MAP OF THE IMPLEMENTATION OF THE DEVELOPMENT OF MULTIPLE INTELLIGENCES GAMES MODEL IN DISASTER AREAS

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ABSTRACT

Map of The implementation of the development of multiple intelligences in disaster areas. The early children in disaster areas need stimulation in order to optimize their intelligence. Multiple Intelligence Games Model (MIMG) is a development of game activity model by integrating multiple intelligences empirically and modifying the procedure of game activity based on multiple intelligences. The development of game activity, then, is implied in disaster areas. After that, the mapping activity will be done. The research is in done in action research design. The subjects of the research are 5 disaster areas in Central Java which is taken purposively. The result of the research shows that the development of game activity model mapping is important to do since there are various kinds of game activities in each area.

Keywords : Disaster Areas, MIGM, Map of Implementation.

INTRODUCTION

Naturally, each child is smart. Using their intelligence, each child can explore their world and solve their problem. These intelligences can be the source in learning process. Gardner, who feels the challenge to prove general opinion that acknowledge that intelligence can be seen objectively and can be seen not only in the form of IQ score, hold a research. The result of his research is that Gardner claims that there are many intelligences of human related to teaching and learning process. Finally, Gardner found that, naturally, human has eight basic intelligences that is different for each human.

Multiple intelligence arise paradigm in schooling system. In fact, schools and pre-school institutions still diverge or give identification to the student as smart and stupid one. It also can be found that the situation of the class is usually monotone and boring because the teacher only focus on one or two kinds of intelligences, so that, the teacher is difficult to gain the student's interest in learning.

In fact, in many pre-school institutions, the learning process is focus on reading, writing, and accounting. They seldom include game activities that involve multiple intelligences in the learning process (Madyawati, 2014). Game activity is still focused to make the students feel fun and is done partially. It only emphasizes to optimize students' multiple intelligences.

The diversity of Indonesian places such as geographical site, custom, culture, religion, and natural and human resources own by each place cause the need of various kinds of game models. Thus, it is a must to think about an alternative of game model development that relevant to the unique and the need of each area and touch the multiple intelligences as well.

Education for all people has been declared in Jomtien Thailand, but the year of its implementation needs to be reconsidered and be repaired, especially in minority areas, like disaster areas. Hopefully, there are cooperation between the government policy and the reality.

In Indonesia, especially in disaster areas, research about the development of multiple intelligence games model has not be found yet. Because of that, the development of game activity based on multiple intelligences is very useful.

Based on the fact above, the researchers succeed in doing a study on the development of multiple intelligence games model as the implementation of eco-friendly school (sekolah ramah anak) in disaster areas Central Java (2014, penelitian hibah dikti) and the researchers are able to: 1) identify the existence of the development of game models in disaster areas; 2) arrange the development of multiple intelligence games model as the effort to increase multiple intelligences in disaster areas in Central Java. The implementation of *MIGM* is based on the integration of multiple intelligences in game activities empirically. The implementation also in the form of doing modification of multiple intelligence games model procedures.

RESEARCH METHOD

In line with the purpose of the research, that is to implement *Multiple Intelligences Games Model* in disaster areas in order to increase children's intelligence, the research use action research method. The method is chosen because the researchers has finished a research in the first years and succeed in doing a study on the game activities model in disaster areas Central Java. Then, based on the result of the first study, researchers propose one strategy of multiple intelligence games models.

In the second year, the researchers have success in implementing the *multiple intelligence games model* in order to apply the strategy taken in the first year which is followed by revision that produce the latest model. Generally, the steps of research are divided into two steps and use the applying method and theoretical approach for each step described as follow:

First step

The purpose of the first step is to produce a strategy of the development of multiple intelligences games models. The main activities are done in two steps: 1) identifying the existence of game activities in the disaster areas; 2) proposing strategy to develop game activity models.

Second step

It is the next activity purposing to implement the development of multiple intelligence games model. the research in this step is also done in two steps. They are implementing the development of multiple intelligence games model in disaster area and verifying the development of the game activities of MIGM. Then, model socialization is done, which is followed by the implementation of model development using action method accompanied by the researchers in the next step. From the whole activities, it can be formulated the latest model of multiple intelligence games model for the disaster areas which include Cilacap, Banyumas, Kebumen, Klaten, and Wonosobo regency.

The data analyze technique begins by determining the variables of the on going relationship. The analysis of the relationship is done for each variable in this research. Control variable that influence are: age factor, gender, parenting style, and the vulnerable of disaster. It uses regressive method in advance analyzing. Correlative bivariat regressive analyze technique is used to measure the intensity of the relationship among the result study of population that has two variables. The researchers also use partial method to know the linier relationship between two variables by doing analysis on the one or more additional variables (control variables).

