Motion Graphics Video as Learning Media to Improve the Empathy of Preschool Children

Karisya Aprilliani[1], Lulu Mamluatul Adibah[2], Lulu Zulfa Akyuni[3], Sulistia Rahayu Khoerunnisa[4,] Jihan Nurul Afifah [5,] Jojor Renta Maranatha[6]

[123456] *Program Studi PG-PAUD, Universitas Pendidikan Indonesia Kampus Purwakarta·*
Email : karisyaaprilliani@upi.edu

ABSTRACT. *The purpose of this study was to find out how much influence the use of Motion Graphics Video learning media has on the empathy of preschool children. The method used in this study is a quasi-experimental method with a pretest-posttest control group design. This research was conducted in a kindergarten located in Purwakarta, Indonesia. The participants involved in this study were children aged 5-6 years (group B) totaling 15 children from the UPI Purwakarta Lab school as an experimental class and 15 children from Mentari Kindergarten as a control class. The rating scale carried out in this study aims to determine the empathy of children aged 5-6 years before being given treatment and after being given treatment through pretest and posttest. Furthermore, the data were analyzed using a paired simple t-test to determine the effect of learning methods on the empathy of preschool children, and an independent sample t-test to determine the difference in empathy between the experimental group and the control group. The results of this study are (1) There is an influence of motion graphic video learning media on the empathy of preschool children. (2) There is a difference in empathy between preschool children who learn using motion graphics video media with preschool children who learn using big book media. The conclusion obtained from this study is that motion media graphic video is more effective than conventional media (big book) in increasing empathy for preschool-age children.*

Keywords : *Motion Graphics Video, Empathy, Early Childhood*

INTRODUCTION

Preschool children's education has an important role as an institution that helps optimize aspects of child development. At preschool age all aspects of development are very important to be properly stimulated, one of which is the child's ability to empathize. Empathy allows individuals to understand the feelings and thoughts of others. The ability to understand other people's thoughts and feelings is the foundation for good and positive relationships with others. (Batson, 2009) Goleman revealed that empathy is to understand the feelings of other people, care for others, and take action to play a role in his life, starting from giving affection to other people to taking action to help him. (Goleman, 2005). Empathy is there from infancy, even if in a simple form, like a baby laughing when he sees someone laugh. The development of empathy, from stimulation to internalization, is a complex process that begins early in infancy (Dvash & Shamay-Tsoory, 2014). As people get older, the individual's ability to empathize is getting better, marked by an increasing ability to recognize and understand the feelings of others (Martin L. Hoffman, 2000). Empathy can involve cognitive and affective aspects (Van Lange, 2008) (Decety & Jackson, 2004). In early childhood cognitive development is still in the concrete thinking phase and towards the abstract at the end of early childhood, so children do not fully develop empathy based on their perspective until they have the ability to think abstractly or around the age of 12 (Dvash & Shamay-Tsoory, 2014).

Early childhood is a golden age. Early childhood is a child who is in the age range 0-6 years. At that age, development occurs very rapidly. Based on research results, about 40% of human development occurs at an early age. Therefore, early age is seen as very important so it is termed the golden age (Khairani, 2018). At this time, the child's brain experiences the fastest development in the history of its life. This takes place when the child is in the womb to an early age, namely the age of zero to six years (Fauziddin M, 2016). So, in this golden age period, it is very appropriate for early childhood to be given educational values so that in the future they can form good personal character and be able to socialize with society when they are adults. One of the instruments of social education and skills in early childhood is empathy education in preschool-aged children. Children who have good empathy also have good interpersonal intelligence, because empathy is closely related to children's interpersonal intelligence and forms the basis of daily interactions. On the other hand, empathy is also the basis for developing children's morals and motivating prosocial behavior (Decety & Cowell, 2014). Instilling empathy in children needs to be done early on because basically, humans are social beings who are always in touch and interact between individuals and others, which requires mutual understanding. Positive social interaction is generally influenced by an individual's understanding of others. Empathy allows individuals to understand the feelings and thoughts of others. The results of research conducted by Findlay show that young children with high empathy will have high prosocial attitudes and are more sensitive to the attitudes shown by others when compared to children who have low empathy (Findlay et al., 2006).

However, the reality shows that many children still lack empathy. This was obtained through interviews and preliminary observations conducted by researchers at Kindergarten in Purwakarta. In that Kindergarten, it was found that some children could not yet empathize with other people, such as: laughing at friends who answered the teacher's questions incorrectly, teasing friends who were still embarrassed when asked to sing, getting angry when someone received praise from the teacher and so on. The success of preschool children in increasing empathy is inseparable from the role of parents at home and the role of teachers at school. The role of teachers in schools in increasing the empathy of preschoolers can be done by providing concrete examples of empathy for early childhood. Concrete examples of early childhood empathy cannot only be given by direct examples of empathetic behavior by the teachers but can be done using learning media. Learning media is an intermediary in conveying educational messages that aim to bring children closer to real conditions. (Sanjaya, 2016).

