

THE EFFECT OF USING COMIC MEDIA TOWARDS THE DEAF CHILDREN STUDY RESULTS

(Experimental Study on Deaf Children at Grade 1 of SLB N 2 Centra PK PLK Cimahi Elementary School)

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Abstract— *A deaf child is a child who has the disorder in the organs of hearing. The deaf children tend to be more enabling their vision (visual) to obtain the information that they need. Problems faced by deaf children are the difficulty in understanding things that are abstract and difficult to understand the verbalized things. In the curriculum of 2013, which is, the learning using a thematic approach, where in one theme consists of several subjects that are combined all at once. Viewed from the expected standard of competence, there are many demands of the abstract understanding in the curriculum, and this is one of the barriers for deaf children in achieving maximum learning results or according to the standard learning competencies. To overcome the problems faced by the deaf children, one of them is with the use of a media of learning in accordance with the progress and the problems they face, namely the comic media that is concrete visual media that are much favoured by children with entertaining nature. The use of comic media in teaching the deaf children was intended to improve the learning outcomes. The purpose of this study was to determine the learning outcomes of the deaf children at grade 1 of SLBN 2 PK PLK Cimahi Elementary School, before and after using the comic media in learning. The method used in this study is the experimental method. The study designs used are pretest and posttest one group design. Data collection techniques used is an achievement test that is the objectives test in the form of multiple-choice test with three possible answers (a, b, c). Data analysis technique used is the signed Wilcoxon rank test. The research findings indicated that the use of comic media in learning, gave the effects on learning outcomes towards the deaf children learning outcome.*

Keywords— *comic media; learning outcome; deaf children*

1. Introduction

Every Indonesian citizen has the right to get the best education service in accordance with the 1945 Constitution as an effort to educate the life of the nation. Likewise with children with special needs who are Indonesian citizens entitled to education services. Children with special needs need special education services in accordance with their conditions, both physical, mental, social or emotional conditions. The Law of the Republic of Indonesia Number 20 of 2003 concerning the National Education System, article 32 paragraph 1 concerning special education states that: Special education is education for students who have difficulty in following the learning process due to physical, emotional, mental, social and / or has the potential of intelligence and special talent.

Special education is intended for those who have special needs in accordance with their abnormalities or those acquired later. Part of a child with special needs, one of whom is a deaf child who has a disorder in his hearing organ. Deaf children are not / less able to hear / catch the words or conversations of other people through their hearing, they are only able to see / catch the conversation of others or their interlocutors through lip movements with the ability to see (eyes), the eyes that turn functions or cover things things you don't get through hearing [1]. This opinion explains that deaf children tend to function their vision (visual) to obtain the information they need, in addition to functioning of the other senses for their learning interests. Education is related to human behavior, in the

educational process there is interaction between individuals and their environment, between minors and adults who can be conditioned in the teaching-learning process. Learning is intended to get behavioral changes that occur through experience, all changes in behavior acquired after learning experience are the results of changes from cognitive, affective and psychomotor [2]. In the teaching-learning process for deaf children there are problems faced, namely deaf children having difficulty in understanding abstract things and difficulties in verbalizing things, even though deaf children are not difficult to think concretely. To overcome things that are abstract in nature for deaf children need to be created a learning that can please deaf children and overcome the problems faced by deaf children, one of which is the use of media comics. The comic media is a media image in the form of a story with a clear characterization, where images and stories are loved by children as well as children who are deaf. Media comics are media that attract the attention of readers, equipped with the actions of characters who are made more alive, and processed with the use of the main colors clearly [3]. Reading pictorial readings favored by children with an entertaining trait such as playing but there is seriousness to obtain meaning (content of reading). Through playing children get a variety of pleasant experiences, while intensifying learning efforts and carrying out developmental tasks [4].

From some of the opinions above, it can be concluded that this comic media applies learning methods to play while learning. It is hoped that by using this medium, deaf children will better understand the material presented, so that learning

objectives can be achieved. Learning using comic media is an alternative that is estimated to have a significant effect on the learning outcomes of children who are deaf who can finally have a positive influence on learning at Grade 1 of SLB N 2 Centra PK PLK Cimahi Elementary School.

