

# Enhancing Mastery of Basic Coloring Skills Using the SGG Technique Among Special Education Students with Learning Disabilities

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## Abstract

Coloring is not merely about filling empty spaces with vibrant colors but also aids in the development of fine motor skills. It provides an excellent opportunity for children to explore various colors and observe how they interact with each other. This action research study was conducted to address the challenges encountered by students with Special Education needs who have not yet attained proficiency in fundamental coloring skills within the domain of Art Education. A total of 10 students aged 7 to 10 years old were involved in this study within the Treatment Group. The aim of this study is to enhance the mastery of basic coloring skills using the 'Super Glue Gun' Technique. Preliminary surveys were conducted through observation methods, review of student work (pre-test and post-test), and interviews. The results indicated that the identified students faced difficulties in mastering basic coloring skills. This is mainly due to issues such as not yet mastering the skill of holding colored pencils, lack of focus while coloring, and merely scribbling to complete tasks. Therefore, these identified students need assistance to prevent prolonged weakness in mastering basic coloring skills. The action plan focused on the 'Super Glue Gun' technique to improve basic coloring skills, and this study was completed within an 8-week period from July to August. The findings showed an improvement in students' mastery of basic coloring skills using the provided intervention.

**Keywords:** Students with Special Educational Needs, Art Education, Super Glue Gun

## Introduction

The researcher teaches at Sekolah Kebangsaan Jalan Enam, Bandar Baru Bangi, within the Special Education Integration Program. The students in the researcher's class within the Special Education Program encompass a range of learning difficulties, including Autism,

Dyslexia, Speech Delay, Down Syndrome, Intellectual Disabilities, Hyperactivity, Cerebral Palsy, and others.

Based on the researcher's 18 years of experience and observation teaching various subjects, students struggle to properly master the skill of coloring within the lines of a picture. Observations of students' work within the Special Education Program, especially in Year 1, across activities such as tracing, writing, scribbling, and coloring, reveal that they still fail to master basic coloring skills. Their coloring work is often untidy, with scribbles outside the lines and unfilled spaces. This might be due to a lack of eye coordination and the inability to master basic coloring skills. Additionally, the students' inability to hold colored pencils properly hampers their ability to color neatly, resulting in mere scribbling without attention to tidiness.

The reasons for students' failure to master basic coloring skills include:

- i) Not yet mastering the skill of gripping colored pencils.
- ii) Lack of focus while coloring.
- iii) Students merely color/scribble to complete the task.
- iv) Coloring with excessive pressure.
- v) Poor body posture.
- vi) Dependence on teachers or teaching assistants during coloring tasks.

Furthermore, some problems might stem from the researcher's own shortcomings:

- i) Teaching merely to complete the tasks.
- ii) Not addressing the students' deficiencies or weaknesses.
- iii) Prioritizing task completion over skill development.
- iv) Not emphasizing neatness, leading to persistent untidiness in students' coloring work even after years in the Special Education Program class.

The researcher had assumed that such an approach would encourage students to learn independently and eventually master coloring skills. However, this assumption proved incorrect. Year after year, the same students still fail to master basic coloring skills, resulting in a lack of interest in creative activities such as drawing and coloring, which are crucial for personal development and skill enhancement, as well as for uncovering and fostering creativity.

Given this problem, the researcher recognizes that it cannot be allowed to persist, especially as the students within the Special Education Program age. Therefore, the researcher needs to rectify the previous lack of attention to this issue to ensure that the same students will eventually master basic coloring skills. Mastery of basic coloring is essential as it involves fine motor skills and enhances eye-hand coordination.

Consequently, the researcher plans to identify students within the Special Education Program who have not yet mastered basic coloring skills and implement this early intervention. At the same time, students will also learn to master the basic skill of gripping colored pencils. Moreover, they will become less dependent on teachers or assistants during coloring tasks.

