The Development of Play Therapy Model “Remang” for Children Survival of Sinabung Mountain Eruption

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Abstract: This study aims to develop a play therapy model in the form of instructional games with title “remang” for children in Karo Regency due to the eruption of Mount Sinabung. The approach in this study used a qualitative approach during preliminary study, design and model formulation. Quantitative approaches used when testing and validating the model. The model is developed using modifications of 4D model: Define, Design, Develop, and Disseminate. The implementation of this research is divided into three main stages which carried out for 2 years: (1) preliminary studies, empirical studies and policy studies; (2) model development; and (3) evaluation model through of pre-test and post-test. Based on the data analysis, the average value in the experimental class was 4.19 and there was a control class of 2.745. So, it can be concluded that the students’ motivation of the experimental class children is better than the control class. The results of hypothesis testing obtained \( t_{\text{(count)}} > t_{\text{(table)}} \) which is \( 20.64 > 1.462 \) at the real level \( \alpha = 0.05 \). Thus, the model “remang” dimly influences significantly on the motivation of children in Simacem Bekerah Elementary School No 047175 after the Sinabung eruption.

Keywords: Play therapy, instructional games, elementary school children

1. Introduction

Indonesia is a region with many active volcanoes. These active volcanoes, when it erupts will remove the materials in it such as lava, gas, ash, and some other uncertain materials. This is called an eruption. This eruption can also be interpreted as the process of escaping oil and steam from the inside of the earth.

The process of eruption occurs because of the activity of magma in the bowels of the earth trying to get out to the surface of the earth. The very strong gas pressure, constantly pushing the magma out. This then pushes the magma to move up gradually. This unleashes the pressure that comes from within the earth will be even greater. This pressure holds a very strong force that make the surrounding rock layers become brittle and cracked. Then from this crack magma will spread out to the surface of the earth. Magma that goes to the surface of the earth is called an eruption event.

Karo Regency is one of the regencies in the province of North Sumatra, Indonesia, which capital is Kabanjohe City. The district has an area of 2,127.25 km\textsuperscript{2} and the population of ± 382,622 inhabitants. This regency is located in the Karo highlands which is part of the row of Bukit Barisan in North Sumatera. There are two active volcanoes located in this region, namely Mount Sibayak and Mount Sinabung.

One of the volcanoes which is Mount Sinabung, since September 15, 2013 began to erupt. Until now, the eruption is still happening so many of the residents who live around the foot of Mount Sinabung have to stay in the evacuation. During the evacuation many problems occur in their lives, especially in children, such as the delay of education process, the condition of evacuation location that is less conducive to health and sanitation, even the psychological development of children are also disrupted. These conditions make it difficult for children to actualize themselves in accordance with the needs of their development.

Based on preliminary observation of refugees in Jambur Tongkoh, it was found that during the evacuation many parents lost their jobs, some of them have started looking for new activities to earn a living and some return to their fields for replanting. This situation makes the parents do not have much time to supervise the development of their children during the evacuation. Children should learn to socialize by themselves in evacuation without being accompanied by their parents. Post-disaster eruption, children's motivation to study tends to decrease. In addition, they also have to move to schools locations close to their refugee camps. Based on the results of interviews with some of the victims of eruption, they tend to be less comfortable when faced with new school situations, teachers, and new people every time they migrate. They also have to accept the fact that they lost their homes, lost their favorite things, even lost family members. The hot clouds and volcanic dust they once saw also traumatized them psychologically. This makes them feel reluctant to play outside and tend to feel anxiety when they see a cloud of smoke.

The Family Welfare Coordinating Board (K3S) together with the Indonesian Red Crescent (BSMI) has conducted a
child trauma refugee program at Istihرار Mosque, Karo. They guide children to activities that can be re-energizing, such as playing and singing or dancing competitions with local traditional music.

One of the most effective methods often used in child counseling is play therapy. The Association for Play Therapy (2008) has defined play therapy as “the systematic use of a theoretical model to establish an interpersonal process, where trained play therapists use the therapeutic powers of play to help clients prevent or resolve psychosocial difficulties and achieve optimal growth and development.” Play therapists watch for patterns and themes in children’s play in order to make responses that produce therapeutic movement and ultimately catharsis (Landreth, 2002). As John A. B. Allan (1997) has noted, the difference between play and therapy is the therapist’s ability to think analytically about everything that is going on in the session verbally, nonverbally, and symbolically in the child’s play and artwork.

