

## **Influence of interactive picture story media on early childhood cognitive and language development**

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**ABSTRACT:** Early childhood is a critical period for child development. At this time the child should get psychosocial stimulation to develop optimally, Children need learning activities that can stimulate their development as well as fun for them. To create activities that appeal and entertain for children then it takes an interesting media. This research's aims to analyze the influence of interactive picture story media on cognitive and language development early childhood. The respondents are children aged 5-6 years in cluster 2 productive sub district Gayungan Surabaya which amounted to 166 children. This research uses quantitative method and the data analysis technique by testing the hypothesis with paired sample t-test. The results of this study indicate that interactive picture story media have a significant effect on cognitive and language development for early childhood. So that interactive picture story media can be used as a media to develop the cognitive and language development of early childhood.

### **1. INTRODUCTION**

There are many problem of early childhood education, then it should be more attention by all parties. Not only for the teacher or the parents of the children, but it needs the attention of the community and the government concerned in early childhood.

A neurological study shows, when baby was birth, the baby's brain brings about 100 billion potentials cells in the process to the brain that is growing very rapidly with the results of trillions interneurons. In order to achieve optimal development, this connection can be loaded through various psychosocial stimuli, because the connection is not strengthened will experience anthropy (depreciation) and destroyed. This is what will ultimately affect the intelligence of children (Wahyudin and Agustin, 2012:1).

Early childhood education is really needed for the child. Early childhood education should be able to provide educational services that are able to stimulate and float all aspects of child development.

Early childhood are very important times for the life of an individual, because at this time the children begin to recognize the school, the child is also in the early age group, age exploring, age asking, creative age, and age of play. Learning for early childhood is done through play activities and in a fun atmosphere. The fun that kids get when they play activities, for children to unconsciously learn without pressure, for motor development, and child intelligence (cognitive, social emotional, language and other intelligence).

Cognitive ability is needed every human being in life. Cognitive helping

human to accept concepts, interpret, think, remember, imagination, decision making, and reasoning. It is in accordance with the Indonesian's new curriculum that cognitive development includes learning and problem solving, logical thinking, and symbolic thinking.

While the cognitive theory itself focus on the conceptualization of children's learning processes and address the issue of how information is received, organized, stored and retrieved by the mind (Jonassen on Ertmer, 2013:9).

In addition to cognitive development, early childhood language development is equally important. The proliferation of language is one of the most important developments in the whole of human life, not just in early childhood. Language development becomes capital for children in communicating with others. Several developments are complementary. Language development helps children learn meaningful sounds and try to communicate them with those around them. Through this mastery of development, it also develops social and cognitive skills (Syadiah, 2012:9).

Many ways teachers can do in kindergarten to optimize the development of cognitive and language, that is with the help of interesting media learning. Learning media is the setting of conditions or environments that provide facilities or ease of learning (Mustaji, 2013:2).

Early childhood do a lot of symbolic activities in everyday in their life. Children communicate with other children with gestures of languages, and symbols are used for play rules and art activities. The child is a hyperactive thinker so look for any form of stimulation, That means kids are attracted to something new and interesting. So children familiar with multimedia like television, internet,

interactive multimedia, and mobile Web (Bumsuk, 2016:2).

One of the effective learning media to help develop the ability of children is interactive picture story media. Interactive multimedia is a multimedia equipped with control tools that can be operated by the user, so users can choose what is desired for the next process. It can stimulate the child's ability to make decisions and stimulate children's creativity (Daryanto on Hapsari, 2014:3).

This can be seen from a study of the use of learning media conducted by Morrison, Ross and O'Dell (on Wena, 2008). The study. Revealed that the computer-based learning model is more effective than the conventional teaching method.

Therefore, this study was conducted to analyze whether the interactive story media can significantly influence the cognitive and linguistic development of early childhood. because remembering the cognitive and language skills of children is very important, especially to prepare for the life of children when plunge in the community. So this research should be done soon.

## 2. METHOD

This study used a quantitative approach. Quantitative research is an investigation of problems that occur in humans or society based on testing theories composed of several variables measured by numbers and analyzed by means of statistics, to determine whether the theory used to predict true or not (Creswel, 2009:12).

The survey was conducted in seven right kindergartens in cluster productive 2 Gayungan District Surabaya City. The samples examined were two kindergartens selected randomly by using random sampling technique. In general, this study discusses predecessor studies,

development of early childhood cognitive and language developments indicators and hypotheses for the study, collection and analysis data, so that it can be concluded as the result of the analysis.

**3. RESULTS AND DISCUSSION**

THE RESULTS SHOWED THAT BEFORE TREATMENT WAS GIVEN, THE COGNITIVE AND EXPERIMENTAL DEVELOPMENT OF THE EXPERIMENTAL AND CONTROL GROUPS WAS STILL LOW, WHICH CAN BE SEEN FROM THE LOW AVERAGE PRETEST RESULTS. MEANWHILE, AFTER GIVING TREATMENT USING INTERACTIVE PICTURE STORY MEDIA, POSTTEST RESULT IN EXPERIMENT GROUP IS HIGHER THAN CONTROL GROUP WITHOUT USING INTERACTIVE PICTURE STORY MEDIA.