To address this issue, the researcher will use the "Super Glue Gun" approach, where students focus on coloring within the lines marked by the "Super Glue Gun." This technique will help students focus on coloring without going outside the lines and allow them to evaluate their work for neatness. Additionally, this method will incorporate the skill of gripping colored pencils while coloring pictures or objects. Through frequent coloring practice, students will also master the pencil gripping technique.

### **Focus of the Study**

From the reflection above, it is evident that students do not master basic coloring skills due to the following reasons:

- a. Students lack confidence in their own work.
- b. Students complete tasks without regard for neatness.
- c. Students do not prioritize the tidiness of their coloring.

This issue is prevalent among students in the Special Education Program, primarily due to their tendency to complete tasks quickly without considering the neatness of their coloring, often making excuses for their performance.

If this problem is not addressed promptly, students in the Special Education Program will continue to exhibit a lack of care in their work. They will also miss opportunities to draw and color, which are essential for uncovering and developing their talents and potential. If left unresolved, these students will persist in producing untidy coloring work in subsequent years. Therefore, the researcher will attempt to address this problem and guide the students in the Special Education Program using the "Super Glue Gun" technique to master basic coloring skills.

### **Research Objectives**

The purpose of this study is to assist students in the Special Education Program in mastering basic coloring skills using the "Super Glue Gun" technique.

#### **General Objective:**

The aim of this study is to enhance the mastery of basic coloring skills using the "Super Glue Gun" technique among Special Education students with learning disabilities.

#### **Specific Objectives:**

- a) To increase the number of students who master basic coloring skills from 7 out of 10 compared to before the intervention.
- b) To enable students to master the basic skill of holding colored pencils.
- c) To foster confidence, skillfulness, creativity, and a positive attitude in students.

**Target Group:**

4.1

*The Following is A List of Students in the Special Education Program Who are Involved:*

No.	Sample	Sex	Class	Category	Year
1	Student A	Girl	1 Aman	Down Syndrome	7
2	Student B	Boy	1 Aman	Autism	7
3	Student C	Girl	1 Aman	Autism	7
4	Student D	Girl	2 Aman	Speech Delay	8
5	Student E	Boy	2 Aman	Autism	8
6	Student F	Girl	2 Aman	Down Syndrome	8
7	Student G	Boy	3 Aman	Autism	9
8	Student H	Girl	3 Damai	Autism	9
9	Student I	Boy	4 Aman	Slow Learner	10
10	Student J	Boy	4 Aman	Autism	10

4.2

*Art/Malay Language/Music/Manipulative Skills/English Language Teachers Involved and Their Taught Classes in 2023 are as follows:*

- a) Teacher A - English Language 1 Aman and 4 Aman
- b) Teacher B - Malay Language 2 Aman
- c) Teacher C - Art/Malay Language 3 Aman
- d) Teacher D - Art/Manipulative Skills 2 Aman
- e) Teacher E - Music 1 Aman

- The students involved were selected because their coloring work results were unsatisfactory and they needed assistance in mastering basic coloring skills. They are from classes 1 Aman, 2 Aman, 3 Aman, 3 Damai and 4 Aman, totaling 10 students.

**Implementation***Initial Problem Review:*

Before proceeding with the next steps in conducting this study, a review of the problem was conducted to gain a deeper understanding of the issue.

The review was conducted by collecting data as follows:

1. Document Analysis  
Review of coloring work/activity outcomes throughout teaching and learning sessions
2. Observation  
Observation during coloring activities throughout teaching and learning sessions
3. Interviews  
Interviews with all teachers teaching classes 1 Aman, 2 Aman, 3 Aman, 3 Damai and 4 Aman who teach the involved students.

**Problem Review Analysis**

The Review Findings Indicate:

**a. Document Analysis**

According to Overby (2013), students who master coloring skills can color within object lines neatly and with precision. It was found that the review of coloring work/activity outcomes showed that the involved students have not yet mastered basic coloring skills. Issues observed include colors going outside the lines, mere scribbling, dull colors, and some areas left unfilled.