Play therapists must be responsive to their clients’ culture, and as the field grows globally, the application of Western play therapy theories and practices in other cultures is another area of concern. Several play therapy trainers who provide instruction in a wide variety of countries have noted that the dynamics of issues—such as sexual abuse, family violence, and alcoholic parents—deal with in therapy there are very similar to those in the United States. Nevertheless, individuals who either provide training in other countries or cultures or return to their own after training abroad must consider cultural differences. While some cultural adjustments—like types of toys and materials—are easily accomplished, others are difficult to identify (Homeyer and Morrison 2008).

Several recent works have addressed cultural considerations in play therapy broadly (Gil and Drewes, 2005; Schaefer, McCormick, and Ohnogi, 2005); or have specifically illustrated the need for concern. In 2001, Shu-Chen Kao and Landreth described how helping children grow and develop within the belief system of their particular culture may mean changing how play therapists work with them. For example, “returning responsibility” is a common therapeutic response used by play therapists, as in, “You can choose,” or “That’s something you can decide.” This helps children develop, among other things, individualism. However, individualism is a Western value, and so Kao and Landreth suggested rephrasing these facilitative responses in ways that would help Chinese children learn to rely on self in relationship to others. Another example is the participation of extended family members in the therapy. Traditional Hispanic families may have in the family system many adults who experienced relational trauma are kept safe but can also maintain and develop mutually empowering relationships. Although there is strong anecdotal support for this approach, what is needed next is empirical evidence of its effectiveness.

Based on the formulation of the problem, the objectives in this study are as follows:

1) To know the empirical condition of children who are in evacuation camp post-eruption of Mount Sinabung;
2) To design the play therapy instructional games that will be developed to help children after the eruption of Mount Sinabung;
3) To implement play therapy instructional games that will be developed to help children of eruption of Mount Sinabung;
4) To know the effectiveness of play therapy instructional games that will be developed in helping children after the eruption of Mount Sinabung.

In general, this research is expected to generate findings that provide benefits to the continuing implementation of education of children victims of eruption of Mount Sinabung. The findings of this study are also expected to:

1) Assist teachers in the implementation of teaching and learning process, especially in developing the ability of emotional stability of learners;
2) To improve institutional and school policies related to the utilization of local culture to contribute optimally for better education improvement for the community;
3) Being a reference for researchers in developing technology as a tool of learning based on local culture;
4) As a reference for other researchers who will develop technology-based learning.

2. Literature Review

Play therapy is a therapeutic process that uses the game as a therapeutic medium for easy viewing of a child’s natural expressions that cannot be expressed in verbal language because the game is an entrance into the world of children (Hatningsih, 2013).

Cattanach (Thompson at al, 2004: 407) suggests some basic concepts of play therapy, namely: (1) play is a child's way of
understanding the world of children; (2). aspects of development in play are the way children discover and explore their identities; (3) the child may experiment with imaginative choices and avoid consequences such as when in the real world; (4) games in appropriate situations and conditions can be meaningful as physical activity as well as therapy.

Thompson at al, (2004: 407) mentions that the use of Play Therapy is done on the grounds that play is a medium that children use to actualize themselves. Further, Landreth (1991); Moustakas (1998); Scaefier (1993), mentions playing as a symbolic language of a natural child to express emotions and everyday experiences, even playing is the child's healing process (Thompson at al, 2004: 407).

Kottman (2001) summarizes three benefits of play therapy for children: (a) assisting the child's developmental process, with minimal verbal interaction (Albon, 1996); (b) the child gains a lot of freedom to choose, increases the fantasy and imagination of the child, provides the child with the means to express feelings, gain understanding and make changes (Bradley & Gould, 1993); (c) facilitate counselors to build relationships with children, as well as in training children's social skills (Kottman, 2001).

Play therapy is a counseling approach derived from several existing counseling theories. The counseling process is focused on re-living the experiences of childhood. These experiences are subsequently reconstructed and used as a foothold in solving client problems.

According to Klein, the game can be used to know the desires, fears and fantasy of the child. For him the game is a very effective tool for interpreting symbolic language conveyed by children through symbolic language in game sessions (Thompson at al, 2004: 98). The game affects therapy through various paths. According to Neubauer (Thompson at al, 2004: 99), games can affect mental activity, consciousness or unconsciousness, in which there are delusions and hopes. The game is also a physically observable activity. In short, the game is an exploration, a means to animate the will to try. Counselors play a role in terms of establishing and maintaining relationships with children, developing empathy and understanding.

