

# Integrating Disaster Alert Kindergarten Watching into Preschool Education: Designing a Professional Disaster Mitigation Education Model to Early Children

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Abstract. Early childhood is a population that is considered weak and needs adults' help when an earthquake or tsunami occurs. Early age is the golden age, which is the basis for the formation of personality and independence of children in living their lives. This research is a part of the development of disaster mitigation learning models for early childhood. The development of Disaster Alert Kindergarten Watching Learning Model in the context of providing disaster mitigation education to early children is an adoption and the development of the Town Watching Method. The town Watching Method was introduced by Prof. Dr. Ogawa Yujiro in Town Watching for Disaster Prevention Guidebook at Fuji Tokoha University in the 2010. The initial stage of the development disaster mitigation education models to early children is a stage of defining and designing the model. The definition of this model begins by analyzing the needs and characteristics of early children and the geographical environment of the targeted school, then analyzing the 2013 PAUD Curriculum to determine the indicators that can be raised in the learning model of the kindergarten watching. The analysis of these indicators results teaching materials for disaster mitigation learning models for children. This teaching materials are compiled as a benchmark for determining the age of the children that is suitable for providing disaster mitigation material that has been designed. After defining the model, the disaster mitigation learning media to early children is designed. This designing takes eight months, which is five months for designing the animated films and three months for creating the media appearance. To test the suitability and feasibility of the media to early children, a media feasibility analysis was carried out through a focus on discussion groups with 15 PAUD teachers in the TK Negeri Lamjabat of Banda Aceh. After correcting the model implementation plan according to the input of the FGD results, an initial trial of the use of the model was carried out before testing the model in a small environment. This article tells about the implementation of disaster alert kindergarten watching learning models in providing self-rescue knowledge and skills for children. The aim is to reduce disaster risk in the early childhood population.

**Keywords**: Kindergarten Watching, Disaster Mitigation Education, Early Children, Learning Model, Pre-School Education

INTRODUCTION ~ Indonesia experienced a major disaster in five consecutive years, namely: 1). the December 2004 earthquake and tsunami in Aceh which resulted in 165,708 deaths and a loss of Rp. 48 trillion; 2). the Yogyakarta and Central Java earthquakes that occurred in May 2006 which resulted in 5,716 deaths, 156,162 damaged houses and estimated losses of Rp. 29.1 trillion; 3). the Pangandaran tsunami that occurred in July 2006 which resulted in 649 deaths,

1,908 houses were damaged and losses estimated at Rp 138 billion; 4). Jakarta flood, in February 2007 which resulted in 145,742 flooded houses and losses of Rp. 967 billion (Bappenas, 2007). In 2005, the World Conference on Disaster Reduction was held in Kobe, Japan. From this crossnational conference, a joint action framework for disaster risk reduction was drafted and agreed to 2015. The agreement on the mission of building state and community resilience to disasters was



known as the Global Platform for Disaster Risk Reduction with the Hyogo Framework 2005-2015 (Hyogo Framework for Action / The HFA 2005-2015). framework recommends five priority actions to be taken by a country, namely: (1) Ensuring that disaster risk reduction (DRR) is placed as a national and local priority with a strong institutional basis in its implementation; (2)Identifying, evaluating, and monitoring disaster risks and increasing utilization of early warning; (3) Using knowledge, innovation, and education to build a culture of safety and resilience at all levels; (4) Reducing basic risk factors; and (5) Strengthening disaster preparedness with effective responses at all levels.

Strengthening the capacities at the community level is needed to reduce disaster risks at a local level, where the individuals and communities mobilize local resources to reduce vulnerability to hazards (Consortium for Disaster Education, 2011: 3). Now, Indonesia has been committed to the 2015-2030 DRR action framework in the Sendai Framework for Disaster Risk Reduction (SFDRR). This global commitment certainly needs to be reduced to commitment and policy at the local level so that the achievement of DRR in the community can be felt significantly. The valuable learning in HFA that needs to be a reference in implementing the SFDRR is stated below.

1. The key to the successful implementation of national policy is to

- support concrete actions at the community level.
- 2. The success of national policies in strengthening resilience at the community level depends on the policies tailored to the specific needs, capacities and vulnerabilities of the community, understanding the different risks at the community level, how risks are received and prioritized by different social and economic groups.
- The combination of a country approach with grassroots groups with the involvement of government and non-government actors offers the most cost-effective sustainable solutions (with an open, inclusive, local process, building local capacity and respecting local knowledge).

