The Effect Of Use Of Picture Story Book On Visual Intelligence In Early Childhood

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Visual ability as a plural intelligence must continue to be trained in early childhood. This research was conducted to see the effectiveness of the use of picture story book media on the level of visual intelligence in preschool children aged 4-5 years. This type of research is a quasi-experimental study, where the research subjects are group A children in a kindergarten in the city of Yogyakarta, Indonesia. Samples were taken using a purposive sample technique. There are two groups namely the A1 group (the experimental group) and the A2 group (the control group). Data analysis was performed using the T test to see the effect of the use of picture books on visual intelligence. The results of data analysis showed that the use of pictorial story book media influences visual intelligence in early childhood groups.

Keywords : *Picture book, Visual intelligence, Preschoolers*

Introduction

Education becomes an important foundation for early childhood. Early childhood is often referred to as the right time in optimizing a variety of children's potential such as physical, motor, language, cognitive, social-emotional, religious, moral, and artistic aspects. Children have a tendency to imitate the many things around them. Children are accustomed to imitating what is seen, heard, and felt. Children are also born with different abilities and potentials, and have their own strengths and talents (Suyanto, 2005). Intelligence is defined as the ability to solve problems, produce works that are the impact of society.

Multiple intelligences include nine intelligences, namely linguistic, mathematical, visual-spatial, kinesthetic, musical, intrapersonal, interpersonal, and existential. If a child's intelligence is stimulated properly, it will affect the child's ability to solve problems or the child can provide solutions to an event that occurs. One of the nine plural intelligences is visual intelligence. Visual intelligence is the intelligence that is able to see an object very thoroughly / in detail. Suyadi (2010) said that people who have this intelligence will be able to record objects

that are seen and heard into the brain's memory for a long time. People who have visual intelligence have a tendency to think such as the use of visual objects in the form of films, videos, pictures, and demonstrations that use models or slides. Childhood is the right time to develop children's visual intelligence (Lucy, 2010). Brewer (2007) explains that visual intelligence is very useful in a variety of occupations, as well as relating to various disciplines. Almost all work or activities require spatial intelligence. People who have visual intelligence have a tendency to think such as the use of visual objects in the form of films, videos, pictures, and demonstrations that use models or slides. Childhood is the right time to develop children's visual intelligence (Lucy, 2010). Brewer (2007) explains that visual intelligence is very useful in a variety of occupations, as well as relating to various disciplines. Almost all work or activities require spatial intelligence. Musfiroh (2005) explained that visual-spatial intelligence is defined as the ability to accurately assess the world of spatial planning and transform visual-spatial perception in various forms. In addition, Juli (2014) mentions that aspects of visual intelligence include sensitivity to shape, shape elements, size, composition, and color. Children who are visually intelligent will think imaginatively and be able to imagine something in detail. In addition, they also like to make three-dimensional construction of elements, such as lego, brick, bombiq, and beam and also they learn by looking and observing objects, shapes and colors.

Visual intelligence is one of nine multiple intelligences. This intelligence is characterized by a child's sensitivity to colors, lines, shapes, spaces, and the relationships that exist between these elements (Armstrong, 2009). Another understanding, visual intelligence is the ability to design and use shapes in space (Williams, 2002). Visual intelligence is the ability to see an object from various perceptions. Visual intelligence can be detected as early as possible. This can be done by observing the visible characteristics of a child's visual intelligence, for example being able to remember the path that has been passed, not saying much but more actively doing things related to the abstraction of space, playing shapes and spaces, and like to measure (length, short, big, small, far, near).

Suyadi (2010) mentions the characteristics of children with high visual intelligence are 1) able to count by dreaming, 2) able to make objects as pictured in his mind, 3) able to compose short stories. In addition, there are indicators in assessing the visual intelligence of children aged 4-5 years explained by Yus (2011), namely 1) arranging more than four objects in one room, for example arranging tables and chairs in class, tidying books, arranging toys; 2) fill in more complicated patterns, for example meronce; 3) forming a number of known shapes, such as forming a ball using playdough; 4) draw objects according to imagination, for example drawing scenes or drawing family members; 5) arrange a more detailed shape, for example tying with rigging, or weaving; and 6) using simple art instruments, for example playing simple musical instruments. Children's learning environment must support visual intelligence from various sides. Visual thinking ability is the ability in spatial thinking through various forms. Visual intelligence includes the potential for individuals to see an object accurately and thoroughly, children are able to see the forms of images rather than looking at words / writing. So the need for careful handling related to children's visual intelligence.

