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The Use of Straw String Media to Improve Pre-Writing Skills for Children With Intellectual Disability

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ABSTRACTS

The purpose of this study was to determine the use of straw string media to improve pre-writing skills for children with intellectual disabilities. The research method used is Classroom Action Research (CAR) using demonstration learning methods and assignments. The research subjects were three children with intellectual disabilities at the Special School. The results showed that students experienced an increase in pre-writing skills. This is proved by the average acquisition of students' pre-writing skills which increases in each cycle. The results of the post-test showed that the average score of the students increased by 43% compared to the results of the pre-test. The success of this method is due to the use of straw string media which helps students improve pre-writing skills. This study demonstrates that the use of straw string media can make it easier for students to improve pre-writing skills and also makes it easier for teachers to guide students, especially children with intellectual disabilities.

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1. INTRODUCTION

Pre-writing is the most basic stage of advanced writing skills. Pre-writing skills provide children with necessary tools so that, when they are mature and chronologically ready, they can write fluently without any frustration. Pre-writing skills include many aspects such as the ability to hold a pencil, thicken a line and pattern, thicken shapes, copy letters, and others. There are several types of pre-writing activities that have been used such as drawing, copying, dan tracing. Pre-writing skills must be developed in every student, including children with intellectual disabilities.

Intellectual disability is a condition experienced by a child who has intellectual disabilities, has problems with adaptive behavior, and occurs during development (Ratnengingsih, 2017). With the disability in the intellectual aspect, this certainly affects the pre-writing skills for children with intellectual disabilities. Children with intellectual disabilities have difficulties in thickening a line, as well as patterns or shapes. Children with intellectual disabilities tend to make lines or scribbles randomly so that they do not match the lines and patterns that have been provided. To improve pre-writing skills for children with intellectual disabilities, especially in terms of thickening lines, thickening patterns, and drawings, it is necessary to use learning media that can help students improve their pre-writing skills.

Learning media is a tool that can help the teaching and learning process so that the meaning or message conveyed becomes clearer and the goals of education or learning can be achieved effectively and efficiently (Nuritta, 2018). The learning media used in this research was a straw string. The straw string is a rope made of rattan and has many uses such as for making handicrafts, souvenir ropes, flower vases, mirror frames, etc. The use of straw string in this research was as a learning medium to improve pre-writing skills for children with intellectual disabilities. The straw string will be used as a “boundary” which will limit the student's writing area so that students will not write outside of the “boundary” that has been provided.

Currently, there are many studies that discuss pre-writing skills for children with intellectual disability, including efektivitas media huruf bergambar terhadap kemampuan menulis permulaan bagi siswa tunagrahita ringan (Ayu, 2017), finger painting dalam menulis permulaan pada siswa tunagrahita ringan (Sawitri and Shodiq, 2018), kesulitan menulis permulaan pada anak usia dini dengan kelainan tunagrahita ringan, metode VAKT untuk meningkatkan kemampuan menulis permulaan anak tunagrahita (Liliana *et al*., 2020), pengaruh media playdough terhadap keterampilan menulis permulaan siswa tunagrahita, penggunaan media pembelajaran visual dalam meningkatkan keterampilan menulis permulaan anak tunagrahita ringan (Isroniyadi & Masitoh, 2021). But until now there has been no research that discusses the use of straw string media to improve pre-writing skill for children with intellectual disability.

This study aims to determine the use of straw string media to improve pre-writing skills for children with intellectual disabilities. The research method used is Classroom Action Research (CAR) using demonstration learning methods and giving assignments to students. The research subjects were three children with intellectual disabilities at the Special School. The results showed that students experienced an increase in their pre-writing skills in each cycle. At the pre-test, A got a score of 33% then increased to 73% at the post-test, Z got a value of 20% at the pre-test then increased to 67% at the post-test, and R at the pre-test got the value of 27% then increased to 67% at the time of the post-test. The success of this method is due to the use of straw string media which can help students improve their initial writing skills and also attract students' attention because the straw string can be painted in colorful colors. The

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use of straw string media can make it easier for students to improve their pre-writing skills and can make it easier for teachers to guide students. The novelty of this study is (i) the use of straw string as learning media, and (ii) the research subjects are children with intellectual disabilities.