2. Method

A. Research methods

The method used in this research is the experimental method. The design used in this study is one group pretest-posttest design, which is an experiment conducted in one group without a comparison group, by giving initial tests and final tests to the study sample. The design used is carried out through three steps, as explained as follows: First, measuring the dependent variable before treatment is done (pretest); second, giving experimental treatment to the research sample; third, measuring the dependent variable again after the treatment is done (posttest) [5]. This design pattern can be described as follows:



Figure 1: One group pretest-posttest design

Information:

- O_1 : Pretest is given before getting the treatment being tested
- X : Treatment, in this case the use of comic media
- O_2 : The posttest given after the treatment is completed

B. Research variables and paradigms

The variables contained in this study, namely comic media as independent variables and learning outcomes as dependent variables. While the paradigm in this study can be described as follows:

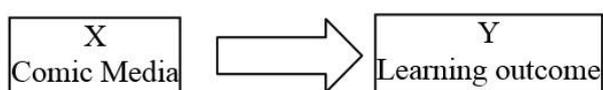


Figure 2: Data analysis paradigm

X = independent variable, namely comic media

Y = dependent variable, namely learning outcomes

While the system of thought flow in this study and the relationship between variables are as follows:

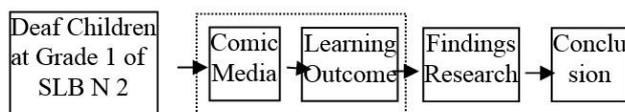


Figure 3: Paradigm of problems

= Overview of problems, the influence of comic media on the learning outcomes of deaf children

C. Research populations and samples

The population in this study were deaf children in Grade 1 of SLB N 2 Centra PK PLK Cimahi Elementary School with a total sample of seven students.

D. Research instrument

Data collection in this study uses a test data collection tool. Tests are a series of questions or exercises and other tools used to measure skills, intelligence knowledge, abilities or talents possessed by individuals or groups [6]. The test used in this study is an achievement test, a test used to measure one's achievement after learning something. The instrument of this test aims to obtain data on the achievement of learning outcomes in the cognitive, level of knowledge, understanding and application. The test is in the form of a multiple choice objective test with three answer choices (a, b, c).

E. Research procedure

The procedures taken in this study are as follows: (1) Conducting observational studies; (2) Managing licensing letters; (3) Test the comic media from expert opinion; (4) Develop research instruments; (5) Instrument testing; (6) conduct experiments by carrying out the pretest (O_1), treatment and carrying out posttest (O_2).

F. Data processing techniques

Data obtained from this study will be analyzed using the Wilcoxon test. The steps in processing data are as follows: (1) Menskor initial test and final test of each assessment; (2) Tabulate the initial test score and final test score; (3) Make a table for calculating the initial test score and final test score; (4) Calculating the difference between the initial test score and the final test; (5) Arrange rankings; (6) Put the +/- sign for each ranking according to the different marks; (7) Summing all ranks marked positive or negative depending on which one gives a smaller number for the omitted sign and writes with a T sign then obtained T count; (8) Comparing the T values obtained with T from the table of critical values T for the Wilcoxon test; (9) Make a conclusion, namely H_0 : rejected if $T_{hit} > T_{tab}$.

3. Results

Based on the data retrieval of the results of research on deaf children in Grade 1 of SLB N 2 Centra PK PLK Cimahi Elementary School, the data obtained from the pretest and posttest scores of learning outcomes. Obtained from 30 questions in the form of multiple choice, the score is given according to the number of correct answers. The initial test score data before the use of comic media (pretest) and the final test after using comic media (posttest) can be seen in the following table:

Table 1 : The Pretest and Posttest Scores of the Learning Outcomes of Children with Hearing Impairments from Grade 1 of SLB N2 Centra PK PLK Cimahi Elementary School

