THE STUDY OF EDUCATIONAL TOYS (APE) BASED MULTIPLE INTELLIGENCES AT TK-KB PEDAGOGIA FIP UNY

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ABSTRACT

The study, titled The Study of Educational Toys (APE) Based Multiple Intelligences in TK-KB Pedagogia FIP UNY aims to determine the educational toys (in Indonesia it's called APE) based multiple intelligences in TK-KB Pedagogia FIP UNY. APE based *multiple intelligences* are APE which in their utilization can develop as a whole child, developing more than one intelligence in children. This research is a descriptive qualitative data collection technique through observation, content analysis, and documentation. This study does not use humans as research subjects. Who is the subject of research is APEs utilized or used in TK-KB Pedagogia. The APEs display in classrooms consisting of TK A1, TK A2, kindergarten TK B1, TK B2, and Play Group (KB). The results of this study indicate that APEs in TK-KB Pedagogia can be said as the APE-based multiple intelligences. Based on the forms and methods of using (the utilization), any existing APEs in each space can develop more than one intelligences in children, at least 2 intelligences. Thus, each of the APE has been based multiple intelligences.

Kata kunci: APE, *multiple intelligences,* TK-KB Pedagogia

INTRODUCTION

Early childhood education (ECE) is in the spotlight, both by governments and society. It's seem from the proliferation of early childhood in most parts of Indonesia, including Java, without exception of the Daerah Istimewa Yogyakarta (DIY). ECE is a concern because the government and the public are increasingly aware that education must start early. At that age for thousands of nerves being connected to each other, so that the necessary stimulation of the right and proper. When not stimulated properly, the development aspects and intelligences of children becomes less than the maximum.

Although ECE unnoticed, but it does not mean the learning process too unnoticed to the fullest. According to a survey of researchers in kindergartens and play groups in DIY, underutilization of APE in learning is done by teachers, which aims to develop children's multiple intelligences, which develop not only one, but some intelligence in the play activities. Instructional media used only in the form of Children Worksheet (LKA). In fact, APE has used at least three terms, namely the educational requirements, technical

requirements, and aesthetics requirements (Badru Zaman, 2010). Educational requirement is a requirement that is related to academic (children's multiple intelligences development). Technical requirements are requirements relating to technical matters at the time of use. And the aesthetic requirements is a condition related to the attractiveness of the APE, in terms of both form and color.

TK-KB Pedagogia which is a laboratory at Prodi PG-PAUD FIP UNY is expected to become a benchmark for other early childhood institutions in DIY. Since its establishment until today, the teachers who teach in TK-KB Pedagogia have been using APE during the learning process. However, it is not known whether such an APE-based multiple intelligences or not (able to develop children's multiple intelligences or not), and have had the three requirements above or not. So, this study carries the title "The Study of Educational Toys (APE) Based Multiple Intelligences at TK-KB Pedagogia FIP UNY.

THE GLANCE OF INSTRUCTIONAL MEDIA

In essence, teaching and learning activity is a process of communication (message delivery). The communication process must be created or realized through the delivery of activities to exchange any messages or information by teachers and learners. According to Ahmad Rohani (1997: 1) the intended message or information may include knowledge, skills, ideas, experience, and so on. Meanwhile, according to Mudhoffir (1986: 1-2) there is an additional on the matter, namely that the message or information conveyed in the form of ideas, facts, meanings and data. Messages or information that is included in one of the learning resources that can help to solve learning problems. Thus, it can be said that the delivery of messages or communication processes implemented properly can help solve learning problems.

Teachers who expect the process and learning outcomes to be effective, efficient, and quality, should take into account the existence of instructional media has a very important role. Instructional media is an integral-part (integral part) of the instructional communication process (learning) and relies on educational goals. In order to use instructional media can be utilized to achieve the objectives, it is necessary to know the sense of instructional media.

The definition of instructional media is "the means of communication used in the teaching-learning process to achieve instructional objectives effectively and efficiently through hardware or software" (Ahmad Rohani, 1997: 4). Meanwhile, according to Nana Sudjana and Ahmad Rivai (1991: 1), an instructional media teaching aids are included in the message delivery component methodology to achieve instructional goals. By looking at both

the sense it can be said that the instructional media is media that is used in the instructional process (learning), to facilitate the achievement of the objectives of more effective instructional and educational properties. Until according Nana Sudjana and Ahmad Rivai, instructional media classification includes graphic media, media, photography, projection media, audio media and three-dimensional media (1991: 27-207).