It is believed intervention to adjust treatment programs is more valuable for children with behavioral problems, during the pre-school. Since cognitive development of preschool children occurs faster than their language development, a method which helps as much speak as them should be adopted for treating children. The play is one of the ways to help the child speaks. Children show their feelings through play, unfold their relationship, reveal dreams and reach self-actualization (Ansari, 2008). Play-therapy and the therapeutic interventions derived from the play are a new intellectual school (Drewes, 2006). According to Landreth (1991; cited by Mc Guire, 2000), play-therapy is derived from the attempts of psychoanalysts in the treatment of children. Play-therapy is a consulting procedure which attempts to communicate with the child and to solve his/her problem through the toys (Snow, Hudspeth, Gore & Seale, 2007). This kind of therapy allows the child to express his/her feelings and communicate with the problematic conditions through the play. In group play-therapy, children are able to learn some things about themselves, because they are allowed to communicate with the play, which is their natural language. They became aware of the importance of some problems; such as individualism and uniqueness, participation and fellowship, creativeness and genuineness. For many children, group play-therapy provides experiences similar to the structure of the family and acceptance by them (Sweeney & Homeyer, 1999).

Many studies have confirmed the effectiveness of playtherapy on the disturbed behaviours of children. One of these studies is a trans-analysis, which was performed by Bratton, Ray, Rhine & Jones in 2005. The result of this study showed that, children who had received play-therapy outperformed 80 percent better than children, who had not received these services. Play therapy also is widely used to treat children’s emotional and behavioural problems because of its responsiveness to their unique and varied developmental needs (O'connor & Braverman; 1997).

Another study showed that play therapy has had a positive impact on general behavioural problem's internalizing problems, externalizing behaviour problems, self-concept, self-efficacy depression, anxiety, and treatment compliance (Ray, Schottelkork, & Tsai, 2007). In the research, Shawfer used of 15 techniques based on cognitive behavioural play therapy. Some of these plays consist of take wood, watch ring, slow motors, and…. These plays led to decrease severity of hyperactivity and attention defect's symptoms in children with 4 to 12 years old (Shawfer, 2002). Other research also proved that play therapy effect on solving these children's problems during 7 month (Blinn, 2000).

Play therapy increase level of their functions and abilities when they faced with socially acceptable behaviours (Hanser, et al, 2000). Play therapy also causes to control their impulsivity (Pankespp, 2007). Plays address cognitive skills are effective for treating this disorder (Jeffrey & Dione, 2011).

Instructional games is an interactive multimedia model developed on the basis of enjoyable learning. Criswell in Darmawan, D (2013: 193) states "instructional games are the type of training simulation. Like simulation, they require the student to act in a problem situation ". Learning is designed as learners participate in the game presented through certain simulations required for students able to apply all their learning experiences in solving the problem in question. The overall learning procedure in this game model consists of the main menu, program instructions, game content, and evaluation.

Instructional games are designed with a challenging and fun game pattern. The entire game in principle has a basic component that is used as a reference to generate motivation by bringing up creative ideas to arrive at the end of the game. According to Rusman (2012), instructional games are divided into three components as follows:

1) Introduction
The goal is to establish the stages of the game and ensure students will understand what to do. If the opening is less
interesting, it will lose its learning objective, because students may only concentrate on solving nonessential problems from instructional games themselves. In the opening there are usually titles or titles, goals, rules, directions for use, and game options.

2) **Body of instructional games**

This section includes: scenarios, game levels, game players, game rules, challenges in goal achievement, curiosity, positive competition, meaningful relationship between players and learning, ability to fight, win or lose, choice of game, steps to take, turns, activity types, interactions in play.

3) **Closing**

In closing the game to watch out for is: to tell who the winner is by giving the best score, reward good things such as: money, food, or additional games for free, providing information especially with feedback for players in game enhancement in individual appearance, and last closing.

In developing instructional games, one of the first steps required is the creation of a flowchart. According Darmawan, D (2013: 63), “flowchart is designing the flow model thinking program content”. In any workflow design or information processing it should be based on a communicative flowchart visualization. The goal for the flow and path of the process of work something can be easily understood and passed and followed the user as a whole and meaningful. Further, Darmawan, D (2013: 194) adds that "flowcharts are important, the flowchart must be able to show the flow or course of learning”.

3. **Methods**

This study is a research development using model development of 4D Thiagarajan model. According to Sugiyono (2011: 407) research and development method is a research method used to produce a particular product, and test the effectiveness of the product. This research is oriented towards product development where the development process is described as thoroughly as possible and the final product is evaluated. The development process is related to the activities at each stage of development.

