

## Improving Fine Motor Skills of Autistic Children Through Cotton Collage Activities at Special School in East Kutai Regency

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### ABSTRACT

This study aims to improve the learning outcomes and creativity of children with autism through cotton collage activities at the Special Needs School (SLB) in Kutai Timur Regency. The purpose of this research is to contribute to the development of effective, enjoyable, and appropriate learning methods tailored to the characteristics of children with autism. The research question focuses on how cotton collage activities can enhance the abilities of autistic children in collage-making. The learning process is designed to create an engaging and enjoyable atmosphere suited to the individual learning needs of autistic students. This research employs Classroom Action Research (CAR) conducted over three cycles. Data were collected through observations of student engagement, concentration, and participation throughout the activities. The results show improvements in fine motor skills and creativity, including the ability to recognize shapes, colors, and patterns, and to arrange cotton collage materials in a structured manner. These improvements also reflect an increase in student independence in completing tasks. The findings are expected to serve as a reference for teachers and educators in designing hands-on, activity-based learning with individualized approaches, which have proven effective in increasing interest and skills among children with autism.

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## INTRODUCTION

Fine motor skills are one of the important aspects in children's development that is closely related to daily activities and learning readiness (Kim, 2016). Fine motor refers to the skill of using small muscles, especially the hands and fingers, to perform precision movements such as writing, scissors, knitting, or buttoning a shirt (Strong, Lashley, & Golden, 2025). The development of this ability is the basis for the success of children in carrying out academic and social activities that require good visual-motor coordination and movement control (Oberer, Gashaj, & Roebers, 2018).

In children with autism spectrum disorder (ASD), fine motor skills often experience obstacles caused by neurological disorders that affect motor coordination, sensory perception, and motor planning (Hilton & Ratcliff, 2022). Based on Jean Piaget's sensorimotor theory, children learn through direct experience with the environment through movement and senses (Waite-Stupiansky, 2022). However, in autistic children, sensorimotor integration is not optimal, thus inhibiting the ability to perform controlled movements (Lidstone & Mostofsky, 2021). Fournier et al. (2010) found that 83% of autistic children have motor coordination disorders, both gross and subtle, which impact engagement in learning activities.

Fine motor barriers in autistic children have an impact on their ability to write, draw, and perform simple activities such as holding stationery or sticking pictures (Duarte, 2022). In the perspective of Erik Erikson's psychosocial theory, early childhood is at the stage of "initiative versus guilt" that demands active exploration of the environment (Khairani &

Maemonah, 2021). Motor limitations can reduce children's initiative and confidence, as well as limit their participation in learning activities that demand creativity and social interaction (Holloway & Long, 2019).

One of the learning methods that has proven to be effective in improving the fine motor skills of autistic children is a collage activity made of cotton (binti Shafie, 2022). Collage is a form of paste art that involves manipulating various materials, and cotton is an ideal medium because its texture is soft, lightweight, and malleable (Eldeeb, 2024). This activity not only trains the skills of pinching, pressing, and sticking, but also provides tactile and visual sensory stimulation that is beneficial for autistic children (Laurie, 2022). This approach is in line with Piaget's theory of cognitive development and Howard Gardner's theory of multiple intelligences which emphasizes the importance of concrete experiences and visual-kinesthetic exploration in early childhood learning (Fitri, Afriadi, & Humulhaer, 2024).

Research by Wulandari (2021) shows that collage activities are able to improve focus, concentration, and fine motor skills of children with special needs. Children become more enthusiastic, skilled in cutting and gluing, and show improvements in hand-eye coordination. This is strengthened by the findings of Novitasari and Sari (2022) and Putri and Lestari (2021) who stated that collage activities made of textures such as cotton can significantly increase concentration, persistence, and movement control of autistic children. Thus, cotton collage serves not only as an artistic activity, but also as an effective educational therapy (Wang, Kim, & Oh, 2019).