2. METHODS

2.1. Subject and location of the research

This study involved three children with intellectual disabilities at the Special School, Bandung, West Java. This school is specifically for students with special needs.

2.2. Research procedure

This research focused on the case of the use of straw string media in improve pre-writing skills for children with intellectual disabilities. The research flow includes: (i) initial reflection, (ii) action planning, (iii) action implementation, (iv) observation, reflection, and evaluation.

Figure 1 describes the classroom action research design following Lewin's model design interpreted by Kemmis (Bochiati Wiraatmadja) which is a research design consisting of initial reflection, action planning, action implementation, as well as observation, reflection, and evaluation. The four components above are carried out in a cycle consisting of planning, action, observation, and reflection.

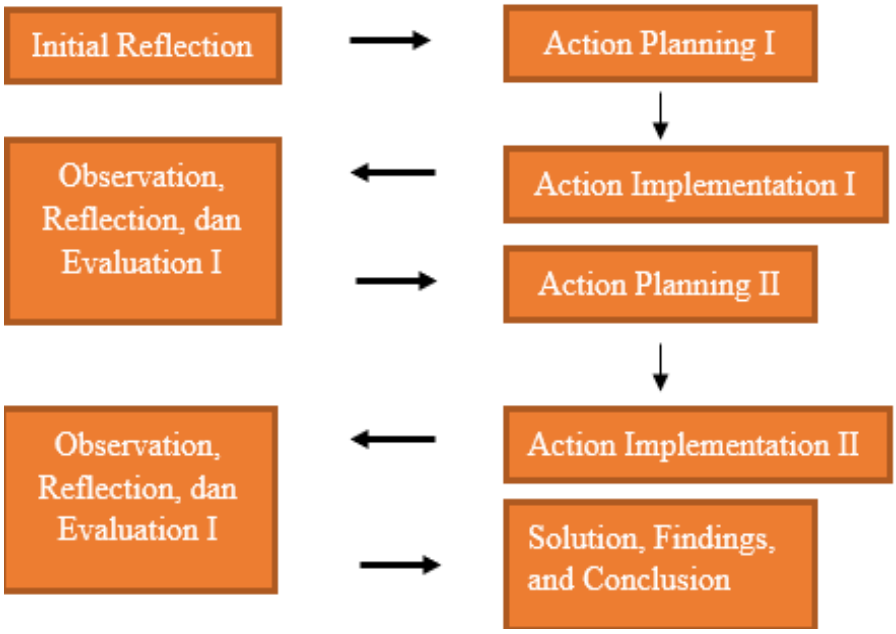

Figure 1. Lewin's classroom action research (CAR) design image adopted by Wiriaatmadja, (2005).

2.3 Research activity procedure

Figure 2 describes a cycle of implementing "action" or one cycle in classroom action research. Activities carried out at the planning stage are determining basic competencies, preparing learning implementation plans, compiling Student Worksheets, and preparing learning resources. In the acting stage, actions are taken in accordance with the learning implementation plan that has been prepared previously. At the "observing" stage, monitoring was carried out on the implementation of actions that were in accordance with the purpose of the research was to improve pre-writing skills using straw string media. Reflecting is done

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to understand the process, problems, and obstacles experienced during the implementation of the action.

2.4. Research instrument

In this research activity, we collect data through observation and tests. We make Student Worksheets which consist of 15 questions to determine students' understanding of the material being taught. **Table 1** describes the worksheet that should be done by students from pre-test until cycle 3. It contains 15 questions and two scoring criteria. Students get 1 if they can write the lines, patterns, or shape, correctly, and gets 0 if they can't finish the question.

The scoring or assessment criteria given if students can answer the questions correctly is 1 for each number, so 15 if they can complete the worksheet. The earning score will be times with 10. The score will be converted to a percentage. The maximum score that can be obtained by students is 100 with the calculation right below.

$$\frac{a\ x\ b}{1{,}5} = \cdots x\ 100\%$$

where, a = maximum score, 10

b = earning score

The Minimum Completeness Criteria (KKM) that must be achieved is 65%, according to the subject Bahasa Indonesia students of Special Elementary School.

