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## RESEARCH ARTICLE

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# The Effect of Lips Reading on Language Ability on Mentally Retarded Children in Special School

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## ABSTRACT

**Background:** Mentally retarded children have a disorder at a level of intelligence below the average normal child. RM children have difficulty in arranging the form and structure of sentences. Children with RM need to get speech therapy to improve language disorders so that they become productive and improve language skills. The importance of applying lips reading can stimulate language skills so that they can arrange words and string words in sentences. Based on a preliminary study in June 2019 of five (SLB) in Yogyakarta SLBN Pembina, SLBN 1 Bantul, SLBN Sewon Bantul, SLBN Sleman and SLB Rela Bhakti I Gamping. Observations during learning in special schools found that (100%) of five special schools used sign language, they had not been trained using the Lips Reading method. **Objectives:** To know the influence of lips reading on the language ability of mentally retarded children in special schools. **Methods:** The type of research was quasi-experimental with pre-test post-test with control group design. The sample was taken by purposive sampling. Data were analyzed using t-test, Wilcoxon and Mann Whitney. **Results:** The language ability of RM children in Special Schools of Yogyakarta between the experimental and control groups with p value <0.05. **Conclusion:** There is an influence of Lips Reading on the Language Ability of Mentally Retarded Children in Special Schools

**Keywords:** lips reading; language ability; mentally retarded children; fruit-vegetable-flower picture

## INTRODUCTION

Children are individuals who have different growth and development needs starting from the womb until adolescence. <sup>(1,2)</sup> Growth and development is a child's maturity in physical form and abilities/skills. Genetic, environmental and behavioral factors will form different characteristic attitudes in each child<sup>3</sup>. Children in the period of growth and development will have a higher activity, this raises a high possibility of fatigue or accidents that cause developmental disorders. <sup>(3)</sup> If the disorder during the child's growth and development is not treated immediately, a more serious disorder will occur in the child.

Disorders that can occur during a child's growth and development are speech disorders, mental retardation, autism, slow learning, attention deficit disorders or Soldered Attention Deficit<sup>2</sup>. Developmental disorders that are more common in children are mental retardation. DSM-V (Diagnostic and Statistical Manual of Mental Disorder) The suggests that mental retardation is a mental disorder in behavior patterns caused by an inability to adapt that occurs in an individual and the disorder occurs before the age of 18 years. <sup>(3)</sup> Various factors cause mental retardation in children, such as genetic factors, prenatal factors, intranatal factors and postnatal factors, but mental retardation often occurs in children caused by genetic factors. <sup>(2)</sup>

Developmental disorders in mentally retarded children can be identified through the results of psychological tests on Intelligence Quotient (IQ) below 70 and the child's ability to perform independence is not optimal. <sup>(2)</sup> Based on the clinical view, mental retardation is divided into 4, namely, mild mental retardation (IQ <70) with criteria for children who are able to teach and train in performing skills with the guidance of others,

moderate mental retardation (IQ <49) has criteria for children who are able to train in the skill level of second grade elementary school, while severe retardation (IQ <34), and very severe mental retardation (IQ <20) have criteria for children who have comorbid disorders and depend on others <sup>(3)</sup>. The number of children with mental retardation in Indonesia is increasing every year.

The stated that the prevalence of mental retardation in Indonesia is 3%. Statistical data shows that 10-30 out of 1000 people are mentally retarded, there are 1,750,000-5,250,000 people suffering from mental retardation. As the number of children with mental retardation increases, special educational materials for children with mental retardation are needed, one of which is self-development. Children with special needs including mental retardation are children who experience physical and mental growth and development disorders <sup>(2)</sup>.

The special characteristics of mentally retarded children that distinguish them from other children of their age can be seen physically which include a wide face, thick or cleft lips, mouth gaping open and the tongue usually sticking out <sup>(1)</sup>. Children with mental retardation experience speech delays and have difficulty in language skills. The language ability of mentally retarded children at first is not different from the language abilities of normal children because language is strongly influenced by their hearing so that their development is hampered. At first the language skills of mentally retarded children are no different from normal children, at an early age the baby will cry if he is hungry, thirsty, defecates, urinates, or is sick. During palpation, mentally retarded children make consonant and vowel sounds.

Language limitations or language skills of children are distinguished by the acquisition of language from their family environment, namely whether their parents have hearing problems that affect the use of sign language or speaking. More language skills use sign language which is learned through contact with peers and eventually develops into a real formal sign language. The written language uses short sentences.

Mentally retarded children have difficulty in compiling the form and structure of sentences. Mentally retarded children have limitations in understanding reading signs, such as news sentences, commands and questions. Written language ability, if an evaluation is held, most of the mentally retarded children do not have sufficient vocabulary for higher academic interests.