The world of education is one suitable forum for the implementation of the Hyogo Framework 2005-2015 points 1, 3, 4, 5 and the DRR action framework 2015-2030 in the Sendai Framework for Disaster Risk Reduction (SFDRR) point 1 which states the key to successful implementation of national policies is to support real action at the community level. This is very ironic because PAUD schools are the basis of a community of children who are vulnerable groups who need to be protected and at the same time need to improve their knowledge and skills, especially in disasterprone areas such as Aceh. The school is an institution that is highly trusted by the Indonesian people to 'entrust' their children. The Child Protection Act number



23 of 2002 mandates the importance of education and protection specifically for children. So, it is the duty of the government and the authorities, as well as competent and caring institutions to guarantee the fulfillment of these special education and protection needs.

Providing a model for early childhood teacher prep- shown as separate entities, many of the elements of the aration must begin with a clear vision of a goal. Our goal is to help to prepare teachers who will be able to meet the needs of future generations and help these children work toward meeting their fullest potential as lifelong learners, lifelong readers, and proficient users of technology. These new teachers will need skills to help children develop empathy, have good social skills, and develop into citizens who will care their communities and environment. Because communities are increasingly diverse, we need teachers who can successfully work in inclusive, multicultural environments who will meet the needs of all students in these environments.

If our future teachers are going to be able to live up to these expectations, we must have models of teacher preparation that help students secure the tools they need to accomplish these goals (Jacobs, 2001). Preparedness is need not only for facing the disaster but also to reduce the number of victims. There is one way to do such as identify what is the objects that will be dangerous when the disasters occur

especially in n earthquake (Sari and Khatimah, 2015). In the province of Aceh, a disaster preparedness school was formed and handled by the Tsunami and Disaster Mitigation Research Center (TDMRC) – Syiah Kuala University. It is a research and capacity building institution in Aceh and functions as LIPI-UNESCO ISDR partner. Information obtained from the TDMRC website (http:://tdmrc.unsyiah.ac.id/id/activities/divisipendidikan-training-danadvokasi/sekolah-siaga-bencana-ssb-dibanda-aceh) presented this plan.

The development of Disaster Alert Kindergarten Watching Teaching Model in the context of providing disaster

> "The Disaster Alert School Program (SSB) is an activity to build school capacity through strengthening knowledge and attitudes, school policies, emergency response plans, school early warning systems, and resource mobilization based on existing school capacity. The purpose of this activity is to provide understanding, participation and build the school commitment of the community to establish the Alert School Model, the elementary, junior high and middle school level."

From the information, it can be seen that the SSB program has not reached PAUD institutions. Thus, the research on the Development of Disaster Alert Kindergarten Watching Learning Model in the Context of Providing Education of Disaster Mitigation to Early Children in disaster prone areas of the city of Banda Aceh is very original and very important. It



is because there is still lack of information/methods/learning for disaster mitigation to early children.

The Development of the Kindergarten Watching Disaster Preparedness Learning Model began in 2014 as the initial foundation for the emergence of ideas and the search for initial formulations of the model. It is expected that the resulting model qualifies as a learning model. Some preliminary studies that have been carried out include: (1) Amelia (2014: 71-84) is the forerunner of ideas in finding suitable models for the provision of disaster knowledge to early childhood. however this research focuses more on learning which has more effect on children's intelligence abilities, but in this study it has been seen that learning with disaster risk reduction content can be done in early childhood education. (2) Amelia (2015: 151) tried to find a formulation of a simpler model for disaster mitigation knowledge in children with very limited scope integrated with the development of 2 early childhood intelligence (visual spatial and kinesthetic). The title of the research is the Use of the Kindergarten Watching Method for Earthquake Disaster Preparedness Stimulate Spatial Visual and Kinesthetic Intelligence in Early Childhood Kindergarten Abdurrauf Blang Oi Banda Aceh. And Amelia (2015: 26-38) conducted a two-trial study entitled the timulation of Spatial Visual Intelligence and Kinesthetic Intelligence in Early Childhood through Kindergarten Watching Method for Earthquake Disaster Preparedness in the Integrated Paud Permata Hati Banda Aceh. The aim is to find the basic formulation of the formation of kindergarten watching models for disaster Finally, education. an analysis of environmental needs for disaster mitigation for education early childhood conducted. Amelia (2017: 399-406) conducted a study on the analysis of the contribution of the role and competence in the teachers formation independent character for early childhood in kindergarten in the city of Banda Aceh. The purpose of this study is the basis for analyzing the needs, characteristics and analysis of the PAUD disaster curriculum on mitigation education. It is hoped that with this upcoming research and adequate costs it is expected that the resulting model will truly be a recognized learning model.