**b. Observation**

The observations revealed that the identified students' coloring work was untidy and somewhat disappointing. The students lacked focus and confidence during coloring and relied on the teacher/teaching assistant to help them grip their hands while coloring. Therefore, pre-tests (before intervention) and post-tests (after intervention) were conducted to compare the students' work outcomes.

**c. Interviews**

Interviews were conducted with all teachers who teach classes 1 Aman, 2 Aman, 3 Aman, 3 Damai and 4 Aman that teach the involved students. The interview results revealed that many teachers stated that the coloring work outcomes of the identified students were indeed unsatisfactory and untidy.

**Actions (Treatments) Implemented:**

- Based on the initial review, a total of 20 students were divided into two groups: Control Group (10 students) and Treatment Group (10 students). The findings indicated that 10 students needed to be placed in the Treatment Group, comprising 7 students with Autism, 2 with Down Syndrome, and 1 with Speech Delay, indicating that they have not yet mastered basic coloring skills.
- To address this issue, the "Super Glue Gun" technique approach was used to enhance basic coloring skills among Special Education students. Students used colored pencils to color pictures throughout the study.
- The following are the actions (treatments) that have been implemented:

Table 1  
*Method of Research Implementation*

Steps and Dates	Evaluation Method	Target Group	Approach Method
<p><b>Step 1</b> <b>Week 1</b> <b>(4-8 July 2022)</b> <b>(Before the Research is Conducted)</b></p>	<ul style="list-style-type: none"> <li>• Division of Control Group and Treatment Group</li> <li>• Document Analysis (Images/Graphics) (Pre-test)</li> </ul>	<p>20 students of Special Integrated Education Program</p>	<ul style="list-style-type: none"> <li>• The teacher prepares worksheets with simple pictures for the students to color. (Before the Research is Conducted)</li> <li>• The teacher's review of the students' work identifies 10 students who have not yet mastered basic coloring skills.</li> </ul>

<p><b>Step 2</b>  <b>Week 2</b>  <b>(11-15 July 2022)</b>  <b>(Before the Research is Conducted)</b></p>	<p>Document Analysis                  (Students' Work)                  (Pre-test)</p>	<p>10 students of                  Special Integrated                  Education                  Program</p>	<p>Students are given an assignment to color the provided picture 1 during class (30-40 minutes)</p>
<p><b>Step 3</b>  <b>Week 3</b>  <b>(18-22 July 2022)</b>  <b>(During the Research is Conducted)</b></p>	<p>Observation                  "Super Glue Gun"                  Technique.                  (Post-Test)</p>	<p>10 students of                  Special Integrated                  Education                  Program</p>	<p>The students are given the task to color worksheets with images that have been marked with "Super Glue Gun". This occurs every day from Monday to Thursday. Then, on Friday, the students are given picture 1 to assess the progress of the "Super Glue Gun" technique.</p>
<p><b>Step 4</b>  <b>Week 4</b>  <b>(25-29 July 2022)</b>  <b>(During the Research is Conducted)</b></p>	<p>Observation                  "Super Glue Gun"                  Technique.                  (Post-Test)</p>	<p>10 students of                  Special Integrated                  Education                  Program</p>	<p>Step 3 is repeated using different pictures. Then, on Friday, the students are given picture 2 to assess the progress of the "Super Glue Gun" technique.</p>
<p><b>Step 5</b>  <b>Week 5</b>  <b>(1-5 August 2022)</b>  <b>(After the Study is Conducted)</b></p>	<p>Observation                  Without the "Super Glue Gun" Technique.                  (Post-Test)</p>	<p>10 students of                  Special Integrated                  Education                  Program</p>	<p>The students are given assignment picture 2 and color it without using the "Super Glue Gun" Technique.</p>
<p><b>Step 6</b>  <b>Week 6</b>  <b>(8-12 August 2022)</b></p>	<p>Interview</p>	<p>10 students of                  Special Integrated                  Education                  Program</p>	<p>The teacher evaluates the work of all involved students and analyzes the data.</p>
<p><b>Step 7</b>  <b>Week 7</b>  <b>(15-19 August 2022)</b></p>	<p>Scoring Table</p>	<p>10 students of                  Special Integrated                  Education                  Program</p>	<p>The teacher assesses the work of all involved students according to the scoring schedule set by the teacher.</p>
<p><b>Step 8</b>  <b>Week 8</b>  <b>(22-26 August 2022)</b></p>	<p>Analysis of Findings</p>	<p>10 students of                  Special Integrated                  Education                  Program</p>	<p>The teacher inputs assessment scores into a table to view the list and obtained data.</p>