MULTIPLE INTELLIGENCES

Multiple intelligences proposed by Howard Gardner who was born in Scranton, Pennsylvania in 1943. Initially, Gardner in Mark K. Smith (2008) formulated the multiple intelligences into seven (7) kinds of intelligence, namely linguistic intelligence, logical-mathematical intelligence, musical intelligence, bodily kinesthetic intelligence, spatial intelligence, interpersonal intelligence, and intrapersonal intelligence.

Mark K. Smith added that since the first time Gardner issued its opinion in book Frames of Mind, The Theory of Multiple Intelligences (1983), Gardner has always held a discussion with his companions to spawn an additional opinion on multiple intelligences. Through research and deep reflection, Gardner added three kinds of intelligence, the naturalistic intelligence, spiritual intelligence, and existential intelligence. Thus, the total number of multiple intelligences is ten (10) different kinds of intelligence. However, to be discussed in this study only 7 (seven) intelligence, namely linguistic, logical-mathematical intelligence, musical intelligence, bodily kinesthetic intelligence, spatial intelligence, interpersonal intelligence, and intrapersonal intelligence.

THE EDUCATIONAL TOYS BASED MULTIPLE INTELLIGENCES

Educational toys (APE) is a tool which is different with other toys, and of course it has the educational value. According to the team TBIF (2009), at least there are some things that the requirements of a plaything said APE, namely:

1) Intended for infants and children; the toys that are made available to stimulate development in infants.

2) Versatility; the point is of the APE can be obtained variations obtained stimulation toys so your child is more diverse.

3) Training of problem solving; for the example, in the puzzle game, children are asked to arrange the pieces into a coherent whole.

4) Train the basic concepts; through APE, children are trained to develop such ability to recognize shapes, colors, scale, and so on.

5) Train thoroughness and diligence; with APE, children do not just enjoy but are also required to carefully and diligently when to do it.

6) Stimulate creativity; This game invites children to always be creative through a wide variety of toys that are made by them. When the children are accustomed from childhood to produce work, the passing game design, for example, one day he will be innovating to create a masterpiece, not just tagging alone.

Another opinion, Soetjiningsih (1995) says that APE is a tool that can optimize the child's development, tailored to the age and developmental level, as well as useful for the physical-motor development (gross motor and fine motor skills), language, cognitive, and social. Opinions are not much different is the sense of the APE according Mayke Tedjasaputra S. (2005). According to him, APE is a game tool designed specifically for educational purposes, and has several characteristics, including:

1) Can be used in a variety of ways, that can be played with a variety of objectives, benefits and into a variety of shapes

2) Intended for children pre-school age and working to develop the various aspects of a child's intellectual development and motor

3) The security is considered good Aspects of form and the use of paint

4) Make the child is actively involved

5) Its constructive

Looking at the opinions of the above, it can be said that APE is a tool designed to optimize the development and intelligence of preschool children (early childhood) as well as educational value. APE does not have to be expensive, but can be made from materials around us or used items unused. APE should be utilized to develop not just one aspect of the development of children's intelligence or (in this case the intelligence plural / multiple intelligences). This is also in accordance with one of the principles of learning that is integrated learning AUD or thematic.

Preparation of APE is an activity that requires adequate provision abilities. Provisions intended capability is the knowledge and skills of how to do so in accordance with certain requirements that APE is made fully effective in developing aspects of the development and intelligence of children (Badru Zaman, 2010). In this case, the effort of teachers is the main thing.

According Anggani Sudono (2000), teachers' activities that must be considered before making and utilizing APE is as follows:

1) Plan, prepare, implement, and evaluate the activities and timing.

2) Adjust the placement of all equipment and furniture that will be used in accordance with the needs and security.

3) All the activities prepared by the teacher should have different difficulty levels.

4) Monitor each activity (boring or fun).

5) Train the child's independence.

Another attempt to do by teacher is the knowing of the requirements in APE's making, among others (Badru Zaman, 2010): educational requirements, technical requirements, and aesthetic requirements. Educational requirement means that APE's making must be adapted to the prevailing educational programs so that manufacturing will greatly help achieve the goals which is contained in structured educational program. Technical requirements that must be considered in making the APE related to technical matters such as the selection of materials, quality of materials, color selection, strength of materials in certain temperatures, and so forth. Aesthetic requirements are regarding aesthetics APE made. The element of beauty/ aesthetics is very important to note because it will motivate and attract the attention of children to use it.