The acquisition of a normal child's language begins with a shared experience or situation between the baby and his mother and the people around him. Children are not taught words and then told their meaning, but through experience he learns to connect between experience and language symbols obtained through hearing. This process is the basis for the development of inner language. After that, the child begins to understand the relationship between language symbols and the objects or events they experience and the child's receptive language is formed. After receptive language begins to form, children begin to express themselves through words as the beginning of expressive language skills.

All of these abilities develop through hearing. After children enter school age, vision plays a role in language development, namely the ability to read (receptive language through sight) and write expressive language (through sight). Language acquisition in mentally retarded children starts from experience through sight by reading speech. Understanding this utterance as an element or basis of his inner language. So the inner language of mentally retarded children consists of words as they appear on the movements and patterns of the lips as a substitute for language sounds in the form of vowels, consonants, and intonations in hearing children. Like hearing children, in mentally retarded children receptive language skills (speech) can only be demanded after the development of receptive language which develops first.

Children with mental retardation can be reduced by utilizing residual hearing. In addition, mentally retarded children also need to get speech therapy to improve language disorders so that mentally retarded children can be productive and can improve language skills. Speech therapy is given to mentally retarded children who have communication disorders including speech, language and swallowing disorders. Speech therapy can also be useful to rebuild cognition and productivity of mentally retarded children. The importance of speech therapy with the lips reading method is needed to stimulate the language skills of mentally retarded children so that children can speak starting from practicing recognizing vowels for example a, i, u, e, o and consonant letters such as b, c, d and so on so that children expected to be able to arrange words and arrange words in sentences.

The lips reading method should be included in the learning curriculum in Special Schools (SLB) section C (tuna grahita) and must be done to provide language stimulation to mentally retarded children, but until now the lips reading method has not been carried out by teachers optimally so that children's language development mental retardation is not optimal.

Based on a preliminary study in June 2019 of five Special Schools (SLB) in Yogyakarta, namely SLB Negeri Pembina Yogyakarta, SLB Negeri 1 Bantul, SLB Negeri Sewon Bantul, SLB Negeri Sleman and SLB Rela Bhakti I Gamping Sleman Yogyakarta, the authors made observations during the lesson. it was found that learning in special schools was found (100%) of five special schools using sign language, not yet trained using the Lips Reading method.

The objective to know the influence of Lips Reading on the Language Ability of Mentally Retarded Children in Special Schools. Based on the description above, the researchers are interested in conducting research on "The Effect of Lips Reading on the Language Ability of Mentally Retarded Children in Special Schools"

## METHODS

This research was a quasi-experimental study with a pre-test-post-test with control group design. The research design can be described as follows:

Pre test	Intervention	Post test
O <sub>1</sub>	X <sub>1</sub>	O <sub>2</sub>
O <sub>3</sub>	X <sub>2</sub>	O <sub>4</sub>

X<sub>1</sub>: Giving intervention to the experimental group using the Lips. Method Reading was done 1 time a week for 3 months duration 30 minutes using Lips Reading book

X<sub>2</sub>: Giving out Lips Reading leaflets

O<sub>1</sub>: Pre-test language ability mental retarded children in the group treatment

O<sub>2</sub>: Post-test language ability mental retarded children in the group treatment

O<sub>3</sub>: Pre-test language ability mental retarded children in the group control

O<sub>4</sub>: Post test language ability mental retarded children in the group control

The study was conducted in 5 special schools in the Special Region of Yogyakarta (DIY). Time The study was conducted from July to October 2020 (intervention duration is 3 months). Independent variable: Lips Reading and dependent variable: Language Ability of Mentally Retarded Children

The population was all mentally retarded children in SLB Special Region of Yogyakarta (DIY). In this study, the respondents were two groups of mentally retarded children at SLB Negeri Pembina Yogyakarta, SLB Negeri 1 Bantul, SLB Negeri Sewon, SLB Sleman and SLB Rela Bhakti I Gamping Sleman Yogyakarta, as many as 34 in each intervention group and control group. The sampling technique in this study used purposive sampling. The data from the examination were analyzed descriptively and analytically with the help of the SPSS for Windows version 16.0 program using the pair t-test, Wilcoxon and Mann Whitney<sup>(5)</sup> with a significant level of 0.05.

The study had been approve by Health Etic Commetee of Politeknik Kesehatan Kemenkes Yogyakarta at Description Of Ethical Appoval. With Number : e-KEPK/POLKESYO/0529/VII/2020.

