

DESIGN OF MULTIPLE INTELLIGENCES BASED LEARNING ENVIRONMENT IN EARLY CHILDHOOD AS A LEARNING MODEL OF THE MILLENNIUM CENTURY

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Abstract—The study uses development research and quasi-experimental methods to test multiple intelligence instruments as supporting learning design models. The study was conducted on 29 kindergarten students in Bandung, West Java, Indonesia. With the Wilcoxon Signed Ranks Test, a score of 4,508 with a sig value is obtained 0,000 <0,05 shows that there is a significant difference between before and after being given experimental treatment. The conclusion of the research results shows that the design of multiple intelligence-based learning models effectively increases the potential of early childhood. The guide to multiple intelligences learning programs can be used as an alternative to the implementation of millennium century learning.

Keywords: *Early childhood, Multiple Intelligences, Learning Models*

I. INTRODUCTION

The assumption of some potential intelligence in children is based on the paradigm that every child has the potential for genius. Children have admiration, curiosity, spontaneity, flexibility, and others. Small children will directly master the complicated symbol system, brilliant brain, sensitive personality and acceleration of each stimulation. Obligations of parents at home and teachers in schools to maintain every multiple intelligence early on. The natural genius of a child should be nurtured, and optimally grown by adults by providing a conducive learning environment for the improvement of multiple children's intelligence. The learning environment is a means of playing where children devote themselves to activities, creating, including doing various manipulations of many things so that children get a number of new behaviors from their activities. indoor learning environment starts from recognizing the existence of a room that will be used as a place of learning for children. The things that concern at least include the size of the room, the direction of the room, the state of the floor, the state of the wall, the roof conditions and others needed in the management of the learning environment. Activities in the outdoor playground are an integral part of children's learning programs. The environment of outdoor learning is useful and can effectively foster the development of plural children's intelligence, so the learning environment outdoor playground must be a part that needs to be arranged nicely and seriously. The importance of providing a conducive learning environment for early childhood can stimulate and develop a variety of children's potential, especially the potential of multiple intelligences that each

child has so that the multiple learning environments can increase the intelligence potential of every child.

II. LITERATURE REVIEW

Indoor Learning Environment for Early Childhood

Getting the ideal classroom, we need to pay attention to the classroom settings. Indoor playroom for children is usually in the form of a spacious rectangular room but has several dividers that separate one area from another. In every corner of the room is also usually provided a place to store materials that can be used for activities, (Mariyana, 2009).

The indoor environment is very important for children. This must be familiar and entertaining, reducing the transition from home care to the early years. This may involve complementing the physical environment with soft furniture, small rooms, and quiet spaces. The best arrangement facilitates the transition by serving all children, (Pat, 2012).

Outdoor Play Ground Learning Environment for Early Childhood

Outdoor activities are an integral part of early childhood education programs. For Froebel, the children's playground is natural. Children maintain gardens, build dams of water, keep animals, and play games. In general, they do it outdoors or in outdoor space. In addition to children like free air and large areas, activities in the area also provide more facilities that can be used by children to help their development, (Mariyana, 2009).

The importance of outdoor activities in optimizing child development

Through outdoor or outdoor activities all parts of child development can be improved. This happens because outdoor activities involve multiple aspects of child development. Outdoor activities play a role in sensory integration and various potentials that children have. This includes physical development, social skills and cultural knowledge, and emotional and intellectual development.

The concept of Multiple Intelligences

The originator of the theory of multiple intelligences is Howard Gardner from Havard University, United States. Howard Gardner is a humanistic psychologist with a professor of education at the Graduate School of Education. In 1983 he wrote a book called Frames of

Mind: The Theory of Multiple Intelligences. His theory of MI was published in 1993. Gardner defines intelligence as the ability to solve problems and produce products in a variety of settings and in real situations. (Suparno, 2004, p. 17).

There are several kinds of intelligence expressed by Gardner (Gardner, 2003), namely:

1. Verbal Intelligence (Linguistic Intelligence),
2. Mathematical-logical intelligence (Logical-Mathematical Intelligence)
3. Visual-spatial intelligence (Visual-Spatial Intelligence)
4. Bodily-Kinesthetic Intelligence
5. Musical Intelligence (Musical Intelligence)
6. Interpersonal Intelligence (Interpersonal Intelligence)
7. Intrapersonal Intelligence (Intrapersonal intelligence)
8. Natural Intelligence (Naturalist Intelligence)

III. METHODOLOGY

The method used in this study is the Research and Development method of Bord and Gall (1983) because it aims to develop a design and model of indoor and outdoor playground learning environments that can maximize the potential for plural intelligence in early childhood. Model development activities used a qualitative approach with steps: (1) formulating a plan for developing the design of indoor and outdoor environments that are able to increase the potential of multiple intelligence in early childhood; (2) Developing the initial design of an indoor outdoor environment that is able to increase the potential of multiple intelligence intelligentsia which includes the form, model, setting, and evaluation of the design of the indoor outdoor environment that has been developed. For the testing of the design of the indoor-outdoor learning environment, the effectiveness test was carried out using a quasi-experimental method with the pretest-posttest nonequivalent control group design. For the trial of multiple intelligence instruments, the research was conducted on 29 Bachrul Ulum kindergarten students in Bandung, West Java, Indonesia. The instrument used was observation of the development of multiple intelligences for early childhood constructed by researchers. List of multiple intelligence checklist filled by the teacher as an observer. For more details, the implementation of the research is described as follows.

