

Disaster Mitigation Curriculum in Pesantren in Industry 4.0

(An Ethnopedagogical Analysis)

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ABSTRACT

This research aimed to examine the design of disaster mitigation curriculum in pesantren in Industry 4.0, using an ethnopedagogical analysis, referring specifically to the initial theory of Disaster Mitigation and also the Curriculum theory. A qualitative research, the primary data were derived from observation and interviews, and the secondary data came from the literature review. This research concluded that, first, pesantren-based disaster mitigation curriculum had accommodated existing local wisdom appropriate for dealing with disaster management in pesantren; secondly, local wisdom-based awareness in terms of disaster mitigation was fitting to be used in pesantren learning that can be adopted by integrating it into the 2013 curriculum through thematic and scientific approaches.

Keywords: Disaster Mitigation Curriculum, Ethnopedagogical analysis, Industry 4.0, Pesantren, Industry 4.0, Ethnopedagogic

1. INTRODUCTION

Indonesia is the most disaster-prone country globally based on the data released by the United Nations Agency for the International Strategy for Disaster Risk Reduction (UN-ISDR). Indonesia's high position is calculated from the number of people at risk of losing their lives if a natural disaster occurs. Indonesia.

Geographically, Indonesia is an archipelago located at the junction of four tectonic plates: the Asian Continent plate, the Australian Continent, the Indian Ocean plate, and the Pacific Ocean plate. In the southern and eastern parts of Indonesia, there is a volcanic belt (volcanic arc) that extends from the islands of Sumatra, Java, - Nusa Tenggara, to Sulawesi, whose sides are old volcanic mountains and lowlands which are partly dominated by swamps. This condition is very potential and prone to disasters such as volcanic eruptions, earthquakes, tsunamis, floods, and landslides. Data shows that Indonesia is one of the countries with the highest seismicity globally, more than ten times the United States (Arnold, 1986).

Indonesia is located in a tropical climate with two seasons, namely hot and rainy, characterized by changes in weather, temperature, and wind direction, which are quite extreme. Climatic conditions like this are combined with the surface topography and rock conditions that are relatively diverse, both physically and chemically, resulting in fertile soil conditions. On the other hand, this condition can cause harmful consequences for humans, such as hydro-meteorological disasters such as floods, landslides, forest fires, and drought. Over time and with the increasing human activities, environmental damage tends to worsen the risks and triggers an increase in the number of incidents and intensity of hydrometeorological disasters (floods, landslides, and droughts) that occur one after another in many regions in Indonesia.

Many natural disasters occurring in various parts of Indonesia with are of various types of disasters, with relatively high magnitude and frequency. Natural disasters cause significant losses, either directly or indirectly, such as casualties, damage and loss of property, damaged infrastructure, damaged living environment, and trauma for survivors. The causes of

natural disasters can be categorized into two categories, namely natural disasters caused by nature itself, for example, earthquakes, volcanic eruptions, tsunamis and winds, and natural disasters caused by human activities such as cutting slopes, deforestation, forest burning, garbage disposal haphazardly, drilling for petroleum and many more.

With a geographical position at the end of the movement of the world's three plates: Eurasia, Indo-Australia, and the Pacific, Indonesia does not have much appears hard to avoid disasters. What can be done is to try to live in harmony with disasters, scheming to minimize the impact.

Studies on the role of educational institutions concerning disaster risk reduction (DRR) have made many concrete contributions in real life. Among disaster studies concerning educational institutions, not many have anything to do only few studies are concerned with Islamic educational institutions or Islamic materials. The education sector is one of the appropriate media to inform and transform how to deal with disasters and reduce the risks and impacts of disasters. It aims to realize the ideals of development and development of disaster-resilient communities. This educational product is expected to generate awareness and behavior supported by the institutional process in a broader system in building a culture of safety (safety) and resilience (resilience).