Based on several international journal/conference references on disaster mitigation in Indonesia, it is still difficult to find the provision of knowledge and skills to early children specifically. However, the urgency of providing disaster mitigation education has been carried out at the Aiko Sakurai National Symposium on Tsunami Disaster Mitigation 2015, Mizan Bustanul Fuady Bisri, Rina Suryani Oktari, Takashi Oda, (2016,) about the 11 Years Assessment on School Safety and Disaster Education at the Public Elementary Schools in Banda Aceh after the 2004 Aceh Tsunami: Preliminary Findings. His research scope is still for elementary school Banda Aceh. Suhardjo in Dradjat



(2011:174-188), in his research, concluded that disaster mitigation education in the framework of DRR (Disaster Risk Reduction) needs to be developed through scientific and technological researches related to DRR programs with an appropriate technology approach with the consideration to current local wisdom.

This research information emphasizes the scientific need to increase technological researches related to DRR programs with appropriate technology approaches by considering local wisdom elements. For this reason, it needs to be a research design that prioritizes provision of knowledge and skills for early childhood in disaster mitigation efforts because Aceh is a region that is classified as often experience earthquakes in recent years. In order to carry out preventive education and disaster risk reduction to children population, a model design is needed as a teaching material for early childhood education.

The development of disaster kindergarten watching models in the context of providing disaster mitigation education to early children is an adoption and development of the Town Watching Method. The Town Watching Method was introduced by Prof. Dr. Ogawa Yujiro in the 2010 Guidebook Town Watching for Disaster Prevention at Fuji Tokoha University. The town watching method is an effort to shape urban communities that respond to natural disasters including earthquakes. The adoption of this town watching method into a learning model of the kindergarten watching through earthquake simulation games in this study is predicted to be suitable for stimulating children's intelligence which will help children master knowledge and self-rescue skills during an earthquake.

The Town Watching Method has four core stages such as field survey, development map of observation, discussion of problem solving, presentation (Yujiro OGAWA: 2010). The Development of learning models for disaster alert kindergarten watching in the framework of providing disaster mitigation education for early childhood development from the Town Watching method and its implementation in the form of the 2013 curriculum scientific approach.

This study which will develop disaster alert learning models in the context of providing disaster mitigation education to early children is designed in the form of multimedia as a guide for PAUD teachers in integrating disaster risk mitigation education in curriculum and early childhood learning. Since the launch of the school disaster safeness program according to BNPB Head Regulation no. 4 of 2012, specifically in Aceh province, it has not reached the early childhood community. This can be seen from the information obtained from the TDMRC website

(http://tdmrc.unsyiah.ac.id/id/activities/divisi-pendidikan-training-dan-



advokasi/sekolah-siaga-bencana-ssb-di-banda-aceh).

This study will develop a special disaster preparedness learning model to early children that can later be integrated by early childhood educators in curriculum and early childhood learning especially in disaster-prone areas in Banda Aceh. In long term, the researchers hope that the output of this research can also be used for earthquake preparedness education for children in other earthquake-prone areas in Indonesia. The steps in this kindergarten watching are derived from four steps in the Town Watching Method (field survey, development map of observation, discussion to solve the problem, presentation) that are modified according to the ability of children in kindergarten. The modification resulted in eight phases of implementation from the four steps in the original method of Town Watching as follows.

Field survey is modified into macro survey (direct real environment) and micro survey (scene media for spatial visual intelligence of children) and also in the form of video. In this survey stage, children will be invited to survey the school environment in general (pre-phase) and surveys in the form of micro media to provide knowledge to children about the geographical conditions around children associated with video media (in Phase 1) and regional models (Phase 2).

- 2. The development of a map of observation in its implementation in kindergarten consists of compiling existing models and creating maps of the school environment and communicating the results of their work (Phases 3 and 4).
- Discussion to solve the problem in its implementation in the form of discussion on evacuation paths assisted by video media and models with maps produced by children (Phase 5).
- 4. Presentation in the implementation consists of presentation of evacuation routes, re-survey of evacuation routes and simulation games (Phase 6, Phase 7 and Phase 8).