The researchers also do: 1) Management and staff analysis (human resources analysis) which include survey activity on the ability and capacity of the user of the model in implementing and continuing multiple intelligence games model; 2) Risk and aversion analysis to examine what should be avoided and solved in order to maximize the implementation of multiple intelligence games model.

RESULT AND DISCUSSION

The questionnaires distribution, which are in forms of eco-friendly questionnaire, multiple questionnaire, and traditional games and multiple intelligence games model, is done in formal pre-school institutions like kindergarten school and non formal one like play group or such kind of early aged education institutions. It is also done for the pre-school teachers in disaster areas that include Cilacap, banyumas, Kebumen, Klaten, and Wonosobo regency.

According to the result of the questionnaires, there are found some games in disaster areas such as Cilacap regency (Bedil-bedilan, Bekelan / Gatheng, Bentengan, Bongkar Pasang, Ciple Gunung, Congklak / Dakon, Genukan, Gobag Sodor, Gundu, Jago-jagoan, Petak Umpet, Titik Betik / Pathok Lele, and Yoyo); Banyumas regency (Balap Pelepah Pinang, Cis, Dut-dut Kiradut, Egrang, Gandon, Siguk, Sliring Genting / Slep Dur, Sripat / Lempar Batu di Air, serta Uluk Umbul / Bekel); Kebumen regency (Bermain Bola, Bekel, Dos-dosan, Dakon, Engklek, Egrang, Gobag Sodor, Istana Pasir, Layang-layang, Lompat Tali / Ubil, Panggalan / Gangsingan, Petak Umpet, Permainan Beteng, dan Ular Naga); Klaten regency (Balok, Bermain Air, Bermain Bola, Engklek, Bermai Pasir, Bermain Ci-luk-ba, Bermain Layang-layang, and Bermain Peran); Wonosobo regency (Bekel, Congklak, Gobag Sodor / Galah Asin, Jamuran, Kasti, Kelereng, Layang-layang and Petak Umpet).

Based on the result of the survey and focus group discussion, strengthen by bibliographical study on multiple intelligence theories; it can be proved that the game activities in 5 research locations don't focus on multiple intelligences yet. in other word, there is no game activity to sharpen multiple intelligences. For example, in the case of *bedil-bedilan (shoot imitating)* in Cilacap regency, it doesn't sharpen all aspects of multiple intelligences. It only sharpens five intelligences from nine intelligences. Another example, *balap pelepah pisang (stem of banana bunch running contest)* of Banyumas regency sharpen visual spatial ability, kinesthetic ability, interpersonal ability and natural ability (four from nine multiple intelligences). It indicates that there is no such game model in disaster areas of Central Java.

The result on the strategy of the development of multiple intelligence games model includes the development of the purpose of multiple intelligence games model. The researchers integrate 5 basic competencies in the pre-school curriculum and 9 indicators of

multiple intelligences. Based on this case, the researchers formulate a blue print about the development of multiple intelligence games model, which include:

a. Integrating multiple intelligences in game activities.

Game activities, in their implementation, include and combine the nine multiple intelligences that consists of logic mathematic intelligence, linguistic verbal intelligence, musical intelligence, visual spatial intelligence, kinesthetic intelligence, interpersonal intelligence, intrapersonal intelligence, natural intelligence, and spiritual intelligence.

b. Modifying game procedures based on multiple intelligences.

The modification of game procedures based on multiple intelligences is applied in each of activity unit, which is explains in: introduction activity, the core of activity, and closing activity. On each of game activity, it is not only playing the origin procedure of the game, but there are additional activities before, during and after the core of the activity.

The result of the initial development of multiple intelligence games model can be exemplified as below:

Table 1

Aspect Before and After The Development of Multiple Intelligence Games Model

NO	REGENCY	THE NAME OF GAME	MI ASPECT BEFORE THE DEVELOPMENT	MI ASPECT AFTER THE DEVELOPMENT
1	Cilacap	Bedil-bedilan (*shoot imitating)*	Logic Mathematic	Verbal Linguistic
			Musical	Kinesthetic
			Visual Spatial	Intrapersonal
			Interpersonal	Spiritual
			Natural	
2	Banyumas	Bekelan (*playing rubber marbles)*	Verbal Linguistic	Musical
			Soft Motoric	Interpersonal
			Kognitive	Spiritual
			Sosial Emotional	Visual Spatial
3	Kebumen	Bermain Bola *(playing football)*	Rough motoric	Verbal Linguistic
			Intrapersonal	Visual Spatial

			Sosial Emotional	Musical
			Kognitive	Interpersonal
				Spiritual
4	Klaten	Bermain Balok (*playing beam)*	Kognitive	Verbal Linguistic
			Soft motoric	Visual Spatial
			Sosial Emotional	Kinesthetic
				Musical
				Intrapersonal
				Spiritual
5	Wonosobo	Congklak (*playing on patterned field)*	Soft motoric	Visual Spatial
			Kognitive	Musical
			Intrapersonal	Spiritual
			Interpersonal	Natural
			Verbal Linguistic	

Meanwhile, the supporting factor of the success of the development of multiple intelligences games model, based on questionnaires and focus group discussion from the five disaster areas: Cilacap, Banyumas, Kebumen, Klaten, and Wonosobo regency, are:

a. The unity in policy taking in the area
b. The awareness and cooperation of related institution that care of children's education
c. Local wisdom
d. The phase or the age of playing for the children.
e. The tools and materials of games have principals: fun, safe, useful, and cozy.
f. The materials of the games easy to get because it is available in nature.