The result calculation of different t-test cognitive development between gain of experiment class and control class before and after use of interactive picture story media in this research is done by using paired t test sample, can be seen from the following table:

Table 1 The Results of Cognitive T Test

Variable	t-test for Equality of Means		
	t-count	t-table	Sig. (2-tailed)
Gain Cognitive	28,020	2.70791	0.000

Based on the results of paired t-test sample can be seen that the value of t-count is 28.020 while the value of t-table is 2.70791. From these results it can be seen that the value of t-count > of t-table, besides the significance value is 0.000 < 0,05 so it can be concluded that there is significant cognitive development difference between before and after use of interactive picture story media.

The results of this study are in accordance with the opinion of Sudjana and Rivai (on Fuziah, 2009:4) that pictorial story as a graphic media used in the learning process, has a practical sense, that is to communicate facts and ideas clearly and strongly through a combination of words and pictures.

This opinion is reinforced by Piaget's opinion (in Aisha, 2013: 29) that the child naturally has an inquisitive soul and wants to learn maximally, if the child does it directly, seeks the object and the child is involved in situations that allow the child to develop new knowledge. Interactive picture story media provides children with opportunities to build new knowledge by engaging directly with children in determining what they want to learn. It can stimulate the child in the ability to make decisions and stimulate children's creativity.

While the results of different test calculations (t) language development between experimental class gain with control classes before and after the use of interactive picture story media in this study was done using paired t test sample, can be seen from the following table:

Table 2 The Result Language T-Test

Variable	t-test for Equality of Means		
	t-count	t-table	Sig. (2-tailed)
Gain Language	20,750	2.70791	0.000

Based on the results of pair t-test samples can be seen that the value of t-count is 20,750 while the t-table value is 2.70791. From the results it can be seen that the value of t-count > of the t-table, besides the significance value is 0.000 < 0,05 so it can be concluded that there are significant language development differences between

before and after the use of interactive picture story media.

The results of this study in accordance with the opinion of Syaodih (2014: 9) that one of the developments to be achieved early childhood is learning to speak. Talk is a tool of thinking and communicating with others. Through this task the child learns sounds that contain meaning and try to communicate it with the people around him. Interactive picture story media is a learning medium that includes visual, audio, audio-visual that comes with animated graphics. Children can learn meaningful sounds and can encourage children to enjoy reading.

Based on the results of research on children's participation when using media very high picture story. This is evident during the learning process, the children really enjoy listening activities and reading the picture stories that they see through the media, but also the children are very enthusiastic in reading the picture story and play the game in the media. This is in accordance with the opinions of Rothlein and Meinbach (in Fauziah et al., 2009) that pictorial stories can encourage children to love reading, pictorial story media can also encourage appreciation and love to read because children allow children to participate in the literacy community .

#### 4. CONCLUSION

Based on some of the findings and discussion above, The use of interactive picture story media has a significant effect on cognitive and early childhood language cultivation. This is indicated by significant changes in cognitive and language development between the experimental and control groups. Cognitive and linguistic developments in the experimental group better than the control group,

from the mean and the level of significance produced.

Based on these results can be seen that the learning media that provides the child with the media interaction is very effective than the conventional media that make children passive.

#### REFERENCES

- Aisyah, S. (2013). *Perkembangan Dan Konsep Dasar Pengembangan Anak Usia Dini*. Jakarta: Universita Terbuka
- Bumsuk, Lee. (2016). *Multimedia Contents Design for Early Childhood Education to Traditional Education Theory*. Journal of the Korea Society of Digital Industry and Information Management. Volume 12, Issue 1, 2016, pp.107-117. DOI: 10.17662/ksdim.2016.12.1.107
- Creswell, J. (2009). *Reserch Design Qualitative, Quantitative and Mixed Methods Approach*. Singapore: Asia Pacific Pte. Ltd
- Daryanto, 2014. *Pembelajaran Tematik, Terpadu, Terintegrasi (Kurikulum 2013)*. Jogjakarta: Gava Media
- Ertmer, P.A & T.J. Newby. (2013). *Behaviorism, Cognitivism, Constructivism, Comparing Critical Features From an Instructional Design Perspective*. Published online in Wiley Online Library (wileyonlinelibrary.com) DOI: 10.1002/piq.21143
- Fauziah, U. (2009). *Keefektifan Cerita Bergambar untuk Pendidikan Nilai dan Keterampilan Berbahasa pada Pembelajaran Bahasa Indonesia*. Jurnal bahasa <http://journal.uny.ac.id/index.php/cp/article/download/302/pdf>.
- Kementerian Pendidikan dan Kebudayaan. (2014). *Peraturan Menteri Pendidikan Nasional Kebudayaan Republik Indonesia Nomor 137 Tahun 2014 Tentang Standar Nasional Pendidikan Anak Usia Dini*. Jakarta: Pengarang
- Mustaji. (2013). *Media Pembelajaran*. Surabaya: Unesa University Press
- Syaodih, E. (2012). *Perkembangan Kemampuan Berbahasa Anak Prasekolah*. Jurnal

***Influence of interactive picture story media on early childhood cognitive and language...***  
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Perkembangan Bahasa Anak.  
([http://file.upi.edu/Direktori/FIP/JUR\\_PGTK/196510011998022](http://file.upi.edu/Direktori/FIP/JUR_PGTK/196510011998022)) Diunduh pada tanggal 20 Februari 2017 pukul 22.00

Wahyudin, Agustin. (2012). Penilaian Perkembangan Anak Usia Dini, Panduan untuk guru, tutor, fasilitator dan pengelola pendidikan anak usia dini. Bandung: Pt. Refika Aditama

Wena, M. 2008. Strategi Pembelajaran Inovatif Kontemporer Suatu Tinjauan Konseptual Operasional. Jakarta: PT. Bumi Aksara.