### **METHOD**

The outline of the research approach using is the Thiagarajan Model in Mulyatiningsih (2011) consisting of 4 stages known as the 4-D model (Four-D model). These stages are the defining stage (Define), the design stage (Design), the development stage (Develop), and the Disseminate stage. The data in this study are in the form of tests of children's knowledge about earthquakes and observation of the positive skills that children bring up a series of activities carried out by children during the implementation of the learning model. The test location was conducted on TK Negeri Lamjabat . it located 1.7 kilometers from the Banda Aceh city of Ulhele. the number of children used as research samples is 111 children and 15 teachers.



ICEE-2 RESULTS

The following stages are Designing A Professional Model of Disaster Mitigation Education for Early Childhood:

## Define stage of Disaster Alert Kindergarten Watching Learning Model

The stage of define is the stage of where the researcher analyzes geographical conditions that characterize earthquake-prone areas, children's characteristics, children's needs for earthquake disaster knowledge and skills in terms of the demands of the latest curriculum in PAUD to find a concept of disaster mitigation learning models to early children which is in accordance with the characteristics of early childhood development. In this stage, there are four steps included.

## Reviewing of the Geographical Environmental Conditions of Children Associated with Earthquake Disasters and Relevant Intelligence Theories

To obtain the description of the geographical conditions of children associated with the concept of earthquake disaster, the researcher will conduct a location survey for two days and determine three schools as research sites with a distance of five kilometers (km) down from the edge of Ule Lhee Beach. From the survey, three schools are chosen as test sites; Sheikh Abdurrauf Kindergarten in Blang Oi Village (3.4 km from edge of Ule Lhee Beach), Tunas Bangsa

Kindergarten in Blang Village (1.1 km from edge of Ule Lhee Beach) and Lamjabat Public Kindergarten (1.7 km from the edge of Ule Lhee Beach).

If it is connected with the theory of intelligence, the implementation of this model is very beneficial for children. This linkage can be studied from the theory of multiple intelligence by Howard Gardner. Gardner (in Tadkiroatun in Lina, 2015:29) established nine intelligences which are linguistic intelligence (verbal intelligence), logic-mathematics (number intelligence), visual (image intelligence), spatial kinesthesia movement (body intelligence), musical intelligence, intrapersonal interpersonal intelligence, intelligence, nature intelligence, and existence intelligence. Deriving from the study of Howard's Multiple Intelligence Theory, this model is suitable to stimulate the nine intelligences, with a slight stimulation effect on musical intelligence. However, the other eight intelligences, it can be maximized as follows.

- a. Logic-mathematics intelligence stimulation can be stimulated when a child counts the number of houses in a model, calculates the number of houses according to colors, calculates the number of trees, looks for the same shape and compares the size of low height, small size in scene media and calculates objects inside and outside the school.
- b. Linguistic intelligence can be stimulated when children are asked to



tell the contents of animated films, content of models, how they feel after making simple models and after stimulation activities.

- c. Kinesthetic intelligence can be stimulated during earthquake simulation activities.
- d. Interpersonal intelligence can be trained when carrying out the method of making simple models and when playing simulations.
- e. Intrapersonal intelligence can be trained when children watch movies, do project assignments, and after simulating earthquakes.
- f. Spatial visual intelligence can be trained when the child rearranges the model, or when the child tries to recognize the position of the surrounding buildings and arranges the position of the simple model they make using the project method using styrofoam.
- g. Nature intelligence can be stimulated by asking questions about the nature around the child about the earthquake, what plants are around the child and plants that must be present in their simple model.
- h. Musical intelligence can be trained when they sing a song about earthquake alert.
- Spiritual intelligence can be stimulated when giving moral messages after watching videos and during earthquake disaster simulation.

### b. Analyzing the Participants to Develop a Learning Outline

To analyze the characteristics of children to develop the design of this learning device, the researcher team conducts an analysis of indicators from Permendikbud No. 137 of 2014 concerning the Standard of Content on the Achievement Level of Development of Children aged near 4-5 and 5-6 by comparing the demands of the indicators of both age groups. The age chosen is the age for which indicators can appear in the designed learning model.

