

Improving Numeracy Skill through Use of Figure Poster Props at Deaf Students at The Age of Second Grade Students

Nenden Ineu Herawati and Septiyani Endang Yunitasari

PG Paud Study Program, Universitas Pendidikan Indonesia, Jl. Dr.Setiabudhi 229 Bandung, West Java, INDONESIA

Keywords: Deaf, Figure Poster Props, Numeracy Ability.

Abstract: This study aims to investigate the use of figure poster props for deaf children at the age of second grade students of primary schools, who have difficulty in learning arithmetic of addition and subtraction. The approach used in this research is descriptive and quantitative, and the research design used is one group pre- and post-test design. The sample for this study was three children's. Data analysis technique used is descriptive analysis conducted on children's score obtained before and after using poster props. The results showed that the ability of deaf children's math class at the age of second grade increased from the beginning to the end. The results showed that the average score of calculation skills before using poster props were in a disadvantaged category, while the score of average numeracy skill after using poster props showed the increase in the category that was quite capable. These results indicated that there was an increase between numeracy skills of deaf children at the age of second grade before to after using poster props. It can be concluded that the numeracy learning taught by using props can improve numeracy skills for deaf children at the age of second grade.

1 INTRODUCTION

Improving numeracy skills through the use of poster props on students has widely studied. (Cohrsen, Tayler, and Cloney, 2015; Falloon, 2013; Garcia and Stein, 1997; Hanline, Milton, and Phelps, 2010; Jakubowicz, 1997; Miller, 1997; Mitchell, 1997; Osborne and Wilson, 2003; Smith, 2005; Wood, 2012) But, less studies have been conducted in the use of media for deaf student. Here, this study aims to investigate the use of figure poster props for deaf children at the age of second grade students of primary schools, who have difficulty in learning arithmetic of addition and subtraction. In the experimental method, we used descriptive and quantitative method and the research design used in this study is one group pre- and post-test design. The sample for this study was three children's. Data analysis technique used is descriptive analysis conducted on children's score obtained before and after using poster props. The results showed that the ability of deaf children's math class at the age of second grade increased from the beginning to the end. The results showed that the average score of

calculation skills before using poster props were in a disadvantaged category, while the score of average numeracy skill after using poster props showed the increase in the category that was quite capable. These results indicated that there was an increase between numeracy skills of deaf children at the age of second grade before to after using poster props. It can be concluded that the numeracy learning taught by using props can improve numeracy skills for deaf children at the age of second grade.

2 METHOD

This research used quantitative descriptive approach with the type of pre-experimental research. This approach is used to determine the increasing ability of numeracy through poster props for children at the age of second grade students of primary school. The population in this study is a deaf child at the age of second grade taught by the author through non-formal education (tutoring) at the time of the research conducted. The amount of population is up to 3 students, including 2 boys and 1 girl. Since the

number of population in this study is only 3 people, it can be all. The research was conducted in 2015, over 3 months in Fatima Foundation Nurussifa.

In this study, the data collection technique used is the results of studying or learning achievement test. This technique is used to obtain data on the ability of numeracy skill on deaf children taught by using poster props. The source of material test was from the attachment of 2006 KTSP (Indonesian standard curriculum) of the second grade first semester, the amount of the test consisted of 10 items, which were, 10 items of numeracy summation up to 10. The assessment criteria was, the score of 1 was given to each correct answer, while each wrong answer was given a score of 0; thus, the maximum possible score achieved by the child was 10, while the minimum score that might be achieved by a child is 0 (See Table 1).

Table 1: Categorization of test score.

Category	Interval test score
Very capable	9 – 10
Capable	7 – 8
Quite capable	5 – 6
Less capable	3 – 4
Not able	0 – 2

Based on the description on the introduction mentioned above, it can be formulated that main problem in this study as follows: Can the use of poster props improve numeracy skills of deaf children at the age of second grade students?. The research objectives to be obtained in this study is to obtain empirical data on: (1) To obtain a picture of numeracy skill before using poster props on deaf children at the age of second grade students.; (2) to obtain a picture of numeracy skills after using the poster props on deaf children at the age of second grade students; (3) To find out whether there is an increase numeracy skills of deaf children at the age of second grade students through the use poster props. The results of this study are expected to provide benefits in the learning process of deaf pupils both theoretically and practically.

- For the academic / educational institutions, and teachers will be material information in the development of science, knowledge and use of props poster in mathematics, particularly arithmetic.
- For researchers; feed into researching and developing more research regarding the use of props posters on the subjects of arithmetic in children with hearing impairment.

- The results of this study can add to their knowledge in the world of education incredible especially with regard to improvement of numeracy skills of children with hearing impairment.
- The results of this study can be used as a reference for other researchers discuss the numeracy skills of children with hearing impairment.

3 RESULTS AND DISCUSSION

This study was about of the numeracy skills of deaf children at the age of second grade of primary school through poster props. The number of respondents were three students with hearing impairment. These three deaf children were first given the initial tests before the poster props was applied, which later was given a score. Next, the treatment was given on the form of the application of poster props in the learning of mathematics within two months, which was conducted two times a week and each meeting was held for two hours of lessons. The last test was given after the lesson ended.