## RESULTS

Location can be seen at Table 1, characteristic responden can be seen at Table 2, Language Ability Mental retarded children pre test and post test in group eksperimen can be seen at Table 3 and control can be seen at Table 4. Normality test can be seen at Table 5 and analysis test can be seen at Table.

Table 1. The location of the study and the number of respondents in five special schools in DIY

No	Location research in SLB	Number of respondents			
		Experiment		Control	
		f	%	f	%
1	SLB N Pembina	7	20.59	7	20.59
2	SLB N I Bantul	7	20.59	7	20.59
3	SLB N II Bantul	7	20.59	7	20.59
4	SLB N I Sleman	7	20.59	6	17.64
5	SLB Rela Bakti	6	17.64	7	20.59

Table 2. Characteristics of respondents in the experimental group and in the control group

No	Characteristics of respondents	Number of respondents			
		Experiment		Control	
		f	%	f	%
1	Child age				
	6-8 year	9	26.5	8	23.5
	>8-10 year	17	50.0	19	55.9
	>10-12 year	8	23.5	7	20.6
2	Gender of child				
	Man	14	41.2	15	44.1
	Woman	20	58.8	19	59.9
3	Child order				
	1	22	47.8	18	39.1
	2	18	39.1	18	39.1
	3	5	10.9	6	13.0

Table 3. Mental retardation children's language ability pre-test and post-test in the experimental groups before and after being given a book "Application of Lips Reading"

No	Language ability	Experiment			
		Pre test		Post test	
		f	%	f	%
1	Fruit pictures				
	Less	14	41.2	2	5.9
	Enough	19	55.9	20	58.8
	Good	1	2.9	12	35.3
2	Vegetable pictures				
	Less	15	44.1	1	2.9
	Enough	18	52.9	18	52.9
	Good	1	2.9	15	44.1
3	Flower pictures				
	Less	25	73.5	1	2.9
	Enough	6	17.6	28	82.4
	Good	3	8.8	5	14.7

Table 4. Mental retardation children's language skills pre-test and post-test in the control groups before and after being given a book "Application of Lips Reading"

NO	Language ability	Control			
		Pre test		Post test	
		f	%	f	%
1	Fruit Pictures				
	Less	14	41.2	1	2.9
	Enough	15	44.1	19	55.9
	Good	5	14.7	14	41.2
2	Vegetable Pictures				
	Less	11	32.4	1	2.9
	Enough	15	44.1	19	55.9
	Good	8	23.5	14	41.2
3	Flower Pictures				
	Less	27	79.4	2	5.9
	Enough	6	17.6	27	79.4
	Good	1	2.9	5	14.7

The normality test was tested using Shapiro Wilk because  $n < 50$ , with  $p\text{-value} > 0.05$  meaning the data was normally distributed and  $p\text{-value} < 0.05$  was not normally distributed.

Table 5. Test the normality of the experimental group and the control group of pre-test and post-test languages ability in children with mental retardation

Language ability	Group	p	Information	
Fruit pictures	<i>Pre</i>	Experiment	0.333	Normal
		Control	0.008	Abnormal
	<i>Post</i>	Experimen	0.288	Normal
		Control	0.046	Abnormal
Vegetable pictures	<i>Pre</i>	Experiment	0.022	Abnormal
		Control	0.011	Abnormal
	<i>Post</i>	Experimen	0.000	Abnormal
		Control	0.002	Abnormal
Flower pictures	<i>Pre</i>	Experiment	0.000	Abnormal
		Control	0.000	Abnormal
	<i>Post</i>	Experimen	0.000	Abnormal
		Control	0.000	Abnormal

Table 6. The language ability pre-test and post-test in the experimental and control groups before and after being given the application of Lips Reading books method for mentally retarded children

Language ability	Group		p
Fruit pictures	Experiment	<i>Pre test</i>	0.000
		<i>Post test</i>	
	Control	<i>Pre test</i>	0.000
		<i>Post test</i>	
Vegetable pictures	Experiment	<i>Pre test</i>	0.000
		<i>Post test</i>	
	Control	<i>Pre test</i>	0.000
		<i>Post test</i>	
Flower pictures	Experiment	<i>Pre test</i>	0.000
		<i>Post test</i>	
	Control	<i>Pre test</i>	0.000
		<i>Post test</i>	

The Mann Whitney analysis test with language skills recognizes pictures of fruits, pictures of vegetables, pictures of flowers between the experimental and control group in pre-test with p-value  $>0.05$ , which means there was no differences in language ability to recognize pictures of fruit, pictures of vegetables, pictures of flowers and pictures of pre-test objects between the experimental and control groups. The results of the Mann Whitney analysis test of language ability to recognize pictures of fruits, pictures of vegetables, pictures of flowers in children with mental retardation in Special Schools DIY between the experimental and control group in post-test with p-value  $<0.05$ , meaning there was difference language skills to recognize pictures of fruits, pictures of vegetables, pictures of flowers post test between the experimental and control groups.