O₁ X₁ O₂
O₃ X₂ O₄

Description:
O₁: Pretest 1
X₁: Treat 1
O₂: Posttest
O₃: Pretest
X₂: Treat 2
O₄: Posttest2

IV. DISCUSSION

For the trial of multiple intelligence instruments conducted on 29 students of Bachrul Ulum Kindergarten in Bandung, West Java, Indonesia. The research results are as follows.

Assumption Test Results

This study aims to determine the differences in multiple intelligence before treatment with after treatment of kindergarten children. Before starting the average difference test before and after treatment of multiple intelligence-based learning, the important thing to note is to test for normality and test homogeneity first as a prerequisite. Normality test and homogeneity test need to be done to determine the statistics that will be used in the difference test.

Normality Test

The normality test is conducted to find out whether the distribution of data obtained follows or approaches the standard normal distribution law of Gauss (Nisfiannoor, 2009: 91). If the data distribution is normal, then the analysis technique used is the Independent-Sample T-Test. The normality test in this study uses the Kolmogorov- Smirnov Test, and the result is: Test distribution is Normal, Calculated from data, Lilliefors Significance Correction, This is a lower bound of the true significance.

One-Sample Kolmogorov-Smirnov Test

	Posttest	Pretest
N	29	29
Normal Mean	279,1034	197,8276
Parameters ^{a,b} Std. Deviation	18,15871	64,68830
Most Absolute	,113	,183
Extreme Positive	,062	,183
Differences Negative	-,113	-,118
Test Statistic	,113	,183
Asymp. Sig. (2-tailed)	,200 ^{c,d}	,014 ^c

Explanation of Normality Test with 1-Samples Kolmogorov Smirnov:

From the calculation, the value of Sig = 0,200 > 0,05 is obtained, so Ho is accepted. This means that there is no difference between the distribution of posttest result data and normal distribution. In other words, the distribution of posttest result data is normally distributed.

From the calculation, the value of Sig = 0.014 < 0.05, Ho is rejected. This means that there is a difference between the distribution of pretest data and normal distribution. In other words, the distribution of data from the pretest is not normally distributed.

Homogeneity Test

Homogeneity test is done to find out whether the variance between the groups tested is different or not, the variance is homogeneous or heterogeneous.

The probability for Levene test Sig. = 0,000 < 0,05 so Ho is rejected. This means that there is a difference in variance between the pre-test and the post-test. This shows that the data is not homogeneous. Because the data obtained is not normally distributed and not

homogeneous, the calculation uses non-parametric statistics for different tests with paired samples. Different test using Wilcoxon.

Difference Test Results

Test of differences in this study using Wilcoxon non-parametric statistical techniques.

Pretest posttest of all components

NPar Tests

Wilcoxon Signed Ranks Test

Pretest < Posttest

Pretest > Posttest

Pretest = Posttest

Test Results with the Wilcoxon Sign Test

Based on the Sig. 0,000 < 0,05, meaning that H_0 is rejected. This means that there are significant differences between before being treated using a multiple intelligence approaches with after being treated with multiple intelligence approaches.

Musfiroh (2008, 38), explained that the essence of multiple intelligences theory according to Gardner is to appreciate the uniqueness of each individual, the variety of ways of learning, realizing a number of models to assess them, and almost unlimited ways to actualize themselves in this world. Indeed multiple intelligences present in each individual, but each individual will have one or more multiple intelligences that have the highest level of multiple intelligences. However, in the practice of learning in school, it is appropriate for a teacher to have data about the level of the tendency of multiple intelligences of each student.

The findings of Yalda Delgoshaei, Neda Delavari (2012) who applied the Multiple Intelligence approaches in the classroom as an educational method resulted in an increase in the five domains of pre-school cognitive development with 99% significance.

There are many advantages to using Multiple Intelligences in the mentoring process of learning: the mentoring process becomes more personal, the initial teacher becomes more aware of their intellectual competence; they also become better observers of their students and are thus able to personalize the teaching and learning process. (Roxana, Sorina Constantinescu, 2013).

The relationship between intelligence and the teaching and learning process must be a fundamental element in producing ways to optimize a child's higher academic potential, student success and lifelong learning (Özdemir, Güneysu & Tekkaya, 2006).

students/students or students were those who were served and given an atmosphere that enabled them to grow and develop. They are not printed or forced into something that does not match their unique abilities and interests. In other words, educators function as midwives who help the birth process of a baby. He patiently helped the process go, and wisely and alertly. The pride is if the results of the process grow and develop well and optimally.

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V. CONCLUSION

The general conclusion is that there are many ways to produce a conducive learning environment where plural intelligence is the basic concept in the process of early childhood education. Throughout doing this, a philosophy that became the foundation was that