However, the results of observations at the Extraordinary School (SLB) of East Kutai Regency show that learning has not optimally integrated sensory media such as cotton in classroom activities (Rahmawati & Basith, 2023). Activities tend to focus on cognitive aspects, such as recognizing letters and numbers, without providing concrete exercises for fine motor coordination. As a result, children appear to be less focused, passive, and have difficulty expressing themselves creatively. Research by Rahmah and Yuniarti (2022) also found that the lack of concrete media is the main factor in low learning effectiveness for autistic children.

In addition to the motor aspect, another problem that arises is the low creativity of autistic children in expressing ideas through colors, shapes, or the arrangement of objects. Fitriani and Sulastri (2022) emphasized that the creativity potential of autistic children can develop when given sensory stimuli and appropriate exploratory media. Unfortunately, learning in many SLBs is still dominated by verbal and passive methods (Rashidi & Naami, 2020). In fact, textural media such as cotton is able to provide a multisensory experience that supports cognitive, affective, and motor development at the same time (Fan, Chong, & Li, 2024).

Based on these problems, this study focuses on the use of cotton collage media based on contextual learning to improve the fine motor skills of autistic children in SLB East Kutai Regency (Purnamawati & Sukinah, 2025). The contextual approach allows learning activities to be linked to the child's real experiences, so collage activities not only train hand skills, but also foster creativity, concentration, and independence (Fajrie et al., 2024). This study uses the Classroom Action Research (PTK) model as a method to systematically test the effectiveness of cotton collage media through cycles of planning, action, observation, and reflection in the context of special education (Lestari, 2022).

The benefits of this research are both theoretical and practical. Theoretically, it contributes to the development of learning strategies for children with special needs by integrating contextual learning principles with creative art-based media. Practically, the findings are expected to serve as a reference for teachers and practitioners in special education to design innovative, inclusive, and enjoyable learning activities that enhance students' psychomotor abilities.

## **METHOD**

This study used the Classroom Action Research (PTK) method, combining qualitative and quantitative approaches. According to Kemmis and McTaggart (1988), PTK enables teachers to reflect on their learning practices to make continuous improvements through cycles of action, observation, reflection, and replanning. This method was chosen to directly improve the learning process in the classroom, especially for overcoming barriers faced by children with special needs such as those with autism spectrum disorder. PTK was applied to improve autistic children's ability to recognize and make collages (bound variables) in SLB through collage activities using cotton media (free variables). Cotton collage activities were expected to stimulate sensory, fine motor, and visual aspects simultaneously, positively affecting children's ability to recognize shapes, arrange patterns, and attach materials appropriately.

The qualitative approach described changes in children's behavior, interactions, and responses during learning activities, while the quantitative approach measured improvements through initial (pre-test) and final tests (post-test). The PTK design followed the Kemmis and McTaggart model with four main stages: (1) planning, (2) acting, (3) observing, and (4) reflecting. This model was selected for its systematic and adaptive nature, allowing researchers and teachers to identify problems, make improvements based on observations, and adjust strategies in real time—critical for individualized, flexible learning with autistic children.

During planning, the researcher prepared a learning plan, including a Learning Implementation Plan (RPP) tailored to autistic children, prepared cotton collage media, and set indicators of learning success. Research instruments included observation sheets, interview guidelines, and tests to assess effectiveness. The acting stage involved implementing cotton collage activities in structured steps, with teacher assistance to encourage active participation. Observations systematically recorded changes in behavior, involvement, and motor skills. Reflection analyzed observation results and evaluated actions to guide improvements for the next cycle.

Data collection used observation, tests, interviews, and documentation. Observations captured direct data on children's behavior during cotton collage activities, aligning with Smith et al. (2024) who emphasized that direct observation provides accurate information on motor skills. Tests assessed initial and final collage-making abilities (Arikunto, 2019). Semi-structured interviews with teachers and parents explored perceptions of children's development (Sugiyono, 2022). Documentation collected physical evidence such as children's collages, teachers' notes, and photos from learning sessions (Creswell, 2018). These four techniques ensured triangulation, objectivity, and a comprehensive description of improvements in fine motor skills among autistic children.