# c. Identifying the Main Parts that Will Be Taught and Systematically Arranging the Topics that Will Be Taught

In determining the main parts to be taught, the team hold discussions with peer groups before being taken to the focus group discussion (FGD) forum. The material is based on the demands of the 2013 PAUD curriculum, namely teaching spiritual values, social emotional attitudes, providing knowledge and training in children's skills.

# d. Task Analyzing Tasks and Specifications of Learning Objectives

In this step, the children perform seven meetings. In Meeting I, the children are invited to survey their school environment using survey methods, question and answer. In Meeting II, the children are invited to watch animated films about earthquakes and tsunamis, then identify the film material that they remember. In Meeting III, the children are given the opportunity to simulate micro earthquakes using media scene in order to have



#### ICFF-2

concrete experiences about earthquakes. In Meeting IV, the children are asked to work in a small project in choosing images that are in accordance with the conditions of the school, cutting out the image, attaching the image to the ice sticks and sticking to the styrofoam media to form a model simple. In Meeting V, the children are asked to compare the completed models with the models they make to discuss the truth of the evacuation route planned before the macro earthquake simulation. In Meeting VI, the children are asked to compare their scene works with the actual school environment conditions. In Meeting VII, the children are invited to take part in earthquake simulation.

From the description above, it can be defined that the Disaster Alert Kindergarten Watching Learning Model is a disaster mitigation learning model designed for children aged 5-6 years in order to provide knowledge and skills to save themselves from earthquake hazards independently by training them to think right when a disaster strikes, feeling directed when there are no adults directing in an earthquake disaster situation, being introspective, acting appropriately, and fully responsible.

### 2. Design stage of Disaster Alert Kindergarten Learning

The design stages in this study consist of animated film design, scene media design, model manual design along with the learning tools needed in research such as Daily Learning Program Plan (RPPH). Stages to get the design of learning models for Disaster Alert Kindergarten Watching to early children are carried out in three min stages.

- Designing prototype learning devices consisting of preparation of test instruments for children, selection of media and creating of learning media to achieve the objectives of the model, selection of format of learning devices that are in accordance with the 2013 PAUD curriculum.
- 2. Organizing of activity implementation procedures. To make it easier for the researcher team to socialize the steps in implementing the model to PAUD teachers and easy to be re-learned by the teacher when they forget and the team is not near them, the team takes the initiative to write a guidebook for teachers in implementing the Disaster Alert Kindergarten Watching Learning Model.
- 3. Simulating the presentation of the material with the media and the learning steps that have been designed, this simulation activity is carried out to test the design of the model in the actual environment in a narrow scope to get the initial draft of the Disaster Alert Kindergarten Watching Learning Model.

# 3. develop stage of Disaster Alert Kindergarten Learning



The design of the trial stage consists of seven meetings that is planned to be held in maret 2019. The stages will be implemented as described below.

- a. Meeting I: the children are invited to survey their school environment using survey methods and question and answer. The aim is to provide knowledge to children about the surrounding environment in order to train multiple children's intelligence including linguistic intelligence, visual spatial, logic-mathematics, spiritual intelligence, interpersonal intelligence and child intrapersonal intelligence.
- b. Meeting II: the children are invited to watch an animated film about the earthquake and tsunami, then identify the film material that children remember. The purpose is to provide earthquake and tsunami disaster counseling for audio type children, visual and audio visual type children.
- c. Meeting III: the children are given the opportunity to simulate micro earthquakes using media scene in order to have concrete experiences about earthquakes. The aim is to provide the knowledge of the concept of earthquakes in children who have kinesthetic learning type.
- d. Meeting IV: the children are asked to work in a small project in choosing images that are in accordance with the conditions of the school, cutting out the image, and attaching the

- image to the ice stick and sticking it to the styrofoam media to form a simple model. The goal is that the children will have an overview of the disaster evacuation route in their school environment in a micro way and to be able to place earthquake disaster symbols according to their functions.
- e. Meeting V: the children are asked to compare the scene models with the models they make to discuss the truth of the planned evacuation route before the macro earthquake simulation. The goal is that the children will be able to apply their initial knowledge into micro applications as preparation for macro simulation.
- f. Meeting VI: the children are asked to compare their scene works with the actual school environment. The goal is that the concept that children get in micro conditions can be applied to children in real life children.
- g. Meeting VII: the children are invited to take part in the simulations of the earthquake disaster. The goal is that the children will have knowledge and skills in disaster mitigation by gaining hands-on experience through simulation methods.