Picture 1: Step 2 and final assessment of step 3




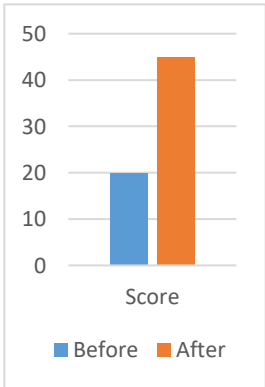
Picture 2: Final assessment of Step 4 and Step 5

Table 2  
Basic Coloring Skills Assessment Guide




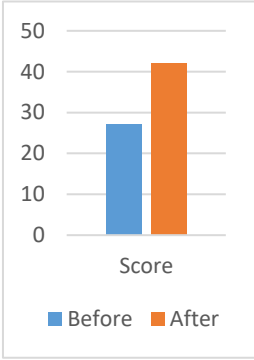



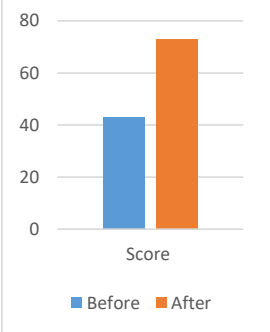



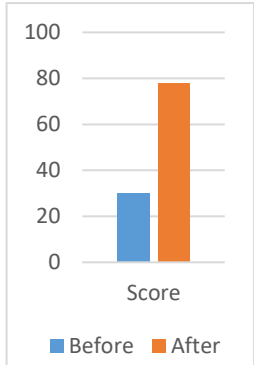



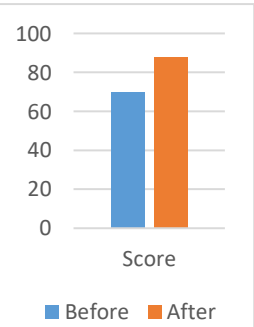
Level	Criteria
Level 1 0-40% D	<ul style="list-style-type: none"> <li>Color extends beyond the guide provided by the super glue gun</li> <li>Colors are dull and unclear</li> <li>Color smudges (extends beyond the edges)</li> <li>Requires full teacher guidance</li> </ul>
Level 2 41-59% C	<ul style="list-style-type: none"> <li>Colors follow the guide provided by the super glue gun</li> <li>Colors are less bright and less clear</li> <li>Colors are less tidy (extend beyond the edges)</li> <li>Colors are not suitable</li> </ul>
Level 3 60-79 % B	<ul style="list-style-type: none"> <li>Colors without the provided super glue gun</li> <li>Bright colors but do not fill the picture space and still have empty spaces</li> <li>Neat</li> </ul>
Level 4 80-100% A	<ul style="list-style-type: none"> <li>Colors without the provided super glue gun</li> <li>Bright colors and fill the picture space</li> <li>Neat and beautiful</li> <li>Creative coloring</li> </ul>

The table above is a scoring guide used by teachers based on adapted data scoring according to "The Scale of Children Readiness in Printing (SCRIPT)" developed in the study by Weil (Weil & Amundson 1994).