## **RESULTS AND DISCUSSION**

Sejarat SLB Negeri Kutai Timur SLB North Sangatta Regency is one of the SLB level schools with State status managed by the Regional Government of the East Kutai Education and Culture Office, SLB NEGERI KUTAI TIMUR was established on July 25, 2011 with SK Number 421/2663/Disdik.Kadis/VIII/2011 which is located at the location of Jl. Guru Besar Rt. 33 North Sangatta Village, North Sangatta District, East Kutai Regency, East Kalimantan 75683. With the number of educators there are 17 people, where the number of students for the 2024-2025 school year is 107 students who are divided into class groups with various special needs, namely SDLB, SMPLB, and SMLB.

SLB Negeri Kutai Timur is supported by good facilities and infrastructure, the position of the building is strategically not far from the net so that access to guardians is very easy, SLB Negeri Kutai Timur is located in the middle of the community on Jl Guru Professor, North Sangatta Village, Kec. With a land area of 20,000 m<sup>2</sup>. This research was carried out through learning practices in SLB C Class Autistic class, Extraordinary School for the 2024/2025

academic year semester II North Sangatta District, East Kutai Regency with a total of 15 students, 8 female students and 7 male students, in student learning activities in SLB C class, namely the autistic class experienced difficulties in developing fine motor skills, which could be caused by weak eye coordination and hand muscle coordination. Students' learning achievements can show creativity and completeness independently. They can finish colasing using cotton well.

### **Pre-Cycle Results**

The learning outcomes in the pre-cycle of students have not met the criterion of a maximum result of 70%, based on the initial data obtained from the results of collage learning activities using cotton in the pre-cycle, it was found that out of 15 students there were. As a result of observation, 28.5% of children experienced a significant improvement in fine motor skills. Children look more involved during cotton collage activities, starting to be able to pick and smear independently. An average score of 1.9 indicates that most children are in the "Starting to Develop" category. In addition, teachers and parents respond positively to the changes that occur in children, especially in terms of coordination of movements and focus during activities. Based on the results of initial observations in the classroom, it was found that some autistic children have difficulties in fine motor skills such as holding scissors, tearing paper, gluing, and squeezing. Writing and drawing activities are also not optimal due to weak hand-finger coordination.

### **Level of implementation and action**

Classroom Action Research (PTK) consists of 4 (four) stages, namely planning, implementation, observation and reflection. The research that has been carried out finally obtained results that can be described as follows:

#### ***Cycle I***

Implementation of 1st cycle research On Monday, May 19, 2025, the activity began with the planning stage, implementation of actions, observation, and ended with reflection. At this stage, children are given stimulus in the form of cotton collage materials designed to practice their hand skills, such as gluing, squeezing, and arranging cotton on drawing media. Initial results show a positive response from most children, although there are still some who need more intensive assistance. The implementation of teaching and learning activities for cycle 1 was carried out on Monday, May 19 in the Autistic Class group at SLB Sangatta Utara with the number of children participating in learning was 15 children.

The learning process refers.

- 1) Compile RPPH with collage activities using cotton materials.
- 2) Provide tools such as glue, blunt scissors, and simple pattern drawing.
- 3) Determine indicators of fine motor success (e.g.: being able to cut according to a simple pattern, sticking the material according to the shape). in the RPPH that has been prepared at the planning stage, namely the theme of recreation, and the activity, namely a collage using cotton and being done together.