In addition, empathy is related to one aspect of early childhood development, namely social-emotional which must be maximized during their growth and development. As the aim of Early Childhood Education in Law Number 20 of 2003 concerning the National Education System it is stated that early childhood education is a coaching effort aimed at children from birth to the age of six which is carried out through the provision of educational stimuli to help growth and development. physical and spiritual development so that children are ready to enter further education (Indonesia, 2003). Then explained more deeply in the Minister of Education and Culture Regulation Number 37 of 2014 that early childhood education is education aimed at early childhood to stimulate and maximize aspects of their development. There are 6 aspects of development that must be developed by Early Childhood Education teachers. These six aspects are aspects of the development of Religious and Moral Values, Cognitive, Social Emotional, Language, Physical Motor, and Art (Ministry of Education and Culture, 2014). Media packaging that is attractive and on target is a determinant of success in efforts to increase empathy in

preschool children. Along with technological advances and the industrial revolution 4.0, the use of technology-based learning media should be used in preschool children's learning. One of the learning media that can be used to increase the empathy of preschoolers is Motion Graphic Video.

According to Gallagher and Paldy (2007), motion graphics are the dynamics of the given name, giving life to images and writing and recording them into a message to be conveyed to the audience. Motion Graphics are text, images, or a combination of the two that move in space and time, using movement and rhythm to communicate this. In line with that, Betancourt (2012) says that Motion Graphics are graphics that use footage from video or animation technology to create the illusion of motion or movement and are usually combined with audio for use in multimedia projects. Meanwhile, video is a technology for capturing, recording, processing and storing, transferring, and reconstructing still image sequences by presenting scenes in motion electronically. Based on these definitions, it can be concluded that Motion Graphic Video is a recording of images and writing that becomes a message to be conveyed to the audience. Using Motion Graphic Video as a learning medium to increase empathy for preschoolers can be done by telling the stories in the video directly to children because children will be more effective when learning with real objects. Thus, children can know empathy towards the feelings and thoughts of others. So, it is hoped that knowing the attitude that children must show towards the feelings and thoughts of other people, can increase the child's empathetic attitude towards other people.

METHOD

This research used quasi-experimental research, with a pretest-posttest control group design where a group is measured before and after being given treatment as shown in the following table:

Grup	*Pretest*	*Treatment*	*Posttest*
Experiment	O_1	X_1	O_2
Control	O_3	X_2	O_4

Description:

O_1: Pretest group that was given treatment using Motion Graphic Video

O_2: Posttest group that was given treatment using Motion Graphic Video

O_3: Pretest group that was given treatment using Big Book

O_4: Posttest group that was given treatment using Big Book

X_1: Treatment using Motion Graphic Video learning media

X_2: Treatment using Big Book learning media

There are several stages in this research, including: Formulating research instruments; Conduct research instrument trials, Calculate the reliability and validity of research instruments, Conduct pretests in the experimental group, Provide intervention to the experimental group; Do a posttest on the experimental group, Do a pretest on the control group; Provide intervention to the control group; Doing a posttest in the control group, Managing research data. The research flow is depicted in the figure below

Figure 1. Research Flow
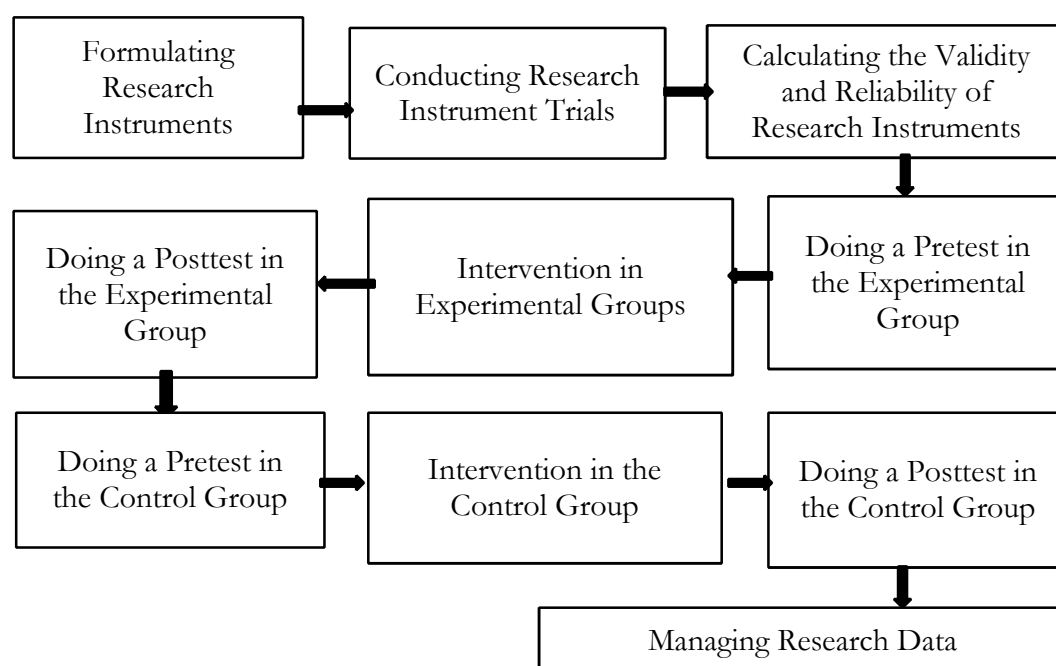
The population in this study were kindergartens in Purwakarta. While the samples in this study were UPI Purwakarta Lab school Kindergarten and Mentari Kindergarten. The participants involved in this study were children aged 5-6 years (group B), totaling 17 children from the UPI Purwakarta Lab school as the experimental class and 17 children from Mentari Kindergarten as the control class. The rating scale used in this study aims to determine the empathy of children aged 5-6 years before being given treatment and after being given treatment through pretest and posttest. The results of the pretest and posttest in the form of a rating scale will then be calculated to find out how much the empathy of children aged 5-6 years has increased, and also to compare the experimental group and the control group.