In the developmental aspect, an assessment is given to students' abilities with a score of 0 (not good), 1 (poor), 2 (good enough), 3 (good), 4 (very good).

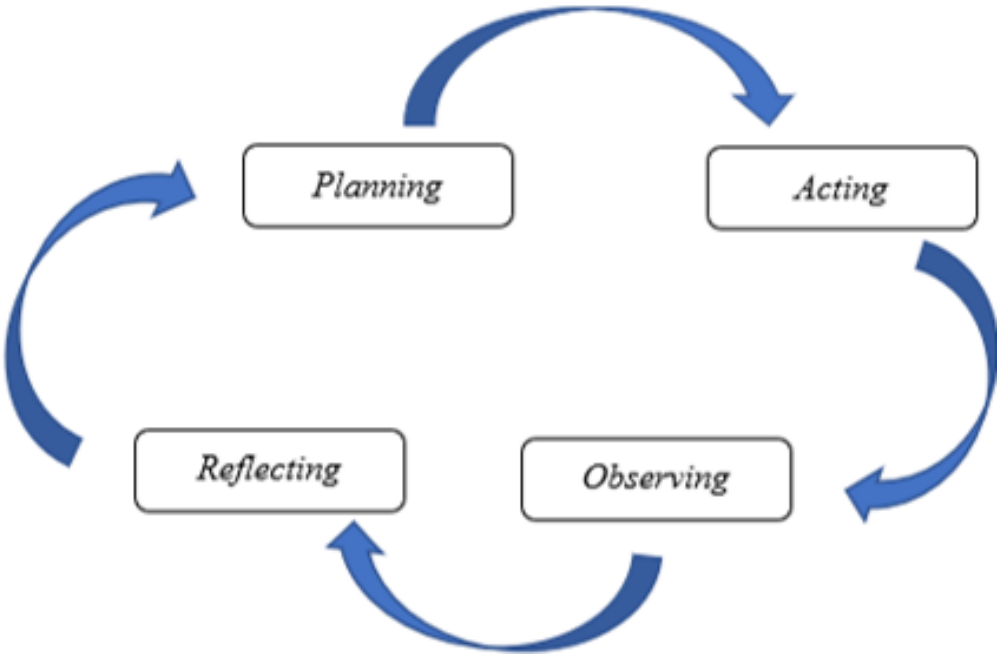

Figure 2. Classroom action research procedure.

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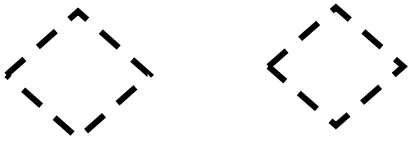
Table 1. Worksheet.

No	Pattern	Scoring	
		1	0
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

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3. RESULTS AND DISCUSSION

3.1. Student demography

Figure 3 describes the demographic conditions of students. The aspects that are assessed are motor, language, communication, social, and academic aspects. The subjects in this study were children with intellectual disabilities. Intellectual disability is characterized by evident limitations in intellectual functioning and adaptive conduct, the latter expressed as conceptual, social, and practical adaptive skills.

Based on the assessment, A has good motor skills. A's language skills are good, A has good expressive and receptive language skills. In the aspect of communication, A can communicate in two directions with the other person. The communication topologies among agents are considered to dynamically change in two directions (Meng et al., 2013). In the social aspect, A is considered quite good. In the academic aspect, A can recognize numbers, but cannot recognize letters, A has difficulty in thickening lines, patterns, and shapes.

Z has pretty good motor skills. In the language aspect, Z has good receptive language skills, but her expressive language skills are still lacking. Z diagnosed by developmental expressive language disorder. This condition frequently occurring condition in children, characterized by a severe delay in the development of expressive language compared with receptive language and cognitive skills. In the social aspect, Z has good abilities, she can work together with her friends and share toys with her classmates. For academic abilities, students still have difficulty recognizing numbers, recognizing letters, and difficulties in thickening lines, thickening patterns, and thickening shapes.