The activities are described as follows:

- 1) Footing before playing

In this footing, the teacher invites the child to talk openly about inviting the child to make a small circle, after praying and greetings, the teacher invites the teacher to watch an animated video about Recreation, which is a recreational theme with a soup theme of recreational equipment with collage activities using cotton (white cotton). Furthermore, the teacher guides the children one by one to direct and provide special guidance to start learning activities today. For example:

- a) The child is instructed to adjust his seating position
  - b) The teacher guides the children one by one to complete the collage task and apply glue and glue the cotton and arrange the cotton on the drawing pattern that has been prepared by the teacher.
  - c) The teacher guides and directs to tidy up the activity equipment that has been used.
- 2) Footing when playing  
The teacher gives the child the opportunity to apply glue and glue cotton when the teacher explains and gives examples in front of the class and during the activity the teacher guides the children one by one who are still having difficulty working on cotton collages.
- 3) Footing after playing  
The teacher does recolling/reinforcement by directing the child to answer to return the equipment and clean up the rest of the task: Attract attention and arouse the child's interest in the next meeting by using colored cotton and more interesting picture patterns.
- In cycle 1, observers observed directly and recorded some active children and some children who were not active in participating in activities and how they were developing. Children's fine motor skills in collage activities using cotton media using children's observation sheets for pre-prepared cycle 1 meeting activities.

**Results of teacher observations**

- a. Prepare equipment and equipment that will help children get creative.
  - b. Instructors prepare media the day before the activity, so they utilize what students see to help them determine what materials, tools, or media to use to define them as "good." Tell the children what natural materials are and how to create the collage project they will be doing. The teacher's description of the natural ingredients is "adequate" because it does not provide the best explanation for the collage exercise.
  - a. Let the kids use their imagination to create any collage they choose. This is based on what I see to give kids "enough" flexibility to create collages after they're done creating. The instructor wants the children to complete the collage according to the example given.
  - b. Instructors help children in need by providing direction and instruction.
  - c. This is based on what the teacher sees when giving instruction and direction to children who still need help. This is called "good" because the instructor is attentive to children who still need help. The instructor shows that he appreciates his students' work by praising them.
- Based on the results of observations, they appreciated the work of children in the category "Starting to Develop (MB)" because the researcher lacked understanding of the learning environment of children with special needs of Autistics. So the researcher gained experience during the first cycle and will continue to the next cycle.

**Table 1. Reflections on Cycle I**

<b>Reflection</b>	<b>Findings</b>	<b>Improvements</b>
Teachers have prepared teaching modules and video media as a form of learning planning.	Teachers are quite ready in terms of administration and learning aids.	Teachers should further improve initial coordination with collaborators and arrange materials according to the abilities of autistic children.
The teacher's instructions are quite clear, but they need to be more optimal.	Autistic students are still confused when understanding the cotton collage task.	The teacher provides more intensive personal guidance to students who experience difficulties.
Evaluation and reflection on learning by the teacher	Feedback is still general and has not addressed the individual learning needs of students,	The teacher provides individual evaluations and pays attention to

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Reflection	Findings	Improvements
have not been carried out personally for all students.	especially those with lower abilities.	each student's achievements specifically.
The language of instruction has not been fully adaptive for slow learner students.	Some students do not understand the teacher's instructions due to the use of terms or sentence structures that are too complex.	The teacher uses simpler language and provides visualization or supportive gestures when delivering material.

Through the application of collage activities in two cycles of PTK, there was a significant increase in the fine motor skills of autistic children. Learning based on sensory-motor activities such as collage is very useful and should be a regular part of the learning program for children with special needs.

**Table 2. Results of Score Obtained in Cycle I**

NO	Name	Score	Number of Score	Medium	Description
1	Student A	16	9	2,25	MB
2	Student B	16	8	2	MB
3	Student C	16	9	2,25	MB
4	Student D	16	9	2,25	BB
5	Student E	16	10	2,5	MB
6	Student F	16	12	3	BSH
7	Student G	16	11	2,75	MB
8	Student H	16	10	2,5	MB
9	Student I	16	12	3	-
10	Student J	16	16	4	BSH
11	Student K	16	14	3,5	BSB
12	Student L	16	13	3,25	BSB
13	Student M	16	9	2,25	MB
14	Student N	16	11	2,75	BSH
15	Student M	16	12	3	BSH
Number of score		165			
Media		2,75			BSH
Percentage		41,25%			BSH

The total number of scores from all students is 165. With a total of 15 students, and 4 aspects assessed, the maximum score per student is 16.