The data analysis technique used in this study is the Independent Sample T Test analysis technique. The Independent Sample T Test is a parametric test used to determine whether there is a mean difference between two independent groups or two groups, namely pairs, with the intention that the two groups of data come from different subjects. Before the analysis is carried out, a comparative test is first carried out, namely the normality test and homogeneity test. The data normality test was carried out by the Kolmogorov-Smirnov test and the data homogeneity test was carried out by the Levene test.

RESULTS AND DISCUSSION

The data in this study consisted of a dependent variable in the form of empathy for preschoolers and independent variable data in the form of big book learning media and video motion graphics. This variable data was obtained through pretest and posttest. Quantitative analysis was carried out to know whether there was an effect of instructional media on the empathy of preschool-aged children, by comparing both the pretest and posttest research data for the experimental class and the pretest and posttest for the control class. Before carrying out a comparison test, a data normality test was carried out first as a condition for a comparison test.

Table 1. Results of Normality Test of Pretest and Posttest Experimental Group data and Pretest and Posttest Control Group

Kolmogorov-Smirnov[a]		
	Shapiro-Wilk Sig.	Description
Pretest Experiment	.115	Sig > 0,05 (normally distributed data)
Posttest Experiment	.621	Sig > 0,05 (normally distributed data)
Pretest Control	.045	Sig > 0,05 (normally distributed data)
Posttest Control	.104	Sig > 0,05 (normally distributed data)

The normality of data can be seen from the Shapiro-Wilk sig. or data significance. Data that has a significance value > 0.05, is stated that the data is normally distributed while data that has a significance value < 0.05 is stated that the data is not normally distributed. It can be seen in Table.1 that Sig. experimental pretest is .115; Sig. experimental posttest is .621; Sig. control pretest is .045; and Sig. the control posttest is .104 which means that all data groups are normally distributed. Then the Wilcoxon test was carried out to find out whether there was an effect of the use of instructional media on the empathy of preschoolers. The Wilcoxon test is a nonparametric test used to measure the differences in 2 groups of paired data on an ordinal or interval scale but the data is not normally distributed.

Table 2. Wilcoxon Pretest and Posttest Group Experiment Test Results and Pretest and Posttest Group Control

	Asymp. Sig. (2-tailed)	Description
Pretest Experimen *Posttest Experimen*	,001	Asymp. Sig. (2-tailed) < 0,001

From the results of the Wilcoxon test calculations, the results are obtained with the Asymp value. Sig. (2-tailed) 0.001 < 0.05. Based on these results, it can be seen that H0 is rejected and H1 is accepted. So that it shows that there is an influence of learning media which in this study are video motion graphics and big books on empathy for early childhood. Learning is a process carried out by individuals to obtain a new behavior change as a whole as a result of the individual's own experiences in interaction with their environment (Latif et al, 2016). Based on this understanding, it can be said that empathy is one of the results of the learning process. Changes in behavior in empathy can be seen from children who previously did not care about other people and did not understand the feelings of others to care about other people and understand the feelings of others. The results of Vanchon's research (2013), shows that the development of empathy in children is not optimal can increase aggressive behavior (Vancho et al., 2014). Another research conducted by Mardliyah. et al (2020), revealed that the interconnectivity of schools, parents, and students has a positive impact on the growth of empathy in early childhood (Mardliyah et al., 2020). In this case, it states that empathy is the ability to feel the emotional state of others, feel sympathetic, and try to solve problems while also taking other people's perspectives. But this can not only be found in the community, but in the school environment as well.