Soetjiningsih (1995) and others argue that the requirement stated in making the APE is as follows:

1) Safe and design should be clear

2) The size and weight of the APE should be appropriate to the age of the child

3) APE should have a function to develop various aspects of child development and intelligence

4) Must be able to play with different variations, but not too hard so as to make the child frustrated, or too easy to make the kids get bored quickly

5) Although simple should remain attractive color and shape, and when the voice, the sound should be clear

6) APE should be readily accepted by all cultures because of its very common

7) APE should not be damaged

After knowing what is meant by APE and reviewing a little about multiple intelligences, it is called APE based multiple intelligences that can help stimulate multiple intelligences in children. That is, in a kind of APE can develop more than one of intelligence. To that end, it should be known characteristics of children for each the intelligences.

RESEARCH METHODS

According to FX. Sudarsono (1988), the research approach can be divided into two, namely the approach of quantitative and qualitative approaches. Qualitative research is research conducted in natural conditions and further emphasize the significance of the generalization (Sugiono, 2006). And according to Ariel Furchan, qualitative methods are research procedures which produce descriptive data (1992). While Burhan Bungin (2001) adds that qualitative research approach was divided into a descriptive study and research is an explanatory. Based on these opinions, this research is descriptive qualitative research, because it illustrates and describes the APE based multiple intelligences utilized in the TK-KB Pedagogia.

Qualitative descriptive approach was chosen because in this study the data in the form of information and particulars of the results of observations during the study that describes the characteristics of messages (based on multiple intelligences) contained in APE in TK-KB Pedagogia. This is consistent with the character of qualitative research tends to describe.

This study does not use humans as research subjects. Who is the subject of research is the APE utilized or used in TK-KB Pedagogia. This research was conducted at the TK-KB Pedagogia UNY FIP is located at Jalan Bantul No. 1. Yogyakarta. 55142, and was conducted in June-September 2011. Data which is collected in qualitative research is not only using one method, but more than one so that the research objective, data is valid and reliable. Based on these requirements, the data collection techniques used in this study is the observation, content analysis / content analysis and documentation. To obtain valid data, the investigator must conduct observations to the study site. And to be more accurate, the content analysis method was used because one of the uses of content analysis is to describe the content of the communication and messages of the APE. As opinion of Stone (1966), quoted by Darmiyati Zuchdi, "content analysis is a technique for making inferences by objectively identifying special characteristics and systematic" (1993). From these statements, the investigators analyzed the content of APE in TK-KB Pedagogia to identify the specific characteristics of the APE (based on multiple intelligences or not) to describe the content of the messages contained therein. And the documentation is complementary.

The major advantage of content analysis method which is used in this study was not using humans as research subjects, but APE is in TK-KB Pedagogia. To know which APE-based multiple intelligences, the methods of content analysis is an appropriate method. This is because the method of content analysis can be carried out through the review and

pengsinkronisasian of subjects with theories that have been there. These theories include the theory of multiple intelligences.

This study is a qualitative research into the instrument so that the research is the researcher himself. However, in order to obtain valid data, researchers using the guidelines in accordance with the data collection techniques. Thus, the stages of making data collection guidelines in this study are as follows:

a. Determining the coding sheet (sheet guide) form a joint guidelines between observation and categorization based on content analysis of existing and accurate, the concept of multiple intelligences.

b. Presenting the observation and analysis of the contents have been compiled in a research proposal seminar that gets input from experts and audiences.

c. Conducting revisions when necessary.

d. Take and collect data using the revised guidelines.

In contrast to other studies, in a content analysis of this study, the researchers conducted an analysis of data after performing inference (conclusion). Activities undertaken in analyzing this data are:

1. The reduction of the data to be understood and interpreted properly. The data has been obtained, a simplified such that the obtained results are more concrete.