R has very good motor skills, R can move without assistance and can hold a pencil properly and correctly. In the aspect of language, R has good receptive language skills, she understands simple instruction, dan responds to what other says with nods and gesture, but in expressive language, it is still lacking. Receptive language refers to responding appropriately to another person's spoken language. R's social ability is considered good, R can build cooperation with classmates. In the academic aspect, R still has difficulty understanding the concepts of size, distance, numbers, and letters.

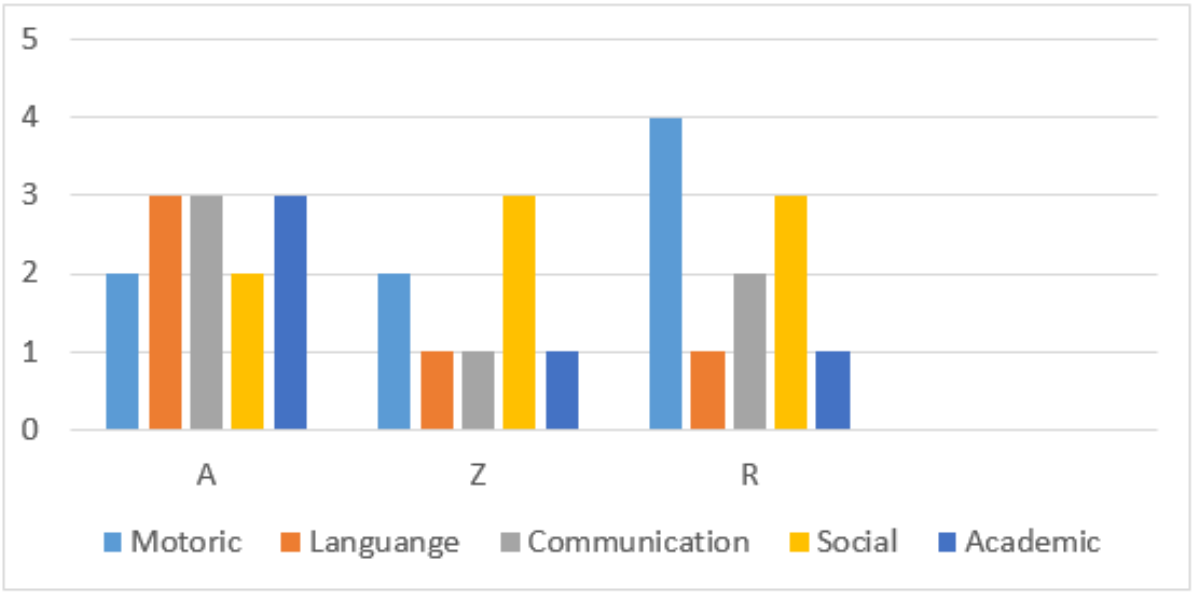

Figure 3. Student demography.

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3.2. Learning process activities

Learning activities begin with initial activities, we started by greeting and conditioning students in the class to sit in their respective chairs and prepare to take part in learning. Then proceed with praying before studying, checking student attendance, and conveying what will be learned today. And then, a pre-test was given to students as an action implementation I. The pre-test was given to find out the basic pre-writing skills of students before they learned pre-writing skills using straw string as learning media, it is in accordance with the statement of (Berry, 2008) who stated that pre-tests are a non-graded assessment tool used to determine pre-existing subject knowledge. Typically pre-tests are administered before a course to determine knowledge baseline.

Before straw string being given, students were given a stimulus to mention the media that would be used at the moment. This stimulus-response learning can help students to improve their high-order thinking skills, especially for analytical thinking. Straw string made students wonder what is it for, so they started to select the best alternative answers for it. (Raiyn, 2016) stated that analytical, or logical, thinking skills use critical thinking and help the reasoner select the best alternative; they consist of ordering, comparing, contrasting, evaluating, and selecting. Then students were asked to feel the straw string to recognize the rough texture of the string. After that, the learning activity was continued by putting glue on the straw string and pasting it on paper with the pattern provided. Students are then asked to prepare pencils and are given a student worksheet by the teacher.