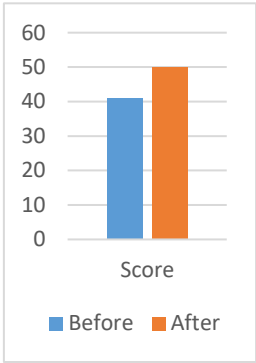



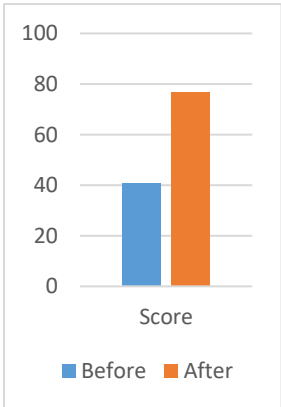



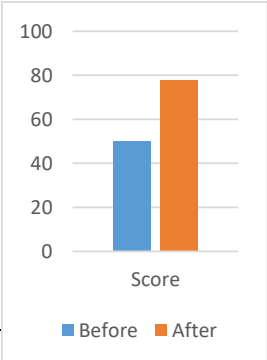
Table 3  
Comparison of Student Performance Before and After Intervention




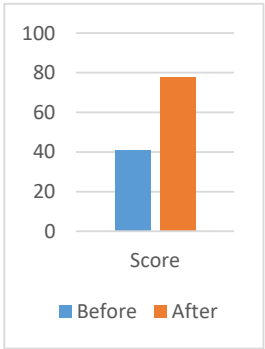



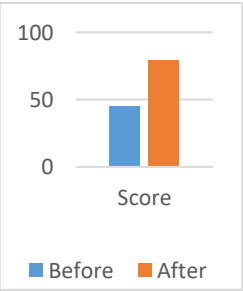
No	Student	Before Intervention	After Intervention	Comparison Graph
1	Student A 	 Grade : Review <ul style="list-style-type: none"> <li>Color is dull and unclear</li> <li>Color smudges (extend beyond the edges)</li> </ul>	 Grade : Review <ul style="list-style-type: none"> <li>Colors are bright but less tidy</li> </ul>	



<p>2</p>	<p>Student B</p> 	 <p>Grade: B (73%) Review:  <ul style="list-style-type: none"> <li>• Colors are not bright and unclear</li> <li>• Color smudges (extend beyond the edges)</li> </ul> </p>	 <p>Grade: B (73%) Review:  <ul style="list-style-type: none"> <li>• Colors are bright and unclear</li> <li>• Colors do not fill all spaces</li> </ul> </p>	 <table border="1"> <caption>Score Improvement for Student B</caption> <thead> <tr> <th>Phase</th> <th>Score</th> </tr> </thead> <tbody> <tr> <td>Before</td> <td>28</td> </tr> <tr> <td>After</td> <td>42</td> </tr> </tbody> </table>	Phase	Score	Before	28	After	42
Phase	Score									
Before	28									
After	42									
<p>3</p>	<p>Student C</p> 	 <p>Grade: B (73%) Review:  <ul style="list-style-type: none"> <li>• Colors are less tidy and less clear</li> <li>• Colors are less tidy (extend beyond the edges)</li> </ul> </p>	 <p>Grade: B (73%) Review:  <ul style="list-style-type: none"> <li>• Bright colors and fill the picture space</li> <li>• Slightly tidy</li> </ul> </p>	 <table border="1"> <caption>Score Improvement for Student C</caption> <thead> <tr> <th>Phase</th> <th>Score</th> </tr> </thead> <tbody> <tr> <td>Before</td> <td>42</td> </tr> <tr> <td>After</td> <td>72</td> </tr> </tbody> </table>	Phase	Score	Before	42	After	72
Phase	Score									
Before	42									
After	72									
<p>4</p>	<p>Student D</p> 	 <p>Grade: B (73%) Review:  <ul style="list-style-type: none"> <li>• Colors are not bright and unclear</li> <li>• Color smudges (extend beyond the edges)</li> </ul> </p>	 <p>Grade: B (73%) Review:  <ul style="list-style-type: none"> <li>• Colors are bright and fill the picture space</li> <li>• Slightly tidy</li> </ul> </p>	 <table border="1"> <caption>Score Improvement for Student D</caption> <thead> <tr> <th>Phase</th> <th>Score</th> </tr> </thead> <tbody> <tr> <td>Before</td> <td>30</td> </tr> <tr> <td>After</td> <td>78</td> </tr> </tbody> </table>	Phase	Score	Before	30	After	78
Phase	Score									
Before	30									
After	78									
<p>5</p>	<p>Student E</p> 	 <p>Grade: B (73%) Review:  <ul style="list-style-type: none"> <li>• Colors are not bright and unclear</li> <li>• Color smudges (extend beyond the edges)</li> </ul> </p>	 <p>Grade: B (73%) Review:  <ul style="list-style-type: none"> <li>• Colors are bright and fill the picture space</li> <li>• Slightly tidy</li> </ul> </p>	 <table border="1"> <caption>Score Improvement for Student E</caption> <thead> <tr> <th>Phase</th> <th>Score</th> </tr> </thead> <tbody> <tr> <td>Before</td> <td>70</td> </tr> <tr> <td>After</td> <td>88</td> </tr> </tbody> </table>	Phase	Score	Before	70	After	88
Phase	Score									
Before	70									
After	88									