No	Name	Learning Outcome						Total Score	
		C1		C2		C3		O ₁	O ₂
		O ₁	O ₂	O ₁	O ₂	O ₁	O ₂		
1	IP	6	8	2	5	4	5	12	18
2	DL	8	10	8	9	5	7	21	26
3	RD	8	9	4	5	5	6	17	20
4	DY	3	6	2	3	4	5	9	14
5	IK	4	6	4	5	3	5	11	16
6	NO	7	8	3	4	3	4	13	16
7	SC	6	8	6	7	1	4	13	19

Information: O₁ = pretest, O₂ = posttest, C1 = Knowledge, C2 = Understanding, C3 = Application

To be clearer, the results of this study can be illustrated in the bar graph below:

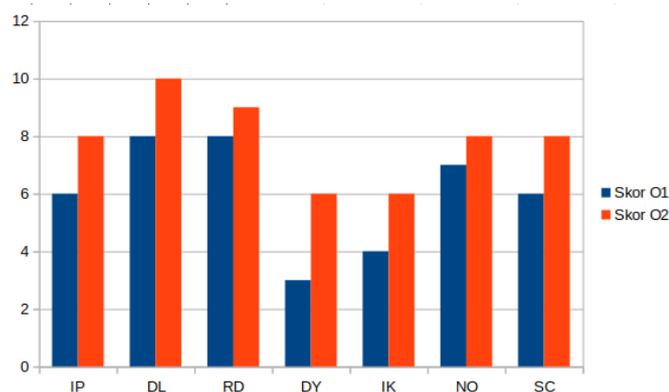


Figure 4: Cognitive learning outcomes of knowledge level

Calculation of data has been collected using the Wilcoxon test, because of the small number of samples and paired data. The steps are as follows: (1) Making a raking for each of the different pairs of observations (Xi-Yi) according to the magnitude from the smallest to the largest; (2) Give a positive or negative sign in the ranking for each difference according to the sign of the difference; (3) Summing all ranks marked positive and those with negative marks; (4) Determine the price of T depending on which one gives the smaller amount after the mark is removed; (5) Comparing T values obtained with T values in the Wilcoxon test table. The calculation result can be seen in the following table:

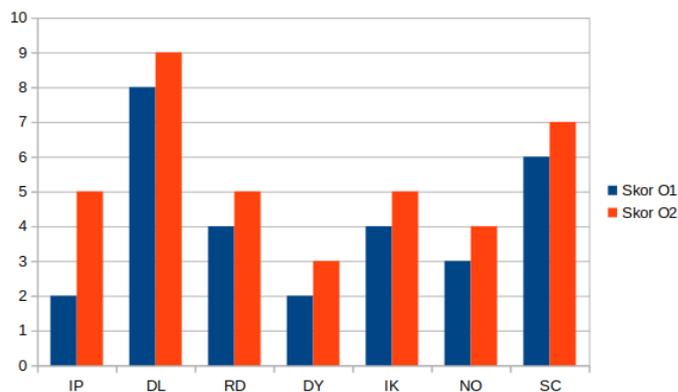


Figure 5: Learning outcomes in the cognitives domain of understanding the cognitive learning outcomes of the application level Pretest and Posttest Total Score of Learning Outcomes for Deaf Children in Grade 1 of SLB N 2 Centra PK PLK Cimahi Elementary School

Calculation of data has been collected using the Wilcoxon test, because of the small number of samples and paired data. The steps are as follows: (1) Making a ranking for each of the different pairs of observations (Xi-Yi) according to the magnitude from the smallest to the largest; (2) Give a positive or negative sign in the ranking for each difference according to the sign of the difference; (3) Summing all ranks marked positive and those with negative marks; (4) Determine the price of T depending on which one gives the smaller amount after the mark is removed; (5) Comparing T values obtained with T values in the Wilcoxon test table. The calculation results can be seen in the following table:

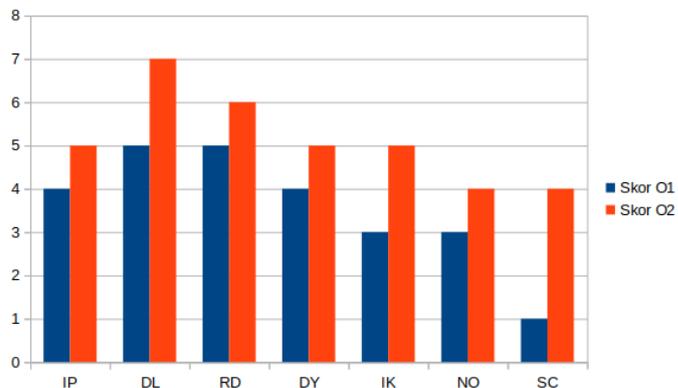


Figure 6: The cognitive learning outcomes of the application level Pretest and Posttest Total Score of Learning Outcomes for Deaf Children in Grade 1 of SLB N 2 Centra PK PLK Cimahi Elementary School

Calculation of data has been collected using the Wilcoxon test, because of the small number of samples and paired data. The steps are as follows: (1) Making a raking for each of the different pairs of observations (Xi-Yi) according to the magnitude from the smallest to the largest; (2) Give a positive or negative sign in the ranking for each difference according to the sign of the difference; (3) Summing all ranks marked positive and those with negative marks; (4) Determine the price of T depending on which one gives the smaller amount after the mark is removed; (5) Comparing T values obtained with T values in the Wilcoxon test table. The calculation result can be seen in the following table:

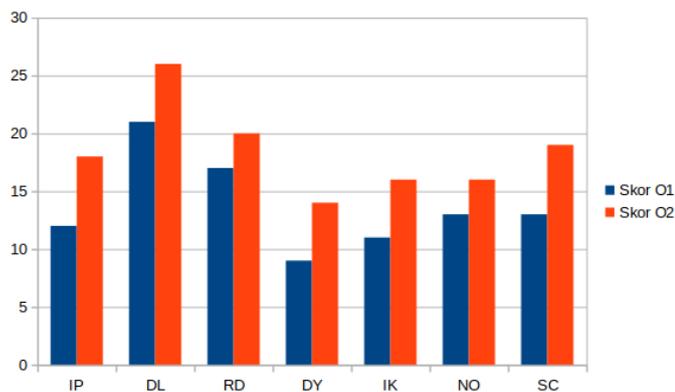


Figure 7: Pretest and Posttest Total Score of Learning Outcomes for Deaf Children in Grade 1 of SLB N 2 Centra PK PLK Cimahi Elementary School

Calculation of data that has been collected using the Wilcoxon test, because of the small number of samples and paired data. The steps are as follows: (1) Making a ranking for each of the different pairs of observations ($X_i - Y_i$) according to the magnitude from the smallest to the largest; (2) Give a positive or negative sign in the ranking for each difference according to the sign of the difference; (3) Summing all ranks marked positive and those with negative marks; (4) Determine the price of T depending on which one gives the smaller amount after the mark is removed; (5) Comparing T values obtained with T values in the Wilcoxon test table. The calculation results can be seen in the following table:

Table 2 : Calculation of the Wilcoxon test area

No	Kode	Skor Pretest (X_i)	Skor Posttest (Y_i)	Beda ($X_i - Y_i$)	Ranking ($X_i - Y_i$)	Tanda Rangk	
						Positi f	Negatif
1	IP	12	18	-6	6.5		-6.5
2	DL	21	26	-5	4		-4
3	RD	17	20	-3	1.5		-1.5
4	DY	9	14	-5	4		-4
5	IK	11	16	-5	4		-4
6	NO	13	16	-3	1.5		-1.5
7	SC	13	19	-6	6.5		-6.5
Jumlah						T=0	T=-28

The overall results of this calculation explain that table II shows the number of ranks marked negative $T = 28$, while $T = 0$ which is the total number of ranks that are positive to be ($T_{hit} = 0$). So this result is consulted with a table of critical values for the Wilcoxon test with $n = 7$ at a significant level of 0.05 data T table is 2 ($T_{tab} = 2$).