Pesantren, Islamic boarding school, as a distinctly Indonesian educational institution, has an essential role in disaster mitigation in Indonesia; the total number of Islamic boarding schools in Indonesia is based on the database <http://pbsb.ditdpontren.kemenag.go.id> totaling is 25,938 with 392,700 santri, students of Islamic boarding schools. Many of which the boarding schools are located in disaster-prone areas; therefore, there is a need to develop a pesantren-based disaster mitigation model formulation is a series of efforts to reduce disaster risks, both through physical development and awareness and increased capacity to face disaster threats (Article 1 paragraph 6 PP No. 21 of 2008 concerning Disaster Management). A pesantren-based disaster mitigation curriculum is needed.

Pesantren education institutions, as one of the characteristics of Indonesian Islamic education, have contributed positively to disaster management, especially Islamic boarding schools in disaster areas. For that, a pesantren-based disaster mitigation curriculum is needed.

The curriculum in educational institutions always develops following the development of the times, science and technology (science and technology), and the demands of the community (stakeholders). The development of the curriculum always impacts all components of education, which is expected to have

implications for increasing the quality of outputs at educational institutions, including the outputs or graduates of Islamic religious education institutions, namely pesantren. Pesantren, as a distinctive Indonesian educational institution, also has a vital role to play in engaging pesantren ulama and pesantren figures to become a golden bridge for educating environmentally friendly Muslim cadres. For this reason, mitigation-related activities are significant and cannot be ignored. However, environmental activities might not be common activities in Islamic boarding schools. Therefore, facilitation and discussion at the pesantren about the environment and capacity building for environmental management must be improved. Building environmental awareness among Indonesian Muslims has proven to be very important and should continue to receive attention. The environmental movement by involving the core circles of the Muslim community, namely pesantren scholars who produce environmental fiqh documents, has been proven to have received strong reception in several places. The country with the largest Muslim population has moderate clerics, especially among Islamic boarding schools, who can cooperate with environmental activists.

Development of a Pesantren-Based Disaster Mitigation Curriculum in era 4.0 is needed as a role model in Islamic boarding schools, both in disaster-prone areas or and in other Islamic boarding schools. The curriculum needs to be developed according to curriculum theory and is to be relevant to the demands and needs of the community. Thus, its existence is expected to continue to contribute to the development of Indonesia's human resources in improving disaster preparedness and reducing disaster risks and playing a role in educating the public so that the curriculum is relevant to expectations, and it is necessary to redesign the pesantren-based disaster mitigation curriculum in the era 4.0.

Based on the National Education System Law 20/2003, it states that in addition to global competencies, education in a literacy approach must also consider local wisdom. Namely eEducation should be based on local excellence to encourage the acceleration of regional development based on the relevant potentials owned by the local community.

Era 4.0 requires educational institutions, including Islamic boarding schools, to immediately adapt and follow the 4.0 era.

This study aims to develop a pesantren-based disaster mitigation curriculum model in the era 4.0 (using an ethnopedagogical analysis study) research design.

2. MATERIALS AND METHODS

This research was conducted in 2020. The research method refers to the Tyler model curriculum development research and the ADDIE development research method.

The stages are the first stage of needs analysis, the second stage of field studies and literature, the third stage planning the design of a pesantren-based disaster mitigation curriculum model in the era 4.0. This research was conducted in 2020. The research method refers to the Tyler model curriculum development research and the ADDIE development research method.

The stages are the first stage of needs analysis, the second stage of field studies and literature, the third stage planning the design of the development of a pesantren-based disaster mitigation curriculum model in the era 4.0, the fourth stage of expert validation (FGD) on the design of developing a pesantren-based disaster mitigation curriculum model in the era 4.0, the fifth stage of the revision of the design of the development of a pesantren-based disaster mitigation curriculum model in the 4.0 era, the sixth stage of making/perfecting the design of the development of a pesantren-based disaster mitigation curriculum model in the era 4.0. The stages are: the first stage of needs analysis and formulating problems.

Research Location: The research will be conducted in Islamic boarding schools located in disaster areas. Both such as the tsunami disaster, the earthquake disaster, and the Mount Merapi disaster.