		<p>Gred : B (70%)</p> <p><u>Review:</u></p> <ul style="list-style-type: none"> <li>• Bright colors and fill the picture space</li> <li>• Somewhat tidy</li> </ul>	<ul style="list-style-type: none"> <li>• Bright colors and fill the picture space</li> <li>• Neat and beautiful</li> <li>• Creative coloring</li> </ul>							
6	<p>Student F</p> 	 <p>Gred : C (41%)</p> <p><u>Review:</u></p> <ul style="list-style-type: none"> <li>• Colors are less bright and less clear</li> <li>• Colors are less tidy (extend beyond the edges)</li> <li>• Colors are not suitable</li> </ul>	 <p>Gred : C (50%)</p> <p><u>Review:</u></p> <ul style="list-style-type: none"> <li>• Bright colors but do not fill the picture space</li> <li>• Color smudges (extend beyond the edges)</li> <li>• Colors are not suitable</li> </ul>	 <table border="1"> <caption>Score Comparison for Student F</caption> <thead> <tr> <th>Phase</th> <th>Score</th> </tr> </thead> <tbody> <tr> <td>Before</td> <td>40</td> </tr> <tr> <td>After</td> <td>50</td> </tr> </tbody> </table>	Phase	Score	Before	40	After	50
Phase	Score									
Before	40									
After	50									
7	<p>Student G</p> 	 <p>Gred : C (41%)</p> <p><u>Review:</u></p> <ul style="list-style-type: none"> <li>• Colors are less bright and less clear</li> <li>• Colors are less tidy (extend beyond the edges)</li> </ul>	 <p>Gred : C (41%)</p> <p><u>Review:</u></p> <ul style="list-style-type: none"> <li>• Bright colors and fill the picture space</li> <li>• Somewhat tidy</li> </ul>	 <table border="1"> <caption>Score Comparison for Student G</caption> <thead> <tr> <th>Phase</th> <th>Score</th> </tr> </thead> <tbody> <tr> <td>Before</td> <td>40</td> </tr> <tr> <td>After</td> <td>75</td> </tr> </tbody> </table>	Phase	Score	Before	40	After	75
Phase	Score									
Before	40									
After	75									
8	<p>Student H</p> 	 <p>Gred : C (41%)</p> <p><u>Review:</u></p> <ul style="list-style-type: none"> <li>• Colors are less bright and less clear</li> <li>• Colors are less tidy (extend beyond the edges)</li> </ul>	 <p>Gred : C (50%)</p> <p><u>Review:</u></p> <ul style="list-style-type: none"> <li>• Bright colors and fill the picture space</li> <li>• Somewhat tidy</li> </ul>	 <table border="1"> <caption>Score Comparison for Student H</caption> <thead> <tr> <th>Phase</th> <th>Score</th> </tr> </thead> <tbody> <tr> <td>Before</td> <td>50</td> </tr> <tr> <td>After</td> <td>75</td> </tr> </tbody> </table>	Phase	Score	Before	50	After	75
Phase	Score									
Before	50									
After	75									

