the disaster was not as something to be feared and feared, but behind it was a disaster must be addressed more prepared and more responsive. This material is expected to reduce attitudes and perceptions towards their neighborhood which at times can lead to disaster.

Social cognitive theory states that the social and cognitive factors and behaviors play an important role in learning (Slavin, 2000; Salkind, 2008). Someone learn certain behaviors as habits were observed

so that bear habituation behavior similar to that observed. This theory was first introduced by Neil Miller and John Dollard in 1941 which subsequently developed by Albert Bandura and Richard Walters in 1959. Social learning theory Bandura showed the importance of the process of observing and imitating the behavior, attitudes and emotional reactions of others. This theory explains human behavior in the context of continuous reciprocal interaction between cognitive, behavioral and environmental influences (Bandura, 1971).

Reigeluth (1999) confirmed that the factor model or example has the following principles 1) The highest level of learning of the observations obtained by organizing early on and repeat the behavior symbolically and then do it. The process of remembering will be better encodes behavior imitated into words, signs or pictures rather than just simple observation (only viewing only), 2) Individuals are more like the behavior of the emulated if according to the value it has, and 3) the individual will like behaviors are imitated if the model or a model, are liked and appreciated and behavior has a useful value.

Social learning theory became the basis of behavioral modeling used in various mass education. Because it involves attention, memory and motivation, social learning theory seen in the framework of cognitive-behavior theory. can help to understand how to modify the behavior of the public to take care in raising motivation and attention to the efforts of disaster prevention and disaster preparedness. Social learning theory talks about (1) how behavior is influenced by the environment through the reinforcement and observational learning, (2) point of view and ways of thinking as a percentage of the information, (3) and vice versa, how the behavior affects the environment and creates amplifier (reinforcement) and observational opportunity (Bandura, 1971; Salkind, 2008).

The fundamental factor in mitigation education is an effort to increase knowledge and understanding of society that will bring disaster on the attitude and behavior of the current disaster, through an increased sense of self-awareness on the environment. Results plus the knowledge and understanding of disaster such behavior had formed a culture of disaster is very high. Educational process in order to increase public awareness about disaster, by providing training materials: to build the spirit of concern for emergencies, build team-work, forming a team of emergency response-based working groups

of society, prepare hazard maps, the inventory and identification of vulnerabilities is done by using the format design of the development of learning models ADDIE.

This study focuses on the study of aspects: 1) develop a model of community-based disaster mitigation education that can increase community preparedness for disasters, 2) test the effectiveness of the model design development education model of community-based disaster mitigation can enhance community preparedness for disasters.

B. Method

This research is the development of instructional systems development model adopted by Dick & Carey are being developed by Gustafson and Branch (2002), the model ADDIE. ADDIE Model developed by Gustafson and Branch (2002) has five main elements consist of Analyze, Design, Develop, Implement, and Evaluate. ADDIE Model has the characteristics of dominance on learning theory and instructional behavioristic.

In the analysis phase, the development model of learning developed Gustafson and Branch (2002) is always preceded by a needs analysis, both the needs of individuals, organizations, and society itself. Results from this analysis is used as a step toward the design requirements.

Design is a set of planned measures specifically in order to effectiveness, efficiency and relevance to the learning environment. While development with regard to how the material was developed and taught to the study in this respect is the community. The evaluation was conducted to measure the process and the results that can be achieved at each stage of activity. In the evaluation phase, there are two types of evaluations are formative evaluation and summative evaluation. For the sake of optimization of each stage of the design, revision revision of the analysis phase, the revision at this stage of the design, development and implementation.

More systematically, the steps undertaken in the development of this research are as follows:

1. Perform the analysis phase: conducting analysis of the needs of the need for disaster mitigation for communities and identification of community issues in disaster-prone areas.

2. Perform the design stage: which covers the design of the research instruments, the design of the syntax training, design of materials training materials, and design of the training guide.

3. Stages of development: where product design disaster mitigation materials tested on a group of experts on disaster mitigation and content of learning design expert group called the trial

phase I, phase II trials later imposed on disaster mitigation trainer. At this stage of revision material for the improvement of training products.

4. The implementation stage: in the form of testing the effectiveness of disaster mitigation educational models imposed on groups of people who use the product.

In an effort to test the effectiveness of disaster mitigation education training model developed, the final prototype which has been revised to be tested on people living in the surrounding areas prone to disasters. For the purposes of this study, the people who have been scattered in the district Sibulue Bone district, and village communities in the District Karrang Cendana Enrekang bordering Pinrang. Selection of the characteristics of a society based on consideration of disaster-prone areas indicates that the sample selection is based on the consideration of regional/geo-politic aspects, and the effectiveness of the training. Based on this, then each region selected 30 people society.

Some concepts related to the development model of disaster mitigation, can be explained as follows:

1. Development: A series of activities to design, create, asses/test expert, revising a product to be produced. In

this study, which will be developed is based Disaster Mitigation Education Training abbreviated PEMBBM society.

2. Models: conceptual framework that describes systematic procedures in organizing training activities and serves as a guide in planning and running the models Education Community Based Disaster Mitigation.

