

## Effectiveness of Shaping Techniques in Promoting Independence in Children with Intellectual Disabilities

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### ABSTRACT

According to the World Health Organization (WHO), 12% of children worldwide, or over 450 million, had mental retardation in 2019, and that number is expected to rise to 15% by 2020 (Schalock & Luckasson, 2021). As per the Special Education Statistics of Indonesia for the year 2019–2020, 144,102 individuals, or 56% of the population, were enrolled in both public and private special schools. With 12,007 children, Central Java Province comes in second (Pusdatin Kemendikbud Indonesia, 2020). In 2020, the Grobogan Regency had a population density of 736 persons per km<sup>3</sup>, and 1,596 of those children had intellectual disabilities (Central Java Village Information System, 2022). Objective: to use shaping techniques to assess how much mentally retarded children's self-development education has become more independent. Research methods: This study employed a quasi-experimental pretest-posttest design involving 45 children with intellectual disabilities. Results show a significant improvement in independence after intervention, with independence scores increasing from 55.6% to 75.6% ( $p < 0.05$ ). Conclusion: The effectiveness of modeling methods and engineering in guiding the self-development of mentally retarded children toward independence

### INTRODUCTION

A child with special needs is a child who requires special treatment because there are developmental disorders and abnormalities in the child, in other words usually called a disability, a child with

special needs is a child who has limitations in one or several physical abilities such as blindness and hearing impairment, or is psychological factors such as autism and ADHD (Reni Puspita Rini, 2012).

According to World Health Survey around 785 million or 15.6% of people over 15 years of age have disabilities and 110 million people or 2.2% have significant difficulties. World Health Organization (WHO) in 2019 more than 450 million or 12% of children in the world experienced mental retardation and in 2020 it is estimated that there will be an increase of around 15% (Schalock & Luckasson, 2021)

Based on Indonesian population census data in 2020, there are 270,203,917 people with 22.5 million (5%) disabilities and according to Susenas there are around 1.11% of children aged 2-17 years with disabilities, 0.38% have difficulty taking care of themselves, 0.32 behaviors, 0.48% communicating, 0.38% remembering (Central Statistics Agency, 2021).

According to statistical data on Special Education in Indonesia from 2019 to 2020, there were 144,102 or 56% of people in both public and private special schools. Central Java Province is in second place with 12,007 children (Pusdatin Kemendikbud Indonesia, 2020). Based on the population of Grobogan Regency in 2020, it was 736 people/km<sup>2</sup> and there were 1,596 children with intellectual disabilities (Central Java Village Information System, 2022).

This requires increasing the independence of mentally retarded children with the Independent Development approach. Self-development education is education provided to students with special needs in carrying out daily activities with the aim of making students independent and not dependent on other people. Mentally retarded students with their low level of intelligence result in them being unable to take care of themselves related to daily life activities (Anggraini & Marlina, 2018).

Self-development is a training process given to mentally retarded children so that they can develop their abilities, such as taking care of themselves, caring for themselves, helping themselves, communication skills, skills socializing, as well as skills in filling free time (Maisyah, 2021)

In general, self-development education aims to ensure that mentally retarded students can no longer depend on other people to take care of and help themselves. The specific aim of self-development for mentally retarded children is to develop the abilities of mentally retarded students in carrying out daily life activities starting from self-care, self-care, self-help, as well as improving the communication and social skills of mentally retarded children (Anggraini & Marlina, 2018). Efforts that can increase the independence of mentally retarded children by using techniques shaping.

Technique shaping is one of the techniques used by a teacher in teaching self-development lessons to students with mild intellectual disabilities to reduce their behavior of always depending on other people around them in terms of taking care of themselves personally (Dara Gebrina Rezieka, Khamim Zarkasih Putro, 2021). Shaping used in forming new behavior that has never been done by the individual, by providing reinforcement or reinforcement when the child has started to approach the desired behavior (Anggraini & Marlina, 2018)

Based on pre survey and interviews with teachers at SLB C YPLB Danyang Purwodadi obtained data on 100 mentally retarded children. A total of 60 children with mild mental retardation and as many as 40 children with moderate mental

retardation. These mentally retarded children can eat and drink independently without having to be fed, but for other needs they still need help from other people, such as buttoning clothes, combing and wearing lace-up shoes.

## METHOD

The research design used in this research is quantitative, quasi experimental. one group pretest-posttest only. The population in this study was 45 mentally retarded children. Techniques for collecting data using total sampling that is, the entire population is used as a research sample based on the inclusion criteria chosen by the researcher.

## RESULTS AND DISCUSSION

### 1. Table.1 Demographic Characteristics of Respondents Before Intervention

Characteristics	Independent		Dependency	
	F	%	F	%
<b>1. Gender</b>				
Man	20	44,5	11	24,4
Woman	5	11,1	9	20,0
Total	25	65,6	20	44,4
<b>2. Age</b>				
7-11 Years	10	22,2	11	24,5
12-16 Years	7	15,6	6	13,3
17-21 Years	8	17,8	3	6,7
Total	25	55,6	20	44,4
<b>3. Class</b>				
SDLB	13	28,9	14	31,1
SMPLB	5	11,1	4	8,9
SMALB	7	15,6	2	4,4
Total	25	55,6	20	44,4

Based on table 1, it can be seen that the respondent's gender was the most common in the measurements pre test 20 (44.5%) children were independent in males. Based on age, the most dependent respondents were 7-11 years old, 11 (24.5%) children in the measurement pre test. Based on class, it is known that respondents are most dependent on measurement pre test namely in classes at SDLB consisting of grades 1 to grade 5 as many as 14 (31.1%) children.

### 2. Table.2 Demographic Characteristics of Respondents After Intervention

Characteristics	Independent		Dependency	
	F	%	F	%
<b>1. Gender</b>				
Man	22	48,9	9	20,0
Woman	8	17,8	6	13,3
Total	30	65,6	15	44,4
<b>2. Age</b>				
7-11 Years	11	24,5	10	22,2
12-16 Years	9	20,0	4	8,9
17-21 Years	10	22,2	1	2,2
Total	30	65,6	15	44,4
<b>3. Class</b>				
SDLB	15	33,3	12	26,7
SMPLB	6	13,3	3	6,7
SMALB	9	20,0	0	0,0
Total	30	65,6	15	44,4

### 3. Table 3. Distribution of Self-Build Shaping Techniques

Characteristics	Shaping	
	F	%
Done	45	100,0
Are not done	0	0,0
Total	45	100,0

Based on table 3, it can be seen that the SOP was carried out on Shaping as many as 15 (100.0%) children with a mean value of 1.00

### 4. Table 4. Distribution of Respondents' Independence Before Intervention

Respondent Independence Pre test	Shaping	
	F	%
Independent	25	55,6
Dependency	20	44,4
Total	45	100,0

Based on table 4, it can be seen that the pre-test independence on technique shaping with a level of independence of 25 (55.6%), and with a level of dependence of 20 (44.4).

### 5. Table 5. Distribution of Respondents' Independence After Intervention

Post test response independence	Shaping	
	F	%
Independent	34	75,6
Dependency	11	24,4
Total	45	100,0

Based on table 5, it can be seen that the pre-test independence on technique shaping with a level of independence of 34 (75.6%), and with a level of dependence of 11 (24.4).

### 6. Table 6. Effect before and after the self-development shaping technique intervention on the independence of mentally retarded children

Variable	Mean	Std	Std error Mean	df	N	Sig.
PreTechnical Independence Shaping	72,133	6,685	1,726	14	15	,000
Post Shaping Technique Independence						

Post Shaping Technique Independence

Based on table 6 using the test paired sampel test independence before and after being given the shaping technique intervention obtained a p value of  $0.000 < \alpha$  (0.05) so that  $H_a$  was accepted and  $H_0$  was rejected, so it can be interpreted that there is an effective influence between the techniques shaping self-development for the independence of mentally retarded children at SLB C YPLB Danyang Purwodadi.

#### 1. Gender

Based on the gender above, 44.5% were male, both before and after. 48,9% has been independent without verbal or physical assistance. The abilities and physical skills of mentally retarded children in carrying out activities are influenced by gender, but limitations in carrying out daily activities or discrepancies in development

cannot be detected early through gender if the child has a disability or not.

Children with mental retardation are more common in boys, around 1.5 times more than girls. The formation of independence in boys requires them to become more independent and responsible for their own activities (Reni Puspita Rini, 2012)

According to research (Astuti, D., Indanah, Karyati, 2013), male mentally retarded children have more good self-care skills than girls, including the ability to bathe, brush their teeth, wear button-up clothes, wear lace-up shoes, and comb their hair properly. tidy up independently. Boys are more susceptible to disability, especially mental retardation (mental retardation) and more often than girls.

## **2. Age**

Based on the age of respondents, the most dependent were 11 (24.5%) children aged 7-11 years in the measurements before the intervention and in the measurements after the intervention the most were independent, namely between the ages of 7-11 years, 11 (24.5%) of the children. mentally disabled.

Development of more complex self-care independence can be given to mentally retarded children. An important period for a child's growth and development is school age, so age can influence a child's time and ability to carry out self-care activities independently.

The age and physical condition of mentally retarded children who are older > 12 years have 4.6 times better self-care abilities compared to younger children. The growth and development of children during the school period accelerates at the age of 10-12 years with increasingly higher physical activity and their motor skills and

independence are increasingly strengthened because capable adapt to the environment (Parulian et al, 2020)

Research (Siti Munafiah, 2018), shows that as the age of mentally retarded children increases, the more experience they gain from the environment and parental support in making mentally retarded children independent. The ability of school-age mentally retarded children to care for themselves in carrying out personal hygiene, although this must be taught first before carrying out self-care

## **3. Class**

Based on the class of respondents, the most respondents experienced the most dependence on measurements before the intervention, namely in the SDLB class as many as 14 (31.1%) children, while the respondents who experienced the most dependence on measurements after independent intervention were in the SDLB class as many as 15 (33.3% ) child. The number of mentally retarded children taken for each class is adjusted to the total number of children in each class and each mentally retarded child has the opportunity to become a research respondent according to the provisions or criteria set by the researcher.

This is also supported by research conducted by (Siti Munafiah, 2018), that the education of mentally retarded children can influence children's independence. Mentally retarded children who have a good level of knowledge will slowly be able to properly participate in learning training about their own independence. The provision of good training is supported by parents.

(Reni Puspita Rini, 2012), that many respondents in class 2 and class 3 are already independent, while many in class 1,

class 4 to class 6 are not independent. Respondents in class 2 and class 3 who are independent can be influenced by stimulation from parents at home or lessons at school. Students who enter special schools have different backgrounds in terms of children's mental retardation, so it could be that children who enter class 1 and move up to class 2 have better mental retardation than children who have entered class 4 to class 6. Parents who providing stimulation or assistance to children in carrying out daily activities, including personal hygiene activities, which include dressing in a button-up shirt, making children less independent and always dependent on parents, siblings or other people.

#### **4. Technique Shaping Develop yourself according to SOP**

Based on the research results, it can be seen that Standard Operating Procedures (SOP) are carried out in groups shaping build self as many as 45 (100,0%) children with values mean 1.00. Meanwhile, in the control group SOP was not implemented (no intervention was given) as many as 0 (00.0%) children with a mean value of 0.0. The implementation of modeling and shaping techniques for self-development in accordance with the SOP will help with the steps or stages that will not have a bad impact on the survival of an individual.

#### **5. Respondent's Independence Before Intervention**

Based on the research results, it can be seen that independence before group intervention shaping and the control group were the most independent, respectively, 9 (60.0%) children, 8 (53.3%) children and 8 (53.3%) children. In the measurement before being given self-development

intervention, moderately mentally retarded children have a level of independence that still requires verbal and physical assistance. Therefore, Tuangrahita children still need a lot of regular practice so that they can be independent without physical assistance from parents or teachers (homeroom teachers).

Children with mental retardation have limitations in adaptive behavior, especially in the medium category which consists of adaptive self-care, taking care of themselves, helping themselves, communicating, adapting to the environment, using free time and simple skills within the scope of self-development, thus making children dependent on other people for just carry out their own activities (Garnida, 2016)

These results are in line with research conducted (Dewi et al, 2019), that children's ability to adapt to new problems and life situations, think abstractly, learn from experience, be creative, assess critically, plan for the future and overcome difficulties is difficult for children with intellectual disabilities. to take care of themselves in society so that they depend more on their parents, social responsibilities cannot be carried wisely so they must always be supervised and guided, poor reasoning makes it difficult for mentally retarded children to solve and learn important things slowly.

#### **6. Respondents' Independence After Intervention**

Based on the research results, it can be seen that independence after intervention in the shaping group was 11 (73.3%) independent children, while respondents in the control group were 9 (60.0%) independent children in the category



requiring physical assistance. The results of this research are in line with research conducted by Yuemi & Mundakir (2015) that the self-development occupational therapy provided can help children who have fine motor problems in mentally retarded children through providing information and improved family knowledge in the training process. independence of mentally retarded children so that children can increase their independence through this therapy.

The results of this research are strengthened by research conducted by (Esa Putri Nabella, 2018), that providing self-development occupational therapy can provide better independence for mentally retarded children, where the child's level of independence only requires verbal assistance and no more mentally retarded children are found who need help. physical and verbal in carrying out self-development activities. Children with intellectual disabilities become able to take care of themselves, communicate, socialize and use money for shopping only with verbal help from parents or teachers. Increased independence in self-care and self-care activities. Children with mental retardation can eat, drink, clean and maintain personal health and dress with verbal direction or assistance from parents or teachers

## **7. The Effect Before and After Intervention of Self-Development Shaping Techniques on the Independence of Children with Intellectual Disability**

Based on test paired sampel test the independence of the respondent before the intervention and after the intervention was given technical intervention shaping p value is  $0.000 < \alpha (0.05)$  so that  $H_a$  is

accepted and  $H_0$  is rejected, it can be interpreted that there is effectiveness of the technique shaping self-development for the independence of mentally retarded children at SLB C YPLB Danyang Purwodadi. There is a significant difference between the pre-test and post-test independence measurements in shaping techniques, which is shown in the average independence of mentally retarded children before the intervention, namely 66.40, while after the intervention, it is 138.53. This shows that independence after the intervention is higher than before the self-development shaping technique intervention. So that independence increases in self-development indicators in taking care of oneself, putting on and taking off button-up clothes.

This is in accordance with the Module from (Garnida, 2016), that in dressing activities it is recommended to learn how to remove outer clothing (shirts) first and then continue by putting on outer clothing (shirts). This research is in line with research (Rohmah, 2022), that the implementation of clothing self-development learning is carried out by preparing tools and clothing materials according to the teacher's instructions with a behavior modification approach through providing assistance to students who have difficulty dressing and providing reinforcement positive reinforcement (positive reinforcement) in the form of praise after students complete each stage of dressing correctly shaping.

## **CONCLUSIONS AND RECOMMENDATIONS**

Results from the test paired sampel test pre and post Technique shaping on the independence of mentally retarded

children, the p value was obtained, namely  $0.000 < \alpha (0.05)$  so that  $H_a$  was accepted and  $H_0$  was rejected so that there was an influence of self-development shaping techniques on the independence of mentally retarded children at SLB C YPLB Danyang Purwodadi. Result of anova in the group shaping, the value obtained for the independence of mentally retarded children p-value namely  $0.000 < \alpha (0.05)$  so that  $H_a$  is accepted and  $H_0$  is rejected so that there is the effectiveness of the influence of modeling techniques and techniques shaping self-development for the independence of mentally retarded children at SLB C YPLB Danyang Purwodadi

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