		<p>Grade : C (50%)</p> <p><u>Review:</u></p> <ul style="list-style-type: none"> <li>• Colors are less bright and less clear</li> <li>• Colors are less tidy (extend beyond the edges)</li> </ul>	<ul style="list-style-type: none"> <li>• Bright colors and fill the picture space</li> <li>• Somewhat tidy</li> </ul>							
9	<p>Student I</p> 	 <p>Grade : C (50%)</p> <p><u>Review:</u></p> <ul style="list-style-type: none"> <li>• Colors are less bright and less clear</li> <li>• Colors are less tidy (extend beyond the edges)</li> </ul>	 <p>Grade : B (78%)</p> <p><u>Review:</u></p> <ul style="list-style-type: none"> <li>• Bright colors and fill the picture space</li> <li>• Somewhat tidy</li> </ul>	 <table border="1"> <caption>Score Comparison for Student I</caption> <thead> <tr> <th>Phase</th> <th>Score</th> </tr> </thead> <tbody> <tr> <td>Before</td> <td>40</td> </tr> <tr> <td>After</td> <td>78</td> </tr> </tbody> </table>	Phase	Score	Before	40	After	78
Phase	Score									
Before	40									
After	78									
10	<p>Student J</p> 	 <p>Grade : C (50%)</p> <p><u>Review:</u></p> <ul style="list-style-type: none"> <li>• Colors are less bright and less clear</li> <li>• Colors are less tidy (extend beyond the edges)</li> </ul>	 <p>Grade : B (78%)</p> <p><u>Review:</u></p> <ul style="list-style-type: none"> <li>• Bright colors and fill the picture space</li> <li>• Somewhat tidy</li> </ul>	 <table border="1"> <caption>Score Comparison for Student J</caption> <thead> <tr> <th>Phase</th> <th>Score</th> </tr> </thead> <tbody> <tr> <td>Before</td> <td>40</td> </tr> <tr> <td>After</td> <td>78</td> </tr> </tbody> </table>	Phase	Score	Before	40	After	78
Phase	Score									
Before	40									
After	78									

**Implementation of Action and Observation**

This action research was conducted over a period of 8 weeks, starting from early July until the end of August, spanning 2 months. During this study, the researcher employed the "Super Glue Gun" Technique for 2 weeks, specifically during the 3rd and 4th weeks. The researcher requested the participating teachers to assign coloring tasks to the students using pictures marked with the super glue gun.

The students, divided into 2 groups - Control Group (10 students) and Treatment Group (10 students), underwent a pre-test process to identify those who still lacked basic coloring skills. Based on the findings, 10 students were identified and placed in the Treatment Group, labeled as Students A to J. These students were involved in this action research and were treated using the "Super Glue Gun" Technique.

The "Super Glue Gun" Technique is an intervention that utilizes a glue gun, known as a hot glue gun. When the hot wax-like glue melts, it solidifies along the outline of the picture, aiding students in coloring within the designated areas. Thus, during coloring, the focus of the students' eyes and hand movements can control the hand movements to prevent them from going beyond the picture's lines. The resulting work is neater compared to before using this intervention.