Based on observations by teachers in math, before the application of poster props, the pupil attendance was only 60%, while after using poster props, the attendance increased by 90% and also the students were more active and interested in the learning process. In addition, students became bolder in answering the questions. Even more, students were engrossed in accepting the lesson given by the teacher. From these data, the application of poster props could attract student interest in learning. To obtain a picture of numeracy skills of deaf children at the age of second grade students, before the application of poster props, the ability to count at the beginning of the test is divided into five (5) categories: highly capable, able, quite capable, less capable and not capable. More details can be seen in Table 2. Based on Table 2 and the score of the data in annex 3, it can be calculated that the average numeracy for summing numbers up to hundreds of children are based on the calculation that the average score of calculation skills of deaf children at the age of second grade before the application of poster props on initial tests was 3.30, in which the average value should be in the interval of 3-4. This meant that numeracy skills of deaf children at the age of second grade students was in the category of disadvantaged.

Table 3 shows the information about the deaf children’s learning achievement before and after poster props implementation. To obtain a picture of

numeracy skills of deaf children at the age of second grade students of primary school, after the application of poster props, the ability to count at the end of the test is divided into five categories: highly capable, capable, quite capable, less capable and incapable. Based on the calculation, the average score of numeracy skills of deaf children at the age of second grade students after using poster props in final test was at 7.30, in which the average value of these within the interval of 7-8 defines as capable. The numeracy skills for deaf children at the age of second grade students was categorized capable. The upgrading of numeracy ability on deaf children at the age of second grade students before and after using the poster props can be found. The numeracy skills of deaf children at the age of second grade students after using poster props is higher than the numeracy before using poster props. Numeracy ability for students with hearing impairment of the second grade students after the application of poster props increases.

Table 2: Counting ability of deaf children in the early test.

Category	Interval test score	Frequency	Total score
Very capable	9 – 10	-	-
Capable	7 – 8	-	-
Quite capable	5 – 6	-	-
Less capable	3 – 4	2	3
Not able	0 – 2	1	2

Table 3: Scores of preliminary and final test of deaf children.

Name	Initial score	Final score
A	4	8
B	4	8
C	2	6

A deaf child is someone who is experiencing lack or loss of ability to hear either partly or entirely caused by the malfunction in part or all of the hearing instrument so that he/she cannot fully use his hearing instrument. Thus experiencing the slowness in thinking and getting problems solved, let alone to understand the complex problem. However, if the implementation of poster props in mathematics is applied as early as possible on a deaf child, then most likely they will be able to develop their potential and can also improve numeracy skills.

The results of three children’s with hearing impairment at the age of second grade students before applying poster props was included in the low category because after conducting the initial tests with the amount of 10 questions, the deaf children at the age of second grade students, could only gain the average value of 3, that the value was in the interval

of 3-4 which means low. Furthermore numeracy skills of the deaf children at the age of second grade students after applying the poster props is included in the high category because after the final test with the amount of about 10 the deaf children at the age of second grade students only scored an average of 7, that the score was in the interval of 7- 8 which meant they were capable.

4 CONCLUSIONS

An increased ability to count indicates that the deaf children at the age of second grade students prior to the use of props is different from after the poster props was applied. An increasing numeracy skills of children with hearing impairment suggests that the deaf children at the age of second grade students.

REFERENCES

- Cohrssen, C., Tayler, C., and Cloney, D. 2015. Playing with maths: Implications for early childhood mathematics teaching from an implementation study in Melbourne, Australia. *Education 3-13*, 43(6), 641-652.
- Falloon, G. 2013. Young students using iPads: App design and content influences on their learning pathways. *Computers and Education*, 68, 505-521.
- Garcia, E. E., and Stein, C. B. 1997. Multilingualism in US schools: Treating language as a resource for instruction and parent involvement. *Early Child Development and Care*, 127(1), 141-155.
- Hanline, M. F., Milton, S., and Phelps, P. C. 2010. The relationship between preschool block play and reading and maths abilities in early elementary school: A longitudinal study of children with and without disabilities. *Early Child Development and Care*, 180(8), 1005-1017.
- Jakubowicz, A. 1997. She's not there: Pauline Hanson and the Australian media. *Metro Magazine: Media and Education Magazine*, (109), 82.
- Miller, J. 1997. Case study in second language teaching. *Queensland Journal of Educational Research*, 13(1), 33-53.
- Mitchell, C. 1997. Transforming Teaching: Selecting and Evaluating Teaching Strategies. FEDA Paper. *FE matters*, 1(14), 14.
- Osborne, B., and Wilson, E. 2003. Multiliteracies in Torres Strait: A Mabuiag Island state school diabetes project. *Australian Journal of Language and Literacy*, The, 26(1), 23.
- Smith, C. 2005. Developing children’s oral skills at key stage 2. *Teaching Speaking and Listening in the Primary School*, 84-102.

Wood, P. 2012. Blogs as liminal space: student teachers at the threshold. *Technology, Pedagogy and Education*, 21(1), 85-99.