The learning approach used is a scientific approach that directs children structured thinking and HOTS (High Order Thinking Skill). The scientific approach used invites children to always observe, ask questions, gather information, reason / associate and



communicate every learning activity undertaken. The learning objectives are directed towards structured thinking that is hots including the ability to think in) Think Feel directed, alert, right, Ве appropriately, and Responsible completely. The conditions for the trials in the Lamjabat public kindergarten went well even though this was the first activity in the school. Media introduced in the form of animated films, media mockups for earthquake micro tests seem to attract children's attention. And for the process of making mini mockups from styrofoam it ran smoothly. Children's understanding of the concept of earthquake and tsunami generally develops in accordance with expectations and some children develop very well. The teachers began to be able to carry out activities assisted with the provided guidebooks.

The results of observing the ability of children from 111 children can be described as follows:

NO	SPECT OBSERVED	ВВ		MB		BSH		BSB		THINKING ACRECT
		F	%	F	%	F	%	F	%	THINKING ASPECT
Α	SPRITUAL VALUE (KI1)									
1	earthquake is one form of God's	13	16	32	40	36	45	30	38	think it's true
В	EMOTIONAL SOCIAL (KI2)									
2	do a micro simulation	15	19	26	33	46	58	24	30	FEELING DIRECTED
3	follow the rules of playing	18	23	29	36	45	56	19	24	FEELING DIRECTED
4	work together to make imitation mockups	12	15	28	35	47	59	24	30	RIGHT ACT
5	would like to appear presentations of they work	14	18	27	34	46	58	24	30	THINK IT'S TRUE
6	running quietly during simulation	9	11	35	44	48	60	19	24	RIGHT ACT
7	noisiness when working on mini mockup projects	15	19	24	30	45	56	27	34	responsible responsibility
С	KNOWLEDGE AND SKILLS (KI3 dan KI4)									
8	knowing how to make mini mockups according to instructions	14	18	35	44	43	54	19	24	RIGHT ACT
9	able to tell the purpose of the model made by children	15	19	30	38	43	54	23	29	FEELING DIRECTED
10	ran according to the rules when macro simulation	12	15	28	35	50	63	21	26	BEHAVIORED
11	Get to know the symbols of self-rescue	10	13	32	40	47	59	22	28	BEHAVIORED
12	is able to tell the contents of the animated film watched	13	16	37	46	50	63	11	14	FEELING DIRECTED
13	protect the head when running	20	25	28	35	43	54	20	25	BEHAVIORED



14	run to an open field and stay away from dangerous places	11	14	32	40	50	63	18	23	RIGHT ACT
TOTAL		191	239	423	529	639	799	301	376	
RATA-RATA		14	17	30	38	46	57	22	17	

From the above data it can be seen that children who have not developed 17% (14 people), began to develop 38% (30 people) children developed as expected 57% (46 people) and developed very well 17% (22 people). This data proves that even though it is only the first time it has been implemented in school, children can do well above 50% of children, that is developing as expected and developing very well.

### **CONCLUSIONS**

The development of Disaster Kindergarten Watching Learning Model in the context of providing disaster mitigation education to early children is an adoption and development of the Town Watching Method. The Town Watching Method was introduced by Prof. Dr. Ogawa Yujiro in the 2010 Guidebook Town Watching for Disaster Prevention at Fuji Tokoha University. The stages of this study began from analyzing the needs characteristics of early children and the geographical environment of the targeted school, then analyzing the 2013 PAUD curriculum to determine the indicators that might appear in the learning model.

The results of the indicator analysis emerge that teaching material can be applied in disaster mitigation learning for children and can be a benchmark to determine the age of children that is suitable for providing disaster mitigation material that has been designed. After finding the definition of the model, a disaster mitigation learning media is designed. The media design in this study spends eight months; five months for designing the animated films and three months for creating the scene media.

To test the suitability and feasibility of media, the analysis of media feasibility is carried out through a FGD forum with 15 PAUD teachers in the city of Banda Aceh. The results of the FGD show that there is a need to add accessories to the model in the form of self-rescue symbols and there are residents in the location in the form of scene. To conclude, in terms of the design and media compatibility with the development of the early children's thinking and learning characteristics is considered appropriate.