The research location used in this research is SD NegeriSimacemBekerah No 047175, Siosar Village Brand District Tanah Karo Regency, North Sumatra Province. The implementation of the study was conducted in February 2017 until November 2017.

Subjects in this study were students class I, II, and III SD NegeriSimacemBekerah No 047175, Siosar Village as many as 45 students. Research subject was determined by purposive sampling as one kind of nonprobability sampling technique.

The type of model development that will be applied is the 4-D model proposed by Thiagarajan, Semmel, and Semmel that are modified into four stages: first phase of definition, second stage of design, third stage of development, and fourth stage of dissemination.

4. **Results and Discussion**

**Data Analysis**

From the research conducted, data were obtained from the experimental class and the control class. The acquisition of the data is obtained by final observation. From the data obtained will be carried out several tests such as normality test, homogeneity test, and hypothesis testing. The following will present the results of the initial observation and final observations of both classes as well as normality, homogeneity and hypothesis.

Average indicators of the initial and final observation of the Control Class and Experiment class:

<table>
<thead>
<tr>
<th>No</th>
<th>Indikator</th>
<th>Control Class</th>
<th>Experiment Class</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>1</td>
<td>Deskriptor 1</td>
<td>13,37</td>
<td>14,68</td>
</tr>
<tr>
<td>2</td>
<td>Deskriptor 2</td>
<td>12,25</td>
<td>13,5</td>
</tr>
<tr>
<td>3</td>
<td>Deskriptor 3</td>
<td>12,68</td>
<td>13,43</td>
</tr>
<tr>
<td>4</td>
<td>Deskriptor 4</td>
<td>13,43</td>
<td>14,18</td>
</tr>
<tr>
<td>5</td>
<td>Deskriptor 5</td>
<td>12,37</td>
<td>12,81</td>
</tr>
</tbody>
</table>

The initial observation or pretest was carried out on the first week, ie without being given treatment to determine the child's motivation in each class both the experimental class and the control class. At the initial observation, it can be seen that the learning motivation of the experimental class and the control class is almost the same, where the average value of students in the experimental class is 2.64 and the average value of the control class is 2.57. In summary the results of the initial observations of the two groups are shown in the table.

**Table 2: Pre Observation Data**

<table>
<thead>
<tr>
<th>No</th>
<th>Statistics</th>
<th>Experiment Class</th>
<th>Control Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Number of students (n)</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>2</td>
<td>Total (∑Xi)</td>
<td>42,24</td>
<td>41,2</td>
</tr>
<tr>
<td>3</td>
<td>Mean (X)</td>
<td>2,64</td>
<td>2,57</td>
</tr>
<tr>
<td>4</td>
<td>Deviation Standard (SD)</td>
<td>0,146</td>
<td>0,141</td>
</tr>
<tr>
<td>5</td>
<td>Varians (S^2)</td>
<td>0,021</td>
<td>0,020</td>
</tr>
</tbody>
</table>

After knowing the level of motivation of children through initial observation, groups were formed for the experimental class and the control group. For the experimental class, class B is applied to a dim game, while in control class A uses conventional learning (learning as usual) or without playing media. At the end of the meeting, students were given a final observation (posttest), which was to find out the motivation to divide the children of the two classes after playing with dim games in the experimental class and conventional learning in the control class. Based on the posttest results, it can be seen that the motivation of children in the experimental class has increased while in the control class has not increased or tends to be static, where the average value of students in the experimental class is 4.19 and the average value of the control class is 2.745. In summary the results of the initial observations of the two groups are shown in the table.
Table 3: Post Observation Data

<table>
<thead>
<tr>
<th>No</th>
<th>Statistics</th>
<th>Experiment Class</th>
<th>Control Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Number of students (n)</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>2</td>
<td>Total ($\sum X_i$)</td>
<td>67.04</td>
<td>43.92</td>
</tr>
<tr>
<td>3</td>
<td>Mean ($\bar{X}$)</td>
<td>4.19</td>
<td>2.745</td>
</tr>
<tr>
<td>4</td>
<td>Deviation Standard (SD)</td>
<td>0.248</td>
<td>0.189</td>
</tr>
<tr>
<td>5</td>
<td>Varians ($S^2$)</td>
<td>0.053</td>
<td>0.03</td>
</tr>
</tbody>
</table>

From the results of the calculation of the initial and final observations above, there is a difference in the average initial and final observations of the experimental class and the control class. In summary, the average value of the two classes of students from initial to final observation can be seen in table 4.3.