The calculation results show that the level of classical mastery achieved in cycle I is 46.67%. This proportion shows that some children are able to meet the indicators of learning achievement, especially in terms of fine motor development through cotton collage exercises. However, this achievement is still below the required mastery target of 70%.

So, it can be said that the learning activities in the first cycle have not fully achieved the goal. Some students are still in the "Starting to Develop" (MB) group, while others are still in the "Not Developing" (BB) group. Therefore, we need to rethink the learning plan and find better ways for students to learn, including how we implement it, what media we use, and how much students engage in the activity. As a follow-up step, this research will be continued to cycle II with the aim of correcting the shortcomings that occurred in the previous cycle and significantly improving student learning outcomes. In cycle II, teachers will modify strategies, add variety in cotton collage activities, and increase the intensity of guidance and motivation for students.

**Table 3. Recapitulation of Children's Learning Outcomes Cycle I**

No	Description of Development	Number of Students	Percentage (%)
1	BSB (Developing Very Well)	2	13.33%
2	BSH (Developing as Expected)	5	33.33%
3	MB (Starting to Develop)	7	46.67%
4	BB (Not Yet Developing)	1	6.67%
<b>Total</b>		<b>15</b>	<b>100%</b>

### **Cycle II**

The implementation of learning activities in cycle II, which was held on Thursday, May 22, 2025, with the theme of recreation and the sub-theme of recreational equipment.

The learning process refers.

1. Increase the variety of colored cotton collages, so that children are interested in learning collage
2. Give more tasks and more full recreational pictures (Beach cap)
3. Give more praise or stars the activities are described as follows:

#### 1) Footing before playing

In this footing, the teacher invites the child to talk profusely about inviting the child to make a small circle, after praying and greetings, the teacher invites the teacher to watch an animated video about Recreation, which is a recreational theme with a soup theme of recreational equipment with collage activities using cotton (colored cotton). For example:

- a) The child is instructed to adjust his seating position
- b) The teacher guides the children one by one to complete the collage task and apply glue and glue the cotton and arrange the cotton on the drawing pattern that has been prepared by the teacher.
- c) The teacher guides and directs students to complete their assignments independently.

#### 2) Footing when playing

The teacher gives the child the opportunity to apply glue and during the activity the teacher guides the child one by one who is still having difficulty to work on cotton collage.

In cycle II, observers observed directly and recorded some active children and some children who were not active in participating in activities and how they were developing. Children's fine motor skills in collage activities using cotton media using children's observation sheets for the first cycle I meeting activities that have been prepared beforehand.

### **Results of teacher observation**

- a. Provide children with the resources and tools they need to help them create.
- b. Instructors prepare media the day before the activity, so they are guided by what they see when preparing the materials and tools or media they use to sort them out into "good" and "bad".
- c. Tell children about the natural materials they will use and how to make collages. The teacher's description of the natural ingredients is "adequate" because it does not provide the best explanation for the collage exercise.
- d. Let the children use their imagination to create whatever collage they choose. This is based on what I see to give kids "enough" flexibility to make collages after they've exhausted all of their creativity. The instructor wants the children to create a collage exactly like the example shown to them.
- e. Instructors help children in need by providing direction and instruction.

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f. This is based on what teachers see when giving instruction and direction to children who still need help. This is called "good" because the instructor is attentive to young people who still need help. The instructor shows that he appreciates his students' work by praising them.

The implementation of actions in Cycle II showed a significant increase compared to the previous cycle. The total number of scores obtained from all students is 215 with a total of 15 students, and the maximum score per student is 16 (the result of 4 aspects with a maximum score of 4 per aspect).

