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Improving Fine Motor Skills Of Children Aged 5–6 Years Through Hand Puppet-Assisted Role-Play Activities: A Classroom Action Research Study

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ABSTRACT (10 PT)

Fine motor skills are essential for early childhood development because they support children's ability to perform activities requiring finger coordination, hand flexibility, and hand-eye coordination. Preliminary observations at UPTD TK Negeri Cut Meutia revealed that the fine motor skills of children aged 5–6 years had not yet reached the expected developmental level, with only 42% of children achieving the predetermined mastery criteria. Therefore, an effective learning strategy was needed to improve children's fine motor development. This study aimed to improve the fine motor skills of children aged 5–6 years through hand puppet-assisted role-play activities. The study employed Classroom Action Research (CAR) using the Kemmis and McTaggart model, consisting of two cycles. The participants were 10 children in Group B at UPTD TK Negeri Cut Meutia. Data were collected through observation sheets, field notes, and documentation, and were analyzed descriptively using percentage calculations. The findings showed a significant improvement in children's fine motor skills throughout the research cycles. Learning mastery increased from 42% in the pre-cycle stage to 65% in Cycle I and reached 80% in Cycle II. Children demonstrated better finger coordination, improved hand flexibility, and greater participation in learning activities involving storytelling and role-play. The study concludes that hand puppet-assisted role-play activities effectively improve the fine motor skills of children aged 5–6 years. The use of hand puppet media provides meaningful and enjoyable learning experiences that support children's motor development and active engagement in classroom activities.

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INTRODUCTION

Fine motor skills constitute an essential aspect of early childhood development because they enable children to perform various activities requiring precision, coordination, and control of small muscle movements, particularly those involving the hands and fingers. These skills are

fundamental for daily and academic activities such as drawing, writing, cutting, folding, manipulating objects, and using learning tools effectively. The development of fine motor skills during the preschool years contributes significantly to children's school readiness and overall developmental outcomes (Rahma & Yunmahlizar, 2020)(Sumadi et al., 2019)

Recent studies have emphasized that fine motor development is closely associated with children's cognitive, academic, and socio-emotional growth. Children with well-developed fine motor skills tend to demonstrate better performance in early literacy and classroom learning activities because they are more capable of controlling hand movements and manipulating educational materials effectively (Kolzow et al., 2021)(Cameron et al., 2012). Therefore, early childhood educators are encouraged to provide learning experiences that actively stimulate children's hand and finger coordination through meaningful and enjoyable activities (Aulia Nanda & Rahma, 2022).

Despite its importance, fine motor development remains a challenge in many early childhood education settings. Preliminary observations conducted at UPTD TK Negeri Cut Meutia revealed that several children aged 5–6 years experienced difficulties in activities requiring hand coordination and finger control. Many children showed weak grip control when holding pencils and crayons, limited finger flexibility when manipulating learning materials, and difficulties in performing tasks such as tracing, cutting, drawing, and coloring accurately. Some children also required continuous assistance when completing activities involving coordinated hand movements. These conditions were reflected in the pre-cycle assessment results, where only 42% of children achieved the expected developmental criteria, indicating that their fine motor skills required further improvement (Munar et al., 2024)(Halim et al., 2025).

To address these challenges, teachers need instructional strategies that not only stimulate fine motor development but also maintain children's motivation and active participation during learning activities. One learning medium that has considerable potential is hand puppet media (Jamin & Rohman, 2026). Hand puppets require children to insert and manipulate their fingers inside the puppet, thereby encouraging continuous practice of finger coordination, hand flexibility, and hand-eye coordination. Moreover, hand puppets provide opportunities for children to engage in storytelling and role-play activities, which create enjoyable and meaningful learning experiences.

Previous studies have reported that hand puppets are effective in promoting children's communication skills, language development, creativity, and classroom engagement (Maharani & Zulminiati, 2021)(Hadiniyah & Wahyuni, 2024). Similarly, role-play activities have been found to increase children's confidence, participation, and developmental achievements by encouraging active involvement in learning tasks (Suryana, 2016)(Safita, 2022). In addition, play-based learning approaches have been shown to positively influence children's motor development because they provide repeated opportunities to practice movement skills in authentic contexts (Stanulis et al., 2007)(Nugraha et al., 2020).