Using the multiple intelligences games model, which has developed characteristic, game activity program has been proposed according to the procedures of game development in early aged curriculum (*National Association for Early Childhood and Young Children).*

The model of game activities have been developed in accordance with phase, job, and characteristic of the early aged children's development. It can optimize 9 multiple intelligences, by using the children centering approach, which is marked by the interaction of teacher-students and among the students. Finally, it forms game activity that can increase

intelligence since multiple intelligence games model include the student actively and totality. It is also because it focuses on process rather than the result and it has been done factually.

The strategy and procedures resulted from the multiple intelligence games model in disaster area are in line with the foundation and approach in the development of multiple intelligence games model in early aged children, such as based on child development theory, children centering approach, constructivism approach, and curricular approach based on game activity (Piaget, in Forman: 2012).

Based on the research result, it is found the five disaster areas in Central Java have no game activity that develop and apply multiple intelligence games model. Actually, the practitioners in disaster areas, who said that they have applied such kind of model, have opinion that the main purpose of game activity is only for fun. Whereas, according to the theory, multiple intelligences, practically, should integrate among the various kinds of intelligences. It means that, playing bekel (rubber marble) is not only to develop soft motoric intelligence, but also to develop other intelligences.

From the development of multiple intelligence games model, it can give a chance to all children to actualize many kind of intelligence potential as the source of learning. The multiple intelligence games model should be practiced in disaster areas, so that the children can learn while they play game wherever and whenever. Thus, in any situation and condition, the children still be able to play games, observe directly and face by themselves on the surrounding phenomenon (learning by experiencing). The children can understand that the given situation can be found in their real life, so they have deep impression and can apply in their daily life, especially to help themselves (self help). It is in line with the concept of learning for early aged children that has auto activity in forms of individualization of learning experiences which is applied in learning by doing, learning by stimulation, and learning by modeling (Montessori & Smilansky: 2005).

This kind of development of multiple intelligence games model can integrate all, in concrete, all of the fields; physic, cognitive, linguistic, art, and attitude with the multiple intelligences dimension; verbal linguistic, visual spatial, kinesthetic, logic mathematic, musical, intrapersonal, interpersonal, natural, and spiritual intelligences.

The researches make a development of multiple intelligence games model in form of the combination of multiple intelligence games and children’s characteristics using traditional

games. According to Jefree, Mc Conkey & Hewson's game can deliver the children to master new skill that come from the children themselves. The pre-school teacher in disaster areas, in doing the activities with the children, should be creative in creating fun and vary learning situation in order to increase children's intelligence in minority areas.

According to Woolfolk (2013), family is the place to support the children to have high achievement. When the parents give strengthening and freedom to solve the children's problem by themselves, they can develop their necessity. The development of game activities is focus on the daily traditional games that able to make the student think about their reality. It is also in line with Semiawan (2011) who said that game activities taken from daily life create interest and motivation in learning process. It eases the children to absorb and exercise them to think divergently. As stated by Crowl, Kominsky, and Podell (2013), thinking divergently is a patterned thinking which is dominated by right brain or lateral thinking. It is supported by the research result by Ruston (2013) who said that unscarred learning environmental is very important, so that, the children are comfortable to absorb, explore, and stimulate new ideas.

In this development of multiple intelligence games model, the researchers also focus on the tradition game played in group. Mead (2012) said that in case of cooperation, children can create positive feeling about them and can explain it to the others. It is a kind of high social ability. Based on many researches, this research is appropriate with the related theories. By playing multiple intelligence games model, children can increase *Zone of Proximal Development* (ZFD) (Naughton, 2014).

CONCLUSIONS

Models of game activities in disaster areas need to be developed in order to increase the children's intelligence in minority areas. The development should consider the characteristics and tradition of early aged children. The model development is done by using the strategy of development of the purpose of the multiple intelligence games model. It should be considered about supporting factors and barrier factors in developing the multiple intelligence games model.

The researchers recommend that the education practitioners in disaster areas in Central Java implement the multiple intelligence games model which is integrated in game activities.

Since the strategy and procedures of the development model of game activities have been formulated, the pre-school teachers can practice it directly. In its implementation, the teachers should consider not only on the children's intelligence, but also on the hidden potential that may be developed.

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