Its average score of 3.58 is between 2.6 and 3.5, which puts it in the Performing Expectation (BSH) category. However, as it is close to the highest limit (almost in the Very Good Development (BSB) group), this shows that the child's fine motor skills have improved considerably.

The percentage of classical completion also increased from the previous cycle (which only reached 46.67%) to 53.75%. More than half of students are currently in the completion category (BSH and BSB).

As the next stage, this research will be continued to Cycle III. The goal is to improve problems from the previous cycle and improve student learning outcomes. In Cycle II, instructors will change their methods, make cotton collage activities more engaging, and provide students with more help and inspiration.

**Table 4. Recapitulation of Children's Learning Outcomes Cycle II**

No	Description of Development	Number of Students	Percentage (%)
1	BSB (Developing Very Well)	2	13.33%
2	BSH (Developing as Expected)	5	33.33%
3	MB (Starting to Develop)	7	46.67%
4	BB (Not Yet Developing)	1	6.67%
<b>Total</b>		<b>15</b>	<b>100%</b>

It can be concluded that the use of media collage is able to increase the creativity ability of autistic children by implementing PTK. The increase from cycle 1 to cycle 2 proves that this learning media is relevant and appropriate to be applied in the context of inclusive learning in grade 1 SLB C in the Autistic class.

#### 1) Reflection

Teachers again reflect on the learning activities that have been carried out.

The results of this second reflection determined that the Class Action Research (PTK) could be ended because the performance indicators had been achieved. Reflections in cycle 2 can be seen in the table below.

**Table 5. Reflections in Cycle II**

Reflection	Findings	Improvements
Teachers have prepared teaching modules, video media, as a form of learning planning.	Teachers are quite ready in terms of administration and learning aids	Teachers improve initial coordination with collaborators and arrange materials according to their abilities Autistic Learners
The teacher's instructions are quite clear, they must be more optimal in	Autistic child learners are still confused when understanding the collage task using cotton	Teachers provide more intensive personal guidance to students who having difficulties.
Evaluation and reflection of learning by teachers have not	Feedback is only general and has not touched the individual	Teachers provide individual evaluations and pay attention to



Reflection	Findings	Improvements
been carried out personally for all students.	learning needs of students, especially those with low abilities.	the achievements of each student specifically
The language of instruction is not fully adaptive for slow learners.	Some students do not understand the teacher's instructions because of the use of terms or sentence structures that are too complex.	Teachers use simpler language and provide visualizations or supporting gestures when delivering material.

Based on the results of reflection in cycle 2, it can be concluded that the implementation of learning using collage activities with cotton media has run optimally. Teachers show improvement in the quality of managing learning, starting from the delivery of clearer instructions, the use of more adaptive language, to the provision of individualized guidance to students with Autism children. Teachers are also more active in facilitating discussions, monitoring project processes, and providing personalized feedback.

From the student side, there is a significant increase in their activeness and engagement during learning. Students appear more confident in doing assignments, are more involved in group work, and are more focused.

### Cycle III

The implementation of learning activities in cycle III which was held on Monday, June 2, 2025 with the theme of recreation and the sub-theme of recreational equipment.

The learning process refers.

1. Increase the variety of colored cotton collages, so that children are interested in learning collage
2. Give more tasks and more full recreational pictures (Beach cap)
3. Give more compliments or stars

The activities are described as follows:

#### 1) A foothold before playing

In this footing, the teacher invites the child to talk profusely about inviting the child to make a small circle, after praying and greetings, the teacher invites the teacher to watch an animated video about Recreation, which is a recreational theme with a soup theme of recreational equipment with collage activities using cotton (colored cotton). For example:

- a) The child is instructed to adjust his seating position
- b) The teacher guides the children one by one to complete the collage task and apply glue and glue the cotton and arrange the cotton on the drawing pattern that has been prepared by the teacher.
- c) The teacher guides and directs students to complete their assignments independently

#### 2) Footing when playing

The teacher gives the child the opportunity to apply glue and during the activity the teacher guides the child one by one who is still having difficulty to work on cotton collage.