Although previous studies have demonstrated the educational benefits of hand puppets and role-play activities, most investigations have primarily focused on language development,

speaking skills, and communication outcomes. Limited attention has been given to the integration of hand puppet-assisted role-play activities as a strategy for improving fine motor skills among children aged 5–6 years. This gap highlights the need for further research exploring how hand puppet media can be utilized to stimulate children's fine motor development within classroom learning environments. Therefore, this study aims to improve the fine motor skills of children aged 5–6 years through hand puppet-assisted role-play activities at UPTD TK Negeri Cut Meutia using a Classroom Action Research (CAR) approach. The findings are expected to provide empirical evidence regarding the effectiveness of hand puppet media and offer practical recommendations for early childhood educators in designing innovative learning experiences that support children's fine motor development.

METHOD

Research Design

This study employed Classroom Action Research (CAR) based on the Kemmis and McTaggart model, which consists of four stages: planning, action, observation, and reflection (Wong & Yunus, 2020). Classroom Action Research was selected because it is designed to improve teaching and learning practices through continuous cycles of intervention and evaluation (Mertler, 2011). The study was conducted in two cycles, with each cycle consisting of four instructional meetings.

Research Participants

The participants were 10 children aged 5–6 years enrolled in Group B at UPTD TK Negeri Cut Meutia, Bireuen Regency, Aceh Province, Indonesia. The participants consisted of five boys and five girls. Based on preliminary observations, several children experienced difficulties in performing activities requiring fine motor coordination, including holding pencils correctly, controlling finger movements, tracing lines, coloring within boundaries, cutting along patterns, and manipulating learning materials independently.

Research Instruments

Data were collected using observation sheets, field notes, and documentation. Observation sheets were used to assess children's fine motor skill development during learning activities. Field notes were utilized to record children's responses, participation, and classroom situations, while documentation in the form of photographs and learning records was used to support the observational data.

Fine Motor Skill Assessment

Children's fine motor development was assessed using four developmental categories commonly applied in early childhood education assessment: Very Well Developed (BSB), Developed as Expected (BSH), Beginning to Develop (MB), and Not Yet Developed (BB) (Syarif & Hasan, 2025). The assessment focused on the following indicators:

1. Ability to coordinate finger movements while using hand puppets.
2. Ability to manipulate hand puppet media independently.
3. Ability to control hand movements during storytelling and role-play activities.

4. Ability to hold and use learning materials appropriately.
5. Active participation during learning activities.

The research procedure was conducted using the Classroom Action Research (CAR) model developed by Kemmis and McTaggart ((Wong & Yunus, 2020), which consists of four stages: planning, action, observation, and reflection. The study was implemented in two cycles to improve children's fine motor skills through hand puppet-assisted role-play activities. The overall research procedure is presented in Figure 1.

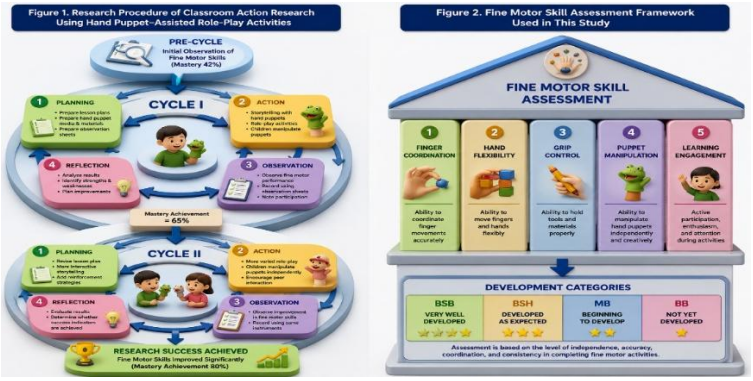

Figure 1. Research Procedure of Classroom Action Research Using Hand Puppet-Assisted Role-Play Activities

As illustrated in Figure 1, the study began with a pre-cycle observation to identify children's initial fine motor skill development. The intervention was then implemented through two action cycles consisting of planning, action, observation, and reflection stages. Improvements identified during the reflection stage of Cycle I were used to revise the learning activities in Cycle II. The research was considered successful when the developmental mastery level reached the predetermined success indicator of 80%.