3. Educational Community Based Disaster Mitigation: a form of socialization and counseling on all aspects of disaster-oriented society of self-awareness and self-regulation community associated with motivation to work together, care for each other, and is problem solving community-based self-potential. This educational program according Susetyo (2006) include: (1) The introduction of self-public, (2) Introduction of environmental hazard, (3) Living in harmony with the environment, (4) Knowledge of disaster, and (5) Planning Playing the disaster.

4. Disaster Preparedness: an attitude of caring and responsive to the dangers of disasters that can happen at any time. This attitude coupled with 1) the ability to manage own self not to worry, no fear and remain alert to hazards, 2) the ability to plan strategic

measures in accordance with the planning of disaster when a disaster occurs.

C. Result

The design of the research instruments, syntax training, materials training materials and training manuals already meets acceptability (usability, feasibility and accuracy). Results of the assessment concluded that the product manual training materials for community disaster mitigation is included in the criteria useful. Results of user assessment of products can be concluded that the training materials for community disaster mitigation is included in the criteria feasible. The accuracy of the assessment results indicate that the material aspects of disaster mitigation training to the community is included in the very precise criteria. However, specific to the training material should be presented in plain language along with pictures that allows people to understand the substance of the material presented in the book educational training of community-based disaster mitigation.

The results of the first phase of this research are: 1) The analysis showed that the general description of the research subjects showed an average score pre-test for knowledge of disaster at 47.4 and the mean score of post testnya is at 51.63, so there difference in the score between pre-

test and post-test of 4.23 or relative terms the increase amounted to 9%. Difference in the score indicates a significant increase of knowledge that was the problem of disaster mitigation becomes high. This means that the training conducted in the community, especially for the knowledge aspect of disaster on people is very adequate to be implemented. T test results as the table 5:10 to knowledge for disaster before treatment ($t = 30.97$, $p = 0.000$ <0.05) at 30 df (n-1, 30-1) and after treatment equal to ($t = 32$, 1. $p = 0.000$ <0.05) at 30 df (n-1, 30-1). Thus, t count before treatment = 30,97 and after treatment = 32.10> t table = 2.04. In other words that there is a change in the aspect of disaster knowledge to society after being given training on disaster mitigation education. The value of the t test showed that there is a difference between before and after training community-based disaster mitigation education. In the aspect of self-consciousness of society in environmental analysis showed that the mean pre-test score of 23.1 and a mean score of post testnya is at 23.87, so that there is a difference in the score between pre-test and post test by 0.71 or relative increase in the of 3%. Difference in the score indicates a significant increase of self-awareness that people in the neighborhood who was against disaster mitigation issues to be high. This means

that the training conducted in the community, particularly to the aspect of self-consciousness of society on the environment is very adequate to be implemented. T-test self-awareness of society on the environment prior to treatment equal to (t = 25.25, p = 0.000 <0.05) at 30 df (n-1, 30-1) and after treatment of (t = 29.09 , p = 0.000 <0.05) at 30 df (n-1, 30-1). Thus, t count before treatment and after treatment = 25.25 = 29.09> t table = 2.04. In other words that there is a change in the aspect of self-awareness of society on the environment after being given training on disaster mitigation education. The value of the t test showed that there is a difference between before and after training community-based disaster mitigation education. Based on the research results presented above, then the following will be presented some discussion, namely:

1. Aspects of Public Knowledge on Disaster Mitigation

This study from the beginning intended to provide the public sensitivity to matters relating to natural disaster mitigation as part of the disaster management cycle. Disaster management is a cycle that systematically outlines the process of handling natural disasters ranging from site planning and preparation of community disaster preparedness to disaster management planning. Disaster mitigation is a small part of disaster management.

Disaster mitigation preparedness with regard to the attitude of both the individual, community and institutional in the face of disasters that can happen at any time. Disaster mitigation for the people who live or lived in surrounding areas prone to disasters such as the outskirts of riverbanks requires a higher sensitivity than the attitude of society a little safer the neighborhood of danger (hazard) It is related to the effectiveness of the prevention of hazards. According to Rachmat (2008), to assess the effectiveness of a disaster mitigation is to pass judgment on three things: hazard assessment, warning and preparation.

1. Hazard assessment; needed to identify populations and assets are threatened, and the threat level. This assessment requires knowledge of the characteristics of the source of the disaster, the probability of occurrence of disasters, as well as data disaster events in the past. This stage produces Map Potential Disaster very important for designing two other mitigating elements;

2. Warning; necessary to warn the public about the disaster that would threaten (such as the danger of tsunamis caused

by earthquakes, lava flow from the eruption of the volcano, and others). Warning system based on data disasters that occur as early warning as well as using a variety of communication channels to deliver the message to the authorities and society. Warning against the disaster that would threaten must be done quickly, accurately and trustworthy.