3. FINDINGS AND DISCUSSION

analysis of the dimensions of culture and education, Alwasilah et al. (2009, in Suratno, 2010) views Ethnopedagogy as a practice of education based on local wisdom in various domains. It emphasizes local knowledge or wisdom as a source of innovation and skills that can be empowered for the welfare of society, namely, local wisdom is related to how knowledge is generated, stored, applied, managed, and inherited. Ethno pedagogy as an educational practice based on local wisdom seems to be in line with Alexander (2000, in Suratno, 2010), which show that there is a close relationship between pedagogy and the socio-cultural life of the community. This is also in line with Bernstein's view (Bernstein & Solomon, 1999, in Suratno, 2010), which states "How a society selects, classifies, distributes, transmits and evaluates the educational knowledge it considers to be public, reflects both the distribution of power and principles of social control"

actions to re-elevate the values of local wisdom as a source of innovation in the field of culture-based education for local communities, by empowering them through the adaptation of local knowledge, including

reinterpreting local wisdom values, and revitalizing them according to contemporary conditions. In addition, strong cooperation between local governments, universities and cultural observers is needed to revitalize the values of local wisdom and develop academic concepts, conduct trials of ethnopedagogical models in learning (Anan-Nur, 2010 in Sarbaini 2016).

In ethnopedagogy, the main element is local wisdom of the community which is integrated into education. Wisdom can be understood as a collective understanding, knowledge, and wisdom that influences a decision to resolve or overcome a life problem. Wisdom in this case is the manifestation of a set of understandings and knowledge that has undergone a development process by a local community group or community that is gathered from long processes and experiences in interacting in one system and a mutually beneficial relationship (Purba, (2002), Muh Aris Marfai, (2012) in Suparmini, et al., 2013). Local wisdom is a cultural product of the past that can be used continuously as a guide for life and has an excellent value-wise character embedded in a culture and applied by all local communities (Wagiran, 2011 in Rissa et al., 2015). This means that local wisdom is part of the culture contained in an area. However, even though they have local cultural values, the values contained in local wisdom are considered universal or widely applicable. So, although the local community only implements local wisdom within the scope where local wisdom comes from, the values contained in local wisdom can be used in general (Rissa, et al, 2015).

Potential disasters can be integrated into the 2013 Curriculum by looking at four core competencies. Steps that can be taken by the teacher are mapping essential competencies in each theme and determining indicators by looking at the potential for disasters that can occur in the area where the student is located and local wisdom in disaster mitigation.

According to Shaw. et al. (2009), "For the prevention of disasters, we should understand disaster mechanisms and locality. We can learn about locality from the community and mechanism from school lectures". For disaster prevention, we must understand the mechanisms of disasters and regions. We can learn about the area from the community and the mechanisms of learning in schools.

Disaster prevention can be done in schools using local wisdom from the local community. Shaw., Et al (2009) applied the KIDA (Knowledge, Interest, Desire, Action) model in disaster education. Knowledge (providing awareness about hazards and disaster risks), Interest (raising curiosity about hazards and preparedness in the face of disasters), Desire (making students active in disaster preparedness), and Action (taking steps to be prepared in the face of disasters).

Based on the study of Selby and Kagawa (2012), there are several approaches in integrating natural disasters into the curriculum, namely: 1) The textbook-driven 2) The pilot project approach; 3) The centralized competency-based approach; 4) The centrally developed particular subject (dedicated space) approach; 5) The symbiosis approach and; 6) The extraordinary event approach. The curriculum that applies to Indonesia is the 2013 curriculum. In the 2013 curriculum, there are four core competencies, namely: 1) spiritual attitudes (accepting and practicing the religion they adhere to): 2) social attitudes (having honest, disciplined behavior.

The role of the teacher at this stage is to integrate local wisdom in disaster mitigation in the form of teaching materials or learning resources. Integrate it into a learning implementation plan that begins with a mapping of the core competencies and essential competencies contained in each theme. Teachers no longer rely on textbooks but use other learning sources, namely local wisdom. With local wisdom, many values can be taught to students.

4. CONCLUSIONS

First, pesantren based disaster mitigation curriculum accommodates existing local activities to provide the right education on dealing with disaster management in pesantren. secondly, Local awareness in disaster mitigation is appropriate to use in pesantren learning by integrating into the 2013 curriculum based on thematic and thematic and technology-based scientific approaches.

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