Learning is very closely related to learning media. Learning media is an intermediary in conveying educational messages that aim to bring children closer to real conditions (Sanjaya, 2016). The learning media used in this study are Motion Graphic Video and Big Book. Motion Graphic Video can be a medium to stimulate aspects of children's development by showing stories about family, friendships, as well as various kinds of norms and behaviors that can encourage children to work together and understand other people's feelings. Big book media is a large book, which contains pictures and text accompanied by a storyline and characters in the story. Storytelling with big book media allows teachers to interact well with children, because the size of the book is large and also has pictures and illustrations about the story so that it attracts children's attention. Besides that, the large size of the big book also allows all children in the class to see the book clearly and better understand the contents of the stories in the big book. Pebriana (2017) stated the results of his research that through storytelling there will automatically be a transformation of values through the behavior and character of the characters in the story. So that listening to stories using big book media can provide experiences for children to know emotions that they have not known before, so that they can provide an understanding of emotions and empathy that are difficult to just explain.

According to Hibbin (2016), listening to stories can help foster empathy and understanding of oneself and others through identifying the characters in the story, understanding the differences when friends retell, and the content of the story being read. Based on this understanding, it can be said that Motion Graphic Video and Big Book media can have an impact on preschool children. This is in line with research conducted by Thompson et al (2019), which stated that reading aloud is effective for increasing children's empathy. To find out differences in empathy for preschool children who receive learning using Motion Graphic Video media and preschool children who receive learning using Big Book media, a data homogeneity test is carried out first. This homogeneity test was carried out with the aim of knowing whether the data is homogeneous or not.

Table 3. Data Homogeneity Test Results Pretest and Posttest Experiment Group and Pretest and Posttest Control Group

Levene Statistic	Sig.	Description
2,254	,092	,092>0,05
		The data is declared homogeneous

Data can be said to be homogeneous if the sig value is > 0.05. Based on the table above, it can be concluded that the pretest and posttest data for the experimental group as well as the pretest and posttest data for the control group are homogeneous because the sig value > 0.05 is 0.092 > 0.05. Independent Sample T Test.

Table 4. Independent Sample Test Results T Test Data Posttest Group Experimental Group Control

	Sig (2-tailed)	Description
	<,001	There are differences
Posttest Group Experiment Control		

It can be seen in table 4 that the sig (2-tailed) value obtained is <.001, if you look at the sig (2-tailed) decision making criteria <0.05, it can be interpreted that there is a difference in empathy for preschool children who receive learning media motion graphics with big book learning media.

Table 5. Test Results of Mean Data Post Test Group Experimental Group Control

Group	Mean
Experiment	168,13
Control	137,33

Based on the results of testing the mean posttest data of the experimental group and the control group, it is known that the empathy of preschool children who received treatment using video motion graphics was higher than the empathy of preschool children using big book media. Motion Graphic Video is one of the learning media that facilitates children to know situations they have never experienced before and can help improve children's emotional intelligence including empathy. The social-emotional aspects of individuals at the age of 3 to 5 years have not been fully developed yet, motion graphic videos enable the development of an understanding of abstract ideas so that they can stimulate the social-emotional aspects of children. Other studies that support the results of this study are studies conducted by Sirkam. et al (2014), who examined short films and illustrated stories as a medium for increasing emotional intelligence, one of which is empathy (Sierksma et al., 2014).

Innovative learning with qualified media will be able to improve the quality of learning with technological developments. The utilization of information technology in learning will create interesting and meaningful learning for children. Along with technological advances and the industrial revolution 4.0, the use of technology-based learning media should be used in preschool children's learning. One of the learning media that can be used to increase the empathy of preschoolers is Motion Graphic Video. Some of the advantages of video motion graphics include (1) The designs in video motion graphics are very simple so that the message conveyed will be much easier for preschool children to understand. (2) Using video motion graphics will make it easier for preschool children to understand the messages contained in the video because these video motion graphics are in the form of a combination of images, video, and writing. The explanation above reinforces that video motion graphics are more effective in increasing the empathy of preschoolers when compared to conventional media in the form of big books.

CONCLUSION

There is a difference in the empathy of preschoolers between the group that received treatment using video motion graphics learning media and the group that received treatment using conventional learning media in the form of the big book. In addition, it was also concluded that the empathy of preschool children in the experimental group with treatment using motion graphic video media was higher than the empathy of preschool children in the control group who received treatment using big book media. This is because video motion graphics have greater appeal compared to big books. Motion graphic media has proven to be effective in interestingly conveying educational values but also right on target in providing the transfer of knowledge about empathy in early childhood. Because in this motion graphic there are sounds, images, and

writing that move so it's easy to remember and then imitate the empathic behavior shown in the motion graphics video.

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