For more details the results of this study can be illustrated in the graph below:

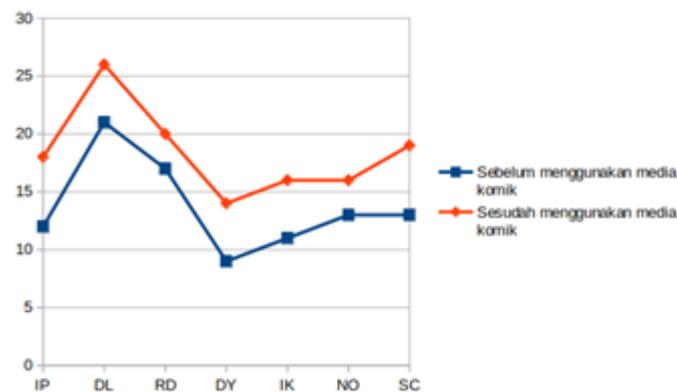


Figure 8: The Influence of Media Usage in Comics in Learning Theme 4 sub-theme 4 on Learning Outcomes of Children Deaf Grade 1 of SLB N 2 Centra PK PLK Cimahi Elementary School

The hypothesis proposed in this study is the use of comic media in learning theme 4 sub-theme 4 gives an influence on the learning outcomes of deaf children in Grade 1 of SLB N 2 Centra PK PLK Cimahi Elementary School. Based on calculations obtained $T_{hit} = 0$, in the Wilcoxon test critical value table with $n = 7$ at the significance level for the 0.05 test and obtained $T_{tab} = 2$. Because $T_{arithmetic} = 0$ from the calculation smaller than $T_{table} = 2$, then H_0 is rejected. Meaning the hypothesis that the researcher submitted was accepted. This shows that the use of comic media has a positive influence on learning outcomes, where the learning outcomes of deaf children using comic media have a higher score than before using comic media.

4. Discussion

According to the data obtained in the field, the use of comic media has a positive influence on learning outcomes. There are things that need to be observed from the use of comic media in the learning theme 4 sub-theme 4 on "togetherness in the family" Deaf children look enthusiastic to attend the teaching-learning process that uses comic media. Besides that comic media attracts the attention of deaf children, comic is one of the efforts to avoid verbalism in deaf children, so that the content of comic material itself can be understood by deaf children.

When deaf children read comics, they look happy and they seem to understand the contents of the comic. Comics are one of the communication media through images [7], this shows that someone will understand the meaning clearly just by looking at the picture. As a comic concrete visual media to help deaf children in grade 1 elementary school in understanding a learning material theme 4, sub-theme 4 on "Togetherness in the Family" which ultimately affects the achievement of learning outcomes. Several factors that influence the increase in learning outcomes scores of deaf children in Grade 1 of SLB N 2 Centra PK PLK Cimahi Elementary School include:

- Deaf Children Grade 1 of SLB N 2 Centra PK PLK Cimahi Elementary School, children with grade 1 elementary school age are still in play, the activities they carry out are solely for entertainment. One of the playing patterns is to read interesting reading [8].

Comics are interesting readings favored by children with clear illustrations and realistic characterizations, so when given comic reading they look happy and read it with enthusiasm.

- Comic Media, is a concrete visual media that can be used as a learning medium, comics have undoubted educational value, extensive use with colored illustrations, a concise storyline with realistic personalization that attracts all children of various ages, comic media can be used by teachers in an effort to arouse interest, develop vocabulary and reading skills, and to expand reading interest [3].

Increasing the score of learning outcomes for deaf children is assumed to be a result of the treatment given. This shows that the use of comic media has a significant influence on the learning outcomes of deaf children, especially Grade 1 of SLB N 2 Centra PK PLK Cimahi Elementary School.

5. Conclusion

Based on the discussion above, it can be concluded that the use of comic media as a tool in learning can improve learning outcomes of deaf children in Grade 1 of SLB N 2 Centra PK PLK Cimahi Elementary School.

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