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# ICEE-2 REFERENCES

Aiko Sakurai, Mizan Bustanul Fuady Bisri,
Rina Suryani Oktari, Takashi Oda,
2016, The 11th Years Assessment on
School Safety and Disaster
Education at the Public Elementary
Schools in Banda Aceh after the
2004 Aceh Tsunami: Preliminary
Findings . Simposium Nasional
Mitigasi Bencana Tsunami 2015,
Banda Aceh, 21-22 Desember
2015, Banda Aceh, TDMRC Unsyiah.
https://scholar.google.co.id

Amelia, Lina. 2014. Pengembangan Model
Pembelajaran Simulasi
Pengurangan Resiko Bencana
Gempa Bumi dan Tsunami (PRBGT) dalam Menstimulasi
Kecerdasan Multiple Intelegensi
Anak PAUD di kota Banda Aceh.
Jurnal Cemerlang. Vol. 1 No. 1 (7184)

2015. Metode Amelia, lina., et al Kindergarten Watching Siaga Bencana Gempa Bumi Terhadap Stimulasi Kecerdasan Visual Spasial Dan Kecerdasan Kinestetik Anak Usia Dini Di TK Syeikh Abdurrauf Blang Oi Banda Aceh. Prosiding conference Counseling Centre Lab. Pendidikan Profesi Konselor Unimed,Bekerjasama Dengan Ikatan Konselor Indonesia serta Saffone Counseling Training & Consultancy Malaysia. Medan: 21 Maret 2015. Hal 151-157

Amelia, Lina. 2015. Stimulasi Kecerdasan Visual Spasial Dan Kecerdasan Kinestetik Anak Usia Dini Melalui Metode Kindergarten Watching Siaga Bencana Gempa Bumi Di Paud Terpadu Permata Hati Banda Aceh. Jurnal Visipena.Vol. 6 No. 2. Hal 26-39. ( diakses di https://scholar.google.co.id/citations?user=q5hlx8YAAAAJ&hl=id)

Amelia, Lina., Helminsyah. (2017). Analisis Kontribusi Peran Dan Kompetensi Pembentukan Guru Dalam Karakter Mandiri Untuk Anak Usia Dini Di TK Di Kota Banda Aceh. Prosiding Konferensi Antar Bangsa Pendidikan, Konseling Dan Pekerja Sosial. Medan: 25-27 Agustus 2017. 399-406. Hal. ( diakses di http://mpsi.uma.ac.id/ipecswc201 <u>7/</u>)

BNPB. 2015. Kerangka Kerja Sendai untuk
Pengurangan Risiko Bencana 2015

- 2030. Retrieved from
http://perpustakaan.bappenas.go.
id/lontar/file?file=digital/167744[ Konten ]-Konten%20D1935.pdf

D. Suhardjo (2011). Arti Penting Pendidikan
Mitigasi Bencana Dalam
Mengurangi Resiko
Bencana. Jurnal Cakrawala
Pendidikan. 30 (2). Retrieved from
https://scholar.google.co.id

Davies. D. (1998). Crossing Boundaries:

How to Create Successful

Partnership with Families and



<u>e</u>

Communities. Early Childhood Education Journal. 25 (1). Retrieved from

https://link.springer.com/journal/10 643/25/1

Geralyn M. Jacobs (2001). Providing the Scaffold: A Model for Early Childhood/ Primary Teacher Preparation. Early Childhood Education Journal. 29 (2). Retrieved from https://link.springer.com/article/10. 1023%2FA%3A1012581113983?LI=tru

Jurusan Pendidikan Geografi (2011)

Universitas Muhammadiyah

Surakarta. Konsorsium Pendidikan

Bencana Indonesia. Kerangka Kerja Sekolah Siaga

TDMRC (2017). Devisi pendidikan, training dan advokasi. Retrieved from <a href="http://tdmrc.unsyiah.ac.id/id/activities/divisi-pendidikan-training-dan-advokasi/sekolah-siaga-bencana-ssb-di-banda-aceh">http://tdmrc.unsyiah.ac.id/id/activities/divisi-pendidikan-training-dan-advokasi/sekolah-siaga-bencana-ssb-di-banda-aceh</a>

Sari, S.A., Khatimah, K. (2015). The Application of School Watching Method to Increase the Earthquake Disaster Preparedness of Primary School Students, MIN Blang Mancung, Aceh. Journal of Education and Learning. Vol. 9(3) 241-245. Retrieved from pp. https://scholar.google.co.id