3. Preparation. This category of activities subject to the earlier mitigation elements (hazard assessment and warnings), which requires knowledge of the possibility of the affected area and knowledge of the warning system to know when to evacuate and when to come back when the situation was safe. The level of public awareness and understanding of local government and very important at this stage to determine the steps necessary to mitigate the impact of disasters. Besides, the other preparation is spatial planning that put the location of public facilities and social facilities outside the danger zone of disaster (mitigation non structural), as well as the efforts of engineering to build a structure that is safe against disasters and protect the structure will be a disaster (mitigation structure).

In the aspect of hazard assessment, public Cendana located in Enrekang

enough sensitivity in giving an assessment of the environmental conditions and the characteristics of potentially catastrophic happen. This attitude is obtained after an interview, people can give a positive response to how the environment is considered dangerous. The findings that require further study on public awareness efforts is on the aspect of an early warning system. Early warning systems in areas Cendana community is relatively slow and almost no one tool that can be used to provide early warning when danger or is happening. The early warning system is very important position held in the middle of the natural conditions that are currently experiencing the cycle of extreme environmental changes. Indonesia with a geographic location that is potentially a disaster, should involve stakeholders concerned in the field of natural disasters, ranging from a powerful aspect of community preparedness in responding to disasters to the preparation of infrastructure or disaster management tool.

During the training process takes place, the community and society Enrekang Cendana village members Karrang Bone regency enough positive appreciation in response to any educational materials on disaster mitigation information presented. People are also ready to form a team of disaster management at the village level based on

existing strengths. In keeping with the theme of the training, which form a community that is ready to face the disaster based on the potential of society. The potential is there can be: cooperation, tolerance, a sense of shared destiny and of suffering and want to live together in a comfortable situation and avoid disaster. Such feelings make people have the power to form disaster management teams.

2. Aspects of the Society of Environmental Awareness

The results showed that the level of self-awareness of the environmental community into the residence and farming activity is fairly moderate. Nevertheless, the results of the discussions and observations, the community has a culture of protecting the environment is good. Evident from the results of observations, some of which are structural mitigation have been made, such as creating "Bronjong" which serves as a barrier rock avalanches due to the movement of river water. However, that is difficult for people to break away from the habit of planting is open land around the periphery of the riverbanks. The area around the riverbanks used as farmland for subsistence, but structurally it could potentially damage the watershed, which in turn when the rainy season arrives, will trigger a flood.

Aspects of public awareness in making the environment as an important life companion got in this research study. Given the high public awareness of the culture of protecting the environment, is the most inexpensive action in disaster mitigation systems. Environmental awareness can involve every citizen in growing and fostering awareness to preserve the environment, based on values, the values in an environment with a philosophy of living in peace with the natural environment. This principle should begin to grow through school and out of school education, from kindergarten to university in order to gradually grow a sense of love for the natural environment, with the sole responsibility of each human being to preserve the environment. According to Salim (1982), environmental awareness is an effort to raise awareness to not only know about garbage, pollution, reforestation and protection of endangered species, but more than all that, raise environmental awareness of Indonesian people, especially the youth of today, to love the land and water for Indonesian homeland build fair, prosperous and sustainable intact. Pasang (2002), states that the environmental crisis is now so great that experts acknowledge that they alone cannot solve the problem of self

luminescence of society towards the environment.

The above opinion gives substantial expression in the mission of saving the environment or the earth. Required individual of high moral standing and loving environment, has a high spiritual value religion. To create people who are environmentally conscious, are not sufficient to provide sufficient knowledge of the environment, but a very necessary is the deepening of faith and piety to God the Creator of heaven and earth. Results of quantitative analysis compared with the qualitative findings by using a FGD format, found people's desire to remain coexist with nature in a balanced and harmonious. In principle, the community does not intend to damage the balance of natural, all members of the government can be an alternative solution in the search for agricultural land. Because only by open farmland alternative but to use the outskirts of riverbanks, flood hazards can be reduced

D. Conclusion

Based on the findings described above, it is concluded that the model of education on disaster mitigation based society using social learning approach can have a significant influence for the planting of attitude and high self-awareness for people to live in harmony with the environment as well as increase

the level of public knowledge against natural disasters. Educational training model of community-based disaster mitigation developed includes disaster mitigation instruments, instrument acceptability, syntax, general guidelines and specific trainer, and training materials are packaged in easily understood language. Guidelines and training materials have met the acceptance criteria, covering the aspects: the usefulness, accuracy and feasibility.

Training model that gave birth among other products such as training materials developed in the form of books, has met the criteria of effectiveness. Results of measurement of aspects of the public knowledge of disaster mitigation and public attitudes toward environmental consciousness, obtained a score as follows: there are differences in the average score pre-test and post-test for knowledge of disaster. Ie pre-test mean score of 47.4 and a mean score of post test amounted to 51.63. Difference in the score indicates a significant increase of knowledge that was the problem of disaster mitigation becomes high. The measurement results of the self-awareness of society on the environment, the mean pre-test score that is equal to 23.1 and mean post-test scores is at 23.87, so there is a difference value between the pre-test scores and post test. Difference in the score indicates a significant increase of

self-awareness that people in the neighborhood who was against disaster mitigation issues to be high. This means that the training conducted in the community, particularly to the aspect of self-consciousness of society on the environment is very adequate to be implemented.

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