2. Display (presentation) reduced data to describe it in the form of a clear description and *tersistematik*.

3. Make verification (proof) with respect to the existing inference.

RESULTS OF RESEARCH

This study sought to examine the existing APE in TK-KB Pedagogia, whether it has or has not been based on multiple intelligences. Before examining the APE one by one, would have to know first names to make it easier to identify the APE. In the early stages of observation, data types APE names contained in TK-KB Pedagogia (appropriate amount of exposure above). The data can be seen in the following table:

The names of the APE in TK-KB Pedagogia

No	Nama-nama APE				
	A1	A2	B1	B2	KB
1	Maket tempat ibadah	Kotak ajaib	Bola plastik	Bola durian	Setrika plastik
2	Maket sholat	Mainan	Bola durian	Bola plastik	Telephone

		perkusi			anak
3	Maket wudhu	Hiasan kaca tempel	Bola basket	Bola kecil	Alat tukang
4	Boneka tangan	Roncean buah	Bola genggam	Boneka	Buah-buahan
5	Dakon plastik	Miniatur wayang	Ronce bentuk	Alat kedokteran	Kulintang kayu
6	Boneka plastik	Miniatur buah	APE menjahit	Alat masak	Puzzle kecil
7	Paying anak	Figura	Puzzle anggota badan	Alat salon	Puzzle besar
8	Kitchen set	Pensil hias	Puzzle berbagai ukuran	Alat tukang	Alat peraga keagamaan
9	Bantalan pencocok	Tempat tisu	Yoyo	Alat musik	Sempoa
10	Jarum cocok	Menara tempel	Gangsing tradisional	Bakiak	Balok jeruji
11	Miniset biasa	Gambar smile dan sapi	Alat musik kayu dan bambu	Raket	Balok warna angka
12	Miniset kembang	Gambar binatang	Gitar plastik	Hulahop	Menjahit dari kayu
13	Manik-manik	Kerincingan	Piano plastik	Lego	Balok angka
14	Puzzle tanggung	Peta Yogyakarta	Klinthingan	Lego huruf	Rumah-rumahan kayu
15	Puzzle geometri	Atlas	Rebana bentuk kubus	Bowling	Huruf temple
16	Puzzle kata/huruf	Bola plastik	Balok besar	Papan angka	Balok warna
17	Menara pelangi	Bola pantul	Balok kecil	Kartu huruf	Bakiak anak
18	Kereta tarik plastik	Boneka barbie	Lego	Telephone	Balok polos
19	Plastisin	Marakas kayu	Miniatur kendaraan	Miniatur hewan	Meronce kayu
20	Stempel	Yoyo	Mobil-mobilan	Papan lalu lintas	Replika binatang besar
21	Silinder panjang pendek	Gangsing	Karet gelang	Papan cara ibadah	Binatang beroda
22	Balok warna	Jam mainan	Alat dapur	Setrika	Boneka Barbie
23	Balok PDK	Lukisan mixed media	Alat kedokteran	Balok besar-kecil	Mobil-mobilan besar

24	Permainan palu	Gambar anak	Alat pencetak istana pasir	Puzzle	Boneka tangan
25	Bowling	Lego plastik	Boneka	Kentongan	Kereta angka
26	Tanda lalu lintas	Bakiak panjang	Miniatur hewan	Wayang	Kulintang kecil
27	Perlengkapan rias	Mainan air dan pasir	Buah mainan	Gamelan	Piano kecil
28	Gitar mainan	Mobil-mobilan kecil	Telephone mainan	Mobil-mobilan	Alat musik tempurung
29	Marakas plastik	Pesawat plastik	Kancing warna	Sepeda motor mainan	Gitar
30	kerincingan	Kubus pola	Jam kayu	Buah-buahan	Terompet
31			Kotak angka	Rantai geometri	Tamborin
32			Kotak huruf	Bombig huruf	Marakas
33			Kotak jenis buah	Bombig gerigi	Kereta plastik
34			Puzzle jigsaw	Yoyo	Penumbuk
35			Uang mainan	Surat gulung	Alat masak
36			Alat mekanik	Laptop mainan	Alat dokter
37			Alat tata rias	Jam matahari	Balok segitiga
38			Setrika mainan	Timbangan	Balok pasak warna
39			Sandal mainan		Pasak geometri
40			Timbangan balok		Pasak kincir
41			Miniatur rumah ibadah		Pasak biasa
42			Maket rumah, gunung, sawah		Bongkar pasang plastik
43			Mixed		Lego
44			Teropong mainan		Bola
45			Bombig biasa dan peluru		Helikopter mainan
46			Rambu lalu lintas		Pancingan ikan kayu

47			Papan tulis mainan		Papan pukul
48					Kolam bebek
49					Aquarium

APE which is exposed above on-display in each classroom and used for children's play activities are based on the theme set forth in the plan of weekly activity (RKM) and plan daily activities (RKH). However, at rest, the child is allowed to play APE in the classroom.