Table 4: Summary of Observation

<table>
<thead>
<tr>
<th>Statistics</th>
<th>Experiment Class</th>
<th>Control Class</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre Obsrv</td>
<td>Post Obsrv</td>
</tr>
<tr>
<td>Total ($\sum X_i$)</td>
<td>42.24</td>
<td>67.04</td>
</tr>
<tr>
<td>Mean ($\bar{X}$)</td>
<td>2.64</td>
<td>4.19</td>
</tr>
</tbody>
</table>

Descriptively the child's motivation on the initial and final observations in the experimental class and the control class can be explained as follows:

a) The average initial observation of the experimental class (2.64) is higher than the average initial observation of the control class (2.57). Experimental Class > Control Class = 2.64 > 2.57.

b) The average experimental class final observation (4.19) is higher than the control class average (2.745). Experimental Class > Control Class = 4.19 > 2.745.

c) The difference between the average initial observation between the experimental class and the control class is 0.07 and the final difference between the experimental class and the control class is 1.445.

5. Discussion of Research Results

Based on the research conducted, it can be concluded that the game media has a significant influence on children's learning motivation. This can be seen from the data obtained by the researchers before and after learning with the playing media in the experimental class and the control class without using media.

In the process of obtaining the results of data analysis, before giving different treatments to the two sample classes, the researcher first made initial observations to see the early linguistic intelligence of the children in the two sample classes. In the initial observations in the experimental class and the control class, children's learning motivation is still quite good. After the treatment is given to the experimental class, the researcher re-evaluates (posttest) using the same instrument as the initial assessment instrument (pretest), namely the assessment sheet. Similar to the control class, researchers also conducted a reassessment using the same instrument with the assessment instrument in the experimental class without treatment.

At the initial observation, the achievement of the child's motivation score in the experimental class was 2.64 and in the control class 2.57 so the initial child motivation score in the experimental class and the control class was almost the same. Then the initial motivation score difference test was conducted and obtained $F_{count} < F_{table}$ or 1.05 < 2.43, it was concluded that the two samples had homogeneous variance.

After doing different treatments, namely the experimental class with and control class, the linguistic intelligence scores obtained in the experimental class 2.64 and in the control class 2.57. From the results of the final observations the two samples obtained a difference of 0.07. From the data obtained there are significant differences between the motivation of children in the experimental class and the control class. In the experimental class the child's motivation has increased in terms of encouragement to learn. While the control class did not experience an increase or tended to be static. This is because learning by using the reamang media is interesting and fun for children, so that the atmosphere and feelings of children are happy and enjoy learning, and children's linguistic intelligence also increases.

Based on the explanation above, then one of the media that can be used and influences children's motivation is through dim game media. Because with the media, children enjoy learning and listening, especially if the stories used are interesting. Through media adapted to the theme of learning and according to the needs and development of children, then when children learn a concept it is easier to be implanted through the media, so that children can listen to the story happily and understand the contents of the story directly.

Given that children have different development characteristics from each other, teachers need to have special skills and abilities in planning, implementing and evaluating ongoing learning activities by taking into account the development of each child, especially the development of children's learning motivation.

6. Conclusion

Based on the discussion of the results of the research that has been carried out, it can be concluded that the dim media game can influence the motivation of children's learning. Increasing children's motivation can be seen from the average value of the experimental class higher than the class. Increasing children's motivation can be seen in the final observation, where: the child has been able to speak well, repeating the contents of the story without the help of the teacher, is able to complete themselves with perfect sentences.

Learning using a medium for playing games gives a good influence on children's motivation rather than conventional learning. This is in accordance with the hypothesis test obtained by $t_{count} > t_{table}$, which is 20.64 > 1.462. So that it can be said that HO is rejected and Ha is accepted, then the use of dim game media influences children's learning motivation after the sinabung eruption.

Based on the findings, the researcher suggests the following recommendations:

a) For tutors and prospective teachers, they are expected to be able and skilled in designing active and innovative...
learning that can be done to improve children's learning motivation, especially after post-eruption.
b) For principals to give the opportunity for teachers to attend seminars related to improving the learning process in an effort to increase children's learning motivation after the disaster of Mount Sinabung eruption.
c) For further researchers, it can be an input in conducting further research on the development of instructional games instructional media.
d) For readers, they can add knowledge about the use of instructional games in learning.

References