FINDINGS AND DISCUSSION

Findings

The implementation of hand puppet-assisted role-play activities resulted in a progressive improvement in children's fine motor skills throughout the research cycles. The findings from the pre-cycle stage, Cycle I, and Cycle II are presented below.

Table 1. Children's Fine Motor Skill Development in the Pre-Cycle Stage

Category	Number of Children	Percentage
BSB (Very Well Developed)	3	30%
BSH (Developed as Expected)	2	20%
MB (Beginning to Develop)	3	30%
BB (Not Yet Developed)	2	20%
Total	10	100%

Developmental Mastery = 42%

The pre-cycle findings indicated that children's fine motor skills had not yet reached the expected level. Several children experienced difficulties in controlling finger movements, holding learning tools appropriately, tracing lines, coloring within boundaries, and manipulating learning materials independently.

Table 2. Children's Fine Motor Skill Development in Cycle I

Category	Number of Children	Percentage
BSB (Very Well Developed)	4	40%
BSH (Developed as Expected)	3	30%
MB (Beginning to Develop)	2	20%
BB (Not Yet Developed)	1	10%
Total	10	100%

Developmental Mastery = 65%

After the implementation of hand puppet-assisted role-play activities in Cycle I, children's fine motor skills improved. Most children demonstrated better finger coordination and increased confidence when participating in storytelling and role-play activities. However, some children still required teacher assistance when manipulating the puppets.

Table 3. Children's Fine Motor Skill Development in Cycle II

Category	Number of Children	Percentage
BSB (Very Well Developed)	5	50%
BSH (Developed as Expected)	4	40%
MB (Beginning to Develop)	1	10%
BB (Not Yet Developed)	0	0%
Total	10	100%

Developmental Mastery = 80%

The results of Cycle II demonstrated substantial improvement. Most children were able to manipulate hand puppets independently, coordinate finger movements effectively, and actively participate in storytelling and role-play activities.

Table 4. Summary of Fine Motor Skill Improvement Across Cycles

Stage	Developmental Mastery
Pre-Cycle	42%
Cycle I	65%
Cycle II	80%

The findings indicate a consistent increase in developmental mastery across the research cycles. Children's mastery improved by 23 percentage points from the pre-cycle stage to Cycle I and by an additional 15 percentage points from Cycle I to Cycle II.

Discussion

The findings of this study demonstrate that hand puppet-assisted role-play activities effectively improved the fine motor skills of children aged 5–6 years. The increase in developmental mastery from 42% in the pre-cycle stage to 80% in Cycle II suggests that hand puppet media provided meaningful opportunities for children to practice hand and finger movements in an engaging learning environment.

The effectiveness of hand puppet media can be explained through motor development theory, which states that children's fine motor skills develop through repeated practice involving the coordination of small muscles and hand-eye coordination (Cameron et al., 2012). During storytelling and role-play activities, children continuously inserted their fingers into the puppets, manipulated puppet movements, controlled hand gestures, and synchronized physical movements with verbal expressions. These repeated actions stimulated finger dexterity, grip control, hand flexibility, and coordination.

Furthermore, the findings support the principles of play-based learning, which emphasize that children learn most effectively when actively engaged in enjoyable and meaningful experiences. According to Nugraha et al. (Stanulis et al., 2007), play-based activities provide opportunities for children to develop motor skills through exploration, repetition, and active participation. In this study, storytelling and role-play activities encouraged children to manipulate hand puppets repeatedly while interacting with peers and teachers, thereby strengthening fine motor control.

The improvement observed in this study is also consistent with previous findings indicating that hand puppet media can enhance children's engagement and developmental outcomes. Hadiniyah and Wahyuni (Hadiniyah & Wahyuni, 2024) reported that hand puppet activities increased children's participation and communication skills, while Suryana and Rahmawati (Safita, 2