The implementation of the assessment in Cycle III aims to find out the extent of improvement in fine motor skills of autistic children after the implementation of corrective actions in the previous cycle. Based on Table 6, it is known that all students, totaling 15 children, have participated in learning activities and obtained scores that show an increase in development.

The total score obtained by students in cycle III was 230, with an average score of 3.83, which was included in the Very Good Development (BSB) category. This shows a significant increase compared to the previous cycle.

**Table 6. Summary of Learning Outcome Scores in Cycle III**

No	Development Categories	Number of Students	Percentage (%)
1	BSB (Developing Very Well)	4	26.67%
2	BSH (Developing as Expected)	3	20.00%
3	MB (Starting to Develop)	7	46.67%
4	BB (Not Yet Developing)	1	6.67%
<b>Total</b>		<b>15</b>	<b>100%</b>

## 2) Reflection

The instructor rethinks the learning activities that have taken place. The findings of this second reflection show that the Classroom Action Research (PTK) can be stopped because the performance indicators have been met. The table below shows the participants' opinions about cycle 2.

Based on the results of reflection in cycle 3, it can be concluded that the implementation of learning using collage activities with cotton media has run optimally. Teachers show improvement in the quality of managing learning, starting from the delivery of clearer instructions, the use of more adaptive language, to the provision of individualized guidance to students with Autism children. Teachers are also more active in facilitating discussions, monitoring project processes, and providing personalized feedback. From the student side, there is a significant increase in their activeness and engagement during learning. Students appear more confident in doing assignments, are more involved in group work, and are more focused. Therefore, the average score of the entire class is at 3.68, with the percentage of development at 57.5%, which is included in the category of Very Good Development (BSB) according to the grade classification.

**Table 7. reflection in cycle 3**

Reflection	Findings	Improvements
Teachers have prepared teaching modules, video media, as a form of learning planning.	Teachers are quite ready in terms of administration and learning aids	Teachers improve initial coordination with collaborators and arrange materials according to their abilities Autistic Learners

This study uses Classroom Action Research (PTK) at SLB East Kutai Sangatta Utara. This study used cycle 3 to find out what autistic children learned by looking at their fine motor skills using cotton collage activities and their knowledge through classroom actions as well as active involvement in the classroom and learning with children.

## Teacher activities

In this study, it plays an important role as a facilitator, motivator, and main supervisor in the implementation of learning based on cotton collage activities. Through a gradual approach for three cycles, teachers actively plan, implement, observe, and reflect on the needs of students. In the early stages, teachers carry out activities by providing general instructions, preparing learning media, and guiding students to make cotton collages. However, the approach used has not been fully directed to the individual needs of autistic children. As a result, many students do not understand the instructions well, concentration is not stable, and fine motor coordination is still weak. The teacher noted that the methods used still need to be improved, especially in terms of visual communication and mentoring time.

Entering the second cycle, teachers made modifications to the approach used. Instructions are made more specific and accompanied by visual media to aid understanding.

The teacher provides direct examples, accompanies the child individually, and gives verbal praise as positive reinforcement. This has an impact on increasing students' attention and hand coordination. Reflection on this cycle shows that children begin to show interest and independence in composing collages, although there are still obstacles in some children that require repetition. In the last cycle, teachers optimize their individualized approach and strengthen personal interactions with students. Instructions are made simpler and delivered in stages. Teachers also conduct repeated demonstrations and adjust the time of the activity to the child's ability. With this approach, almost all students are able to participate in collage activities independently and show a significant improvement in their fine motor skills. Teachers are not only the directors of activities, but also emotional companions who are able to create a fun and conducive learning atmosphere.