APE APE-based multiple intelligences is that when utilized to develop the child as a whole, which is developing more than one intelligence (linguistic, logical-mathematical, music, bodily-kinesthetic, spatial, interpersonal, and intrapersonal). Here is the result of observations for each group, both groups A1, A2, B1, B2 and KB:

a. A1 Group

The data obtained for the A1 group, it can be said that there is an APE APE-based multiple intelligences. Looking at the form and methods of using, all APEs can develop more than one of intelligences in children. Of the thirty existing APE, all can develop children's intelligence at least 2 intelligence. Thus, APE in group A1 is based APE multiple intelligences.

b. A2 Group

APE contained in the classroom can be said as the group A2 APE-based multiple intelligences. Same with APE in group A1, see the form as well as methods of using, all APE in group A2 is able to develop more than one of intelligence in children. Of the thirty existing APE, all can develop children's intelligence at least 3 intelligence. Thus, APE in group A2 is based APE multiple intelligences.

c. B1 Group

Display APE in classroom group B1 showed that APE is an APE-based multiple intelligences. It is also evident from the forms and methods of utilization, namely: all of APEs can develop more than one of intelligence in children. Of the forty-seven existing APE, all can develop children's intelligence at least 2 intelligence. Thus, APE in B1 group is the APE based multiple intelligences.

d. B2 Group

The results of the review of APE in the classroom group B2, it can be said that there is an APE based multiple intelligences. Of forms and methods of using, APEs can develop more than one of intelligence in children. Of the thirty-eight existing APE, all can develop

children's intelligence at least four intelligence. Thus, the APE is in an APE-based group B2 multiple intelligences as well.

e. Play Group (KB)

Data obtained from the review of the APE for birth control, it can be said that there is an APE based multiple intelligences. Looking at the form and methods of using, all APEs can develop more than one of intelligence in children. Of the forty-nine existing APE, all can develop children's intelligence at least 3 intelligence. Thus, existing APE APE-based KB is multiple intelligences.

One way to develop a holistic child development is through multiple intelligences approach. The purpose of the multiple intelligences approach is through a treatment (learning activities or utilization of instructional media ➔ in this case is APE), can develop children thoroughly (to develop more than one existing intelligence in children). APE which is based on multiple intelligences in the utilization can develop more than one of intelligence in children. APE which is based on multiple intelligences is also a fun thing and does not make a child tired/ bored. APE shall be in accordance with the characteristics of early childhood.

Researcher tried to examine the existing APE in TK-KB Pedagogia, whether based on multiple intelligences or not. APE which is contained in TK-KB Pedagogia have guidelines or ways of utilization. How to use the APE known through observation APE incorporating user as well as through interviews with teachers of TK-KB Pedagogia (only limited to how to use the APE, is not the reality of the use of the learning process).

Looking at the above results, it can be said that the APE is in TK- KB Pedagogia had based on multiple intelligences as an APE can develop more than one of intelligence in children. Indicators that each can develop multiple intelligences APE embodied in the development of each intelligence indicator (7 intelligences) according to the theory revealed by Howard Gardner.

The review was limited to the review carried out on objects in the form of any object that can be seen from the form of concrete / real as well as methods of using. In this case, the interference of the object of life (human ➔ teachers) has not been the focus of research. Interviews with teachers is only in the "how to use existing APE" and not on the reality of the implementation of the learning process.

Teacher tutors intervene in the use of APE is very influential on learning outcomes. However it has been revealed earlier that this study was limited to a review of any object on the object. With this limited study, it appears that the APE- contained in group A1, A2, B1, B2, and KB qualify as APE-based multiple intelligences. Each APE can develop more than

one of existing intelligence in children. The intelligence will be maximized when the APE developing fully utilized according to its function.

CONCLUSION

Based on the research that has been done, the researcher can conclude that the APE which is contained in TK-KB Pedagogia is APE based multiple intelligences. Seeing the results of observation and review of existing APE in TK-KB Pedagogia, APEs have a form and manner that the use of at least two intelligences can develop in children. Given that APE based multiple intelligences which is able to develop more than one child in their utilization of intelligence, the APE in TK-KB Pedagogia is an APE based multiple intelligences.

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