## DISCUSSION

### The Language Ability of Mentally Retarded Children before Doing Lips Reading

The language ability to recognize flowers is lacking because children are rarely invited to see flowers in the garden. Children who have healthy relationships with their families (attentive and affectionate with their parents) can facilitate children's language skills. On the other hand, if the relationship between children and their parents is not healthy, then the child's language skills tend to experience abnormalities such as stuttering, unclear words, rude and disrespectful words and being afraid to express their opinions. Communication is a process in which children exchange information and convey thoughts and feelings of peers, in this case mentally retarded children with limited language skills need to be assisted and stimulated using image media so that there is coordination between eyes and lips to improve language skills. Language as a communication tool is to make it easier for messages to be conveyed and understood and the communication process occurs through language. Mentally retarded children lack understanding of verbal information, this causes mental retardation children to find it difficult to accept abstract material, so that learning media is needed in the form of Lips Reading books to facilitate understanding of a concept in mentally retarded children. The ability to master vocabulary in mentally retarded children with hearing loss is clearly different due to limited hearing function so that mentally retarded children tend to have learning or communication barriers. The application of Lips Reading book teaches mentally retarded children to develop self-monitoring skills. Mentally retarded children learn to listen to their own voices as well as other people's during natural conversation thereby increasing the language skills of mentally retarded children.

### The Language Skills of Mentally Retarded Children after Doing Lips Reading

The language ability to recognize animals and objects is good because children are more familiar with animals around the home environment and objects are also more widely known by children because objects are always associated with children every day in the family environment. This is in accordance with the results of research by entitled "Lips reading in School-age Children: The Roles of Age, Hearing Status, and Cognitive Ability", the results show that the ability to read lips in children is not fixed, but increases between the ages of 7-14 years. The finding that children with hearing loss practice lips reading better than children with normal hearing shows that experience plays an important role in the language skills of children with special needs. <sup>(7)</sup>

### The Influence of Lips Reading on the Language Ability of Mentally Retarded Children

Based on the results, there was difference language skills to recognize pictures of fruits, pictures of vegetables, pictures of flowers post test between the experimental and control groups, after intervention. Based on the factors that influence the success of applying Lips Reading, it can be concluded that the results to be achieved by each child with mental retardation will be different <sup>(8)</sup>. The final result is returned to the potential of mentally retarded children in accordance with IQ, facilities and participation of people in carrying out the implementation of Lips Reading in mentally retarded children <sup>(10)</sup>. In practice, the application of lips reading must be carried out by parents and in

collaboration with various scientific fields that support the success of habilitation<sup>(9)</sup>. Parents are the main actors and teachers are only educators and counselors. The role of parents is the most important in the implementation of lips reading<sup>(11)</sup>. This is in accordance it is assumed that parents are the closest environment to mentally retarded children, are closest to and know their special needs and are the most influential and responsible for mentally retarded children<sup>(12)</sup>, while the function of experts (teachers, therapists, psychologists, nurses and other medical teams) only as consultants or as one of the "social supports" for the success of mentally retarded children<sup>(6)</sup>. Parents are the focus in improving the development of communication and language skills of mentally retarded children<sup>(13)</sup> and in its implementation, cooperation / collaboration between parents and experts is needed in facilitating the language skills of mentally retarded children. The support of parents, special education teachers, nurses and habilitation staff is very important in order to improve the language ability of mentally retarded children<sup>(14)</sup>.

### CONCLUSION

The language ability of mentally retarded children before lips reading at SLB Special school recognize pictures of fruits in the sufficient category, recognize pictures of vegetables in the sufficient category, recognize pictures of flowers in the poor category. The language ability of mentally retarded children after doing lips reading at SLB recognize pictures of fruit in the sufficient category, recognize pictures of vegetables in the sufficient category, recognize pictures of flowers in the sufficient category. Efforts to increase vocabulary through role-playing methods in mild mentally retarded children. There is an influence of Lips Reading on the Language Ability of Mentally Retarded Children at Special Schools

### Acknowledgment

Lips Reading application books can be used as a model to stimulate the language skills of children with mental retardation in special schools (SLB) and can be included in the curriculum at special schools and included in pediatric nursing courses. The book on the application of Lips Reading is expected to be used as an implementation and replication of the language stimulation model with lips reading in assisting parents and families in children with mental retardation.

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