### **Student Activities**

Students' activities during the learning process with the cotton collage method showed gradual and significant development in fine motor aspects. The autistic children who were the subjects of the study showed different responses in each cycle, depending on their level of comprehension, concentration, and hand coordination skills. At the initial implementation (May 19, 2025), most students still seemed passive and confused in following the teacher's instructions. Some students have difficulty holding cotton and sticking it correctly, hand coordination is not controlled, and is still often distracted by the environment. Students tend to need intensive assistance from teachers or assistants. The biggest obstacle lies in the difficulty of understanding verbal instructions and the lack of initial motivation to participate in activities. However, some students began to show interest in the learning media used, especially cotton which has a soft texture and is pleasant for children's sense of touch. After improvements were made, students began to show increased participation. With visual examples and more individualized guidance, most students can start doing cotton gluing activities independently. Eye and hand coordination begins to be trained, and students show better focus during the activity. Some students even begin to understand the sequence of activities: take a cotton swab, dip glue, and stick it on a collage pattern. This concrete and sensory activity is very suitable for the learning style of autistic children, who generally find it easier to learn through direct experience than through verbal instruction alone.

In the last cycle, the student's activities showed significant changes. Most children can complete tasks more independently and neatly. Fine motor movements such as pinching, dipping, and gluing cotton become more directed and controlled. Children also begin to show greater confidence and enthusiasm for activities. Some students can even complete the collage with their own creative variations, such as choosing a cotton color or setting the sticking position. This signifies that learning not only improves fine motor skills, but also helps to foster self-expression and perseverance.

### **Test Results Fine Moral Ability of Autistic Children**

The goal of this study was to help autistic children improve their fine motor skills by performing cotton collage exercises. The test results of each cycle showed that each child experienced a lot of improvement, both in terms of their average score and their overall knowledge of classical music.

- a. Cycle I of 15 Students At the initial implementation, children's fine motor skills are still in the categories of "Starting to Develop (MB)" and "Developing As Expected (BSH)". The average grade point average was 2.75, and classical completeness reached 46.67%, still far from the set target of  $\geq 70\%$ . The main obstacles in this activity are limited hand-eye coordination, lack of concentration, and children's inability of following instructions in a structured manner.

- b. Cycle II After improvement actions were taken in the form of a more visual instructional approach and personal assistance, the test results showed an improvement. The grade point average rose to 3.58, and classical completeness increased to 53.75%. Most children begin to show progress in skills such as clipping cotton, dipping glue, and gluing it to collage patterns more precisely and independently.
- c. In the last cycle, the development shown by the child is more positive. The average score reached 3.83 and classical completeness reached 57.5%. Some children have been included in the "Very Good Development (BSB)" category, with more directed fine motor movements, more stable focus, and neat and patterned collage results. Children also show improvement in following instructions without needing too much guidance.

Overall, the fine motor ability test shows that cotton collage activities are an effective and applicable method in helping autistic children improve hand coordination, clamping and sticking skills, and work order. Although classical completeness has not yet reached the 70% mark, the consistent trend of improvement from cycle I to cycle III suggests that this method is worthy of continued and further development in the fine motor learning program of autistic children.

## CONCLUSION

After three cycles of classroom action research, this study found that cotton collage activities based on contextual learning consistently and positively improved the fine motor skills of autistic children in SLB East Kutai Regency. With structured, hands-on, and repetitive learning, children showed gradual progress in coordination, focus, and task completion, with average scores increasing from 2.75 (46.67% completeness) in Cycle I to 3.83 (57.5%) in Cycle III, moving from Beginning of Development to Expected and Very Well-Developed stages. These activities effectively strengthened hand-eye coordination, grasping, pinching, and concentration while fostering independence, confidence, and engagement. The teachers' role in providing individualized support and positive reinforcement was key to this success. This study highlights the value of concrete, creative, and contextualized learning for special needs education. Future research could explore long-term effects and adapt this approach for other types of developmental challenges or broader educational settings.

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