In preparing the worksheets, the researcher provided 8 different illustrated sheets, each duplicated 10 times and marked with Super glue gun for the students' activities throughout 2 weeks. Additionally, the researcher prepared 20 extra sheets, 10 of Picture 1 and 10 of Picture 2, marked with super glue gun for the final assessment each week over the 2 weeks post-test period. The preparation of these super glue gun marked worksheets was facilitated by several Student Management Assistants. The efficient cooperation between teachers and the Student Management Team facilitated and streamlined the process of this action research.

The researcher also briefly explained the "Super Glue Gun" Technique to the participating teachers in efforts to enhance their mastery of basic coloring skills. Based on the researcher's observations, the "Super Glue Gun" Technique successfully helped students improve their performance in the Art Education subject, especially during coloring activities. Their work showed significant improvement through coloring within the lines, brighter colors, and filled color spaces. Moreover, students exhibited increased confidence, and all teachers were very satisfied with their work, even though some of them did not achieve an A grade, their performance was quite commendable.

The researcher is pleased and satisfied with the successful implementation of the "Super Glue Gun" Technique in this study. Colleagues provided constructive comments, encouragement, and support for the researcher's efforts. Furthermore, several teachers have also started using the "Super Glue Gun" Technique in their illustrated worksheet-based teachings.

### **Study Reflection**

Following the implementation of the action research, the students involved in this study demonstrated a significant improvement in mastering basic coloring skills through their work. The ability of students to color within the picture space without going beyond the lines, as well as the neatness of their work, provided satisfaction to the researcher for the efforts made throughout this action research.

The teachers utilized adapted data scoring based on "The Scale of Children Readiness in Printing (SCRIPT)," developed in the study by Weil (Weil & Amundson, 1994). Based on the students' work, criteria such as neatness, colors extending beyond the lines, and dim colors were considered according to the scoring guidelines provided by the teachers. The obtained data were analyzed according to the predetermined stages based on "The Scale of Children Readiness in Printing (SCRIPT)."

The research findings indicate that out of 10 students in the Treatment Group, 8 out of 10 students showed good achievement in mastering basic coloring skills, compared to two Down Syndrome students who required repeated and continuous practice. This is because it is undeniable that students with Down Syndrome have low IQ and require repeated practice over a long period, but some showed improvement in coloring and reduced smudging beyond the lines compared to before.

Student A from class Year 1 Aman and Student F from class 2 Aman, categorized as Down Syndrome students, successfully mastered basic coloring skills, although not entirely. When compared before using the "Super Glue Gun" Technique, their work had more smudges, went

beyond the lines and was less tidy. However, after the study, student A and student F showed improvement, where the pictures colored by them were slightly tidier than before.

Furthermore, the researcher is very satisfied and more confident that the "Super Glue Gun" Technique can help students improve their achievements in mastering basic coloring skills during the learning process. Thus, this technique can be applied by educators in any subject to assist students who have not yet mastered basic coloring skills. Furthermore, the study period can be extended so that follow-up actions can be implemented to ensure the sustainability of the research results. More challenging pictures can also be added to coloring worksheets to provide enrichment and reinforcement of basic coloring skills.

## **Conclusion**

### **Suggestions for Further Studies**

Several suggestions for further studies are as follows:

1. This intervention can be implemented on **Pre-School or kindergarten students** as this method is effective in enhancing mastery of basic coloring skills starting from an early stage.
2. **Remedial students** can also use the "Super Glue Gun" Technique as students who still have weak grip on the pencil or have not mastered pre-writing skills can apply this technique. This can also help remedial students to master how to grip the coloring pencil more frequently through repeated practice. Consistent with Thorndike's Law of Exercise (1874-1949), which states that if practice is repeated, incorrect responses produced at the initial stage will gradually decrease, and the relationship between stimulus and response will become stronger. Based on the research conducted, the researcher found positive changes in terms of teaching practices by teachers and learning practices by students. Hopefully, the results of this researcher's study can be utilized to make the teaching and learning process more engaging, effective, and enjoyable.

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