Visual abilities are used in everyday life such as drawing, sewing, and coloring pictures. Based on observations, the authors found that there are children who still have difficulty in classifying geometry, difficulty in drawing and remembering objects that are seen. Most educators are more focused in developing cognitive and physical motor skills, especially in the ability to read, write and count. Though visual abilities have an important role in supporting child development. Therefore, there needs to be an emphasis in practicing their visual abilities.

One learning method that can be used in practicing children's visual abilities is the use of picture story books. In general, picture story books are a combination of pictures and writing. A good combination is needed in the story book so that the message inside can be conveyed (Tompkins & Hoskissom, 1995). An element in a story intended for children is to build fiction. Figure, theme, plot and setting / place, point of view, message, and language so that it is easily understood by children (Musfiroh, 2005; Blewitt, Rump, Shealy, and Cook, 2009).

The development of language skills becomes an important thing that must be considered in early childhood. One of the activities that can develop children's language skills is through reading activities. Reading habits are good for children. Scull, Louise, and Raban (2013) discussions around books that are read are the main things in language learning. Mitchell (2003) explains that all the pictures can be seen as a whole while the text / writing in the book looks only a little. Bower (2014) describes that picture books are defined as books that contain pictures and writing or words. Picture books have more pictures than writing components (Biddle, Nevarez, Henderson, and Vallero-Kerrick, 2014). A similar presentation given by Mitchell (2003) about picture story books can be seen as a whole picture, while the text in picture books looks a little.

Story books provide opportunities for children to develop their vocabulary so that children's language skills can develop optimally (Pinkham, Kaefer, and Neuman, 2014). The visual picture is a strong determinant of whether or not the message will be communicated in a story book (Mallett, 2010). As educators must understand that storytelling using picture story books helps develop vocabulary, phonology and improve letter recognition in children (Machado, 2013; Ganea, Ma, and DeLoache, 2011). Similar opinions about interventions in reading activities together can improve children's vocabulary development (Lenhart, Lenhard, Vaahtoranta, and Suggate, 2017). Story books are one of the media that can be used in the development of children's abilities. Media images can strengthen memory and easily understand the theme or content of the story (Ard and Beverly, 2004). The presentation was supported by Toha-Sarumpaet (2010), a book that tells a story using pictures is called a picture book. Picture books in it contain various kinds of designs and have attractive colors. Mantei & Kervin (2014) explained that illustrated story books are a form of visual art and are easy for children to explore.

Picture books can be a medium for developing children's visual intelligence (Reese, 2013). Reed, Hurks, Kirschner, and Jolles (2015) explained that storytelling activities through the use of picture books with friends can stimulate the development of reason or understanding of children aged four to six years. Stories that contain only text will be difficult to understand by young children. Therefore, the composition between pictures and writings must be precise in the presentation of picture story books (Ganea, Canfield, Simons-Ghafari, and Chou, 2014). A similar presentation was delivered by Lukens (2003) about the images contained in the book to make the child understand the story in one look, if the child only sees the writing then the child will understand the contents of the story gradually.

In general, story books are the choice that many parents choose for their children compared to the use of gadgets. In line with this, Kotaman & Balci (2016) explained that story books are books chosen by parents for their children. Children will be invited to connect what has been told and read through the use of illustrations contained in books. Children can explore the characters contained in the story by looking at their faces and clothes. Children can also see the color of clothes used by the characters, the face shapes of the characters, or the atmosphere of the story using the help of story illustrations (Lukens, 2003). Picture books contain pictures, text and illustrations that support the delivery of a story. The selection of the right picture story book will make it easier for children to capture the purpose of the story. Picture books can be

used to develop children's visual intelligence. Through the use of picture books, it makes it easy for children to optimize their development, especially in children's visual intelligence (Justice, Meier, and Walpole, 2005).

Research Method

This study uses a quasi-experimental approach, with a control group and an experimental group. Cresswell (2016) explains that the use of experimental and control groups cannot randomly enter participants into it. The main objective in experimental research is to test the effect of a treatment on the results of the study, the research is controlled by other factors that may influence the research results (Cresswell, 2016). This study aims to explore the effect of the use of picture books on the visual intelligence of children aged four to five years. In this study, the experimental group was given an intervention in the form of engaging a picture story book media, while the control class involved conventional learning techniques. The research subjects were 40 children consisting of 20 children for the experimental group and 20 children for the control group. Subjects were taken through purposive sampling technique with the criteria that this class was chosen because it has relatively similar characteristics in academic quality and age range. Observation sheets are used in the process of collecting data.

The study was conducted in one of the kindergartens in the city of Yogyakarta. During this research, the experimental group received treatment through the use of a book entitled Ants and Bees. The conventional method in this case storytelling without the use of storybook media is used in the control group. The treatment was given eight times. Each meeting uses a picture story book and looks at every development from the use of the story book to the children's visual intelligence. The dimensions of visual intelligence measured are sensitivity to shape, elemental form, size, composition, and color. Data analysis using T Test on SPSS software.

Results and Discussion

Visual intelligence is one intelligence that is very important for children. Visual intelligence is the potential of individuals in capturing visual objects in detail. They use this intelligence to see all kinds of observed objects. The results of data processing using the T test can be seen in Table 1. Decision making using criteria, if the significance value obtained is less than 0.05 then H0 is rejected. That is, there are significant differences between the average of the control and experimental groups.

The data in Table 1 shows that in children's visual intelligence there are significant differences between the control and experimental groups. Summary of the results of the posttest data on children's visual intelligence using an error level of 0.05. So it was concluded that H0 was rejected because the results obtained significance value $<\alpha$ or $0.001 < 0.05$. Posttest results of children's visual intelligence showed that there were significant differences between the control and experimental groups.

Table 1 Results of Analysis Using Independent T Tests

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Visual inteigece	Equal variances assumed	.317	.577	3.686	38	.001	9.500	2.577	4.283	14.717
	Equal variances not assumed			3.686	35.636	.001	9.500	2.577	4.271	14.729

The results of this study indicate a positive and significant effect in the use of picture books on children's visual intelligence. These results explain that children aged four to five years who are given learning using picture story books have higher visual intelligence compared to before using story books. Every aspect of visual intelligence in the form of sensitivity to shapes, elements of shape, size, composition, and color has a good progress at each meeting. The increase in visual intelligence occurs through the use of picture story books. Playing while learning will be more fun for children. Children become subjects in learning in class. The learning process as a group or individually can be done.

There are several previous studies and support the results of this study. Sapitri (2018) who explains that there is a relationship that occurs between children's visual intelligence with children's creativity at the Al-Falah Islamic Kindergarten in Jambi, Indonesia. The equation of this research with that research is equally focused on children's visual intelligence. Further research results submitted by Hakim (2017) which explain that there is an increase in children's visual intelligence through puzzle games in group A children in Sukaharjo, Central Java, Indonesia. The similarity in this research with that research is that they are both researching about visual intelligence and through the use of visual media. Amelia's research (2015), her research results show that there is an effect of kindergarten watching learning on the stimulation of children's spatial and kinesthetic visual intelligence. The equation of this study with these researchers is equally researching about visual intelligence. But the difference is in the use of stimulation. Researchers used pictorial story book media while the research conducted by Amelia (2015) used learning methods. The results of this study are expected to be used by parents, teachers and the environment around children to build a good visual environment for the development of children's visual intelligence. In addition, the provision of appropriate stimulation can optimize children's development.

Conclusion

Providing the right stimulation can increase the visual intelligence of pre-school children. In this case, the use of picture story books can improve the visual abilities of early childhood. This is indicated by the value of Sig $< \alpha$ or 0.001 < 0.05. These values indicate that by providing appropriate stimulation or stimulation (in the form of the use of pictorial story book media), children can improve their visual intelligence.

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