In this activity, students are asked to form straight lines straw string that has been pasted, then proceed with more complicated patterns such as waves, zigzags, and simple curves. After forming lines and patterns, learning continues by thickening shapes that have also been given straw string, so students can make lines and drawings according to the pattern marked by the straw string.

Before the lesson ends, students and teachers conclude the lessons that have been learned today and evaluate the learning. After that, students are given assignments that must be done at home. After that, the teacher closed the lesson and added a sentence full of motivation to motivate students to be more enthusiastic and active in learning. In studying, the motivation for a student is very important because the motivation can accompany someone's purpose (Kheruniah, 2013). Then, students are asked to pray and say greetings as a sign that the lesson has ended.

3.3. Learning outcomes

Table 2 explains that there was an increase from pre-test to post-test. Improvement occurs in each cycle with the following details.

(i) A scores 33% in the pre-test. Then there was an increase of 20% from the pre-test stage to cycle 1, then again there was an increase in cycle 1 to cycle 2 as much as 7%. Then the increase again occurred from cycle 2 to cycle 3 as much as 13%, so when added up the increase from pre-test to post-test was 40%. A significant increase occurred because student A had fairly good motor skills. The development of fine motor skills will affect the readiness of the child in writing, that is, in the practice of coordinating the eye and hand with the recommended amount of time (Pradipta & Dewantoro, 2019).

(ii) Z got a score of 20% at the time of the pre-test. Then an increase of 20% from the pre-test stage to cycle 1, an increase of 13% again at the time of the assessment from cycle 1 to cycle 2. Then an increase of 14% appeared at the time of the assessment from cycle 2 to cycle 3. So when added together, the increase in the value from pre-test to cycle 3 was

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47%. Z got the highest score among the others when compared between the pre-test and the results of cycle 3. Z is more into colors things, so she got excited with straw string media which has various colors helps her to get higher scores, states that children have an innate sensitivity to colors.

(iii) R got a score of 27% at the time of the pre-test. The increase occurred from the pre-test to cycle 1 as much as 20%, then an increase occurred again from cycle 1 to cycle 2 as much as 6%. From cycle 2 to cycle 3, the value increased again by 14%. So when added together, the total increase in the score from the pre-test to cycle 3 is 40%. At the end of the cycle, R achieved a score of 67% which is 2% higher than the criteria minimum.

(iv) The average score of students increased from the pre-test to the third cycle. The average score increase was 43% and was able to complete the criteria minimum which is 65% for the Bahasa Indonesia subject.

Table 2. Increased learning scores from pre-test to cycle 3.

No	Name	Pre-test	Cycle 1	Cycle 2	Cycle 3	Escalation from Pre-test to Cycle 1	Escalation from Cycle 1 to Cycle 2	Escalation from Cycle 2 to Cycle 3	Escalation from Pre-test to Cycle 3	Criteria minimum (65)
1	A	33%	53%	60%	73%	20%	7%	13%	40%	Achieved
2	Z	20%	40%	53%	67%	20%	13%	14%	47%	Achieved
3	R	27%	47%	53%	67%	20%	6%	14%	40%	Achieved
Average	27%	47%	55%	69%	20%	9%	14%	43%	Achieved	

4. CONCLUSION

This study aims to determine the use of straw string media to improve pre-writing skills for children with intellectual disabilities. The method in this study uses classroom action research methods with demonstration learning methods and assignments. The subjects of this study were three children with intellectual disabilities. The use of straw string media in this study is to form a 'boundary' that limits the student's work area so that students can thicken lines, patterns, and shapes according to the lines that have been provided.

The results showed that straw string media can improve pre-writing skills for children with intellectual disabilities, this can be seen from the increase in the scores achieved in each cycle. At the pre-test, the three students had not been able to reach the minimum criteria, but during the post-test, all three had reached the minimum criteria, which is 65 for Bahasa Indonesia subjects. This study demonstrates that the use of straw string media can improve pre-writing skills for children with intellectual disabilities.

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6. AUTHOR NOTE

The author declare that there is no conflict of interest regarding the publication of this article. The author confirmed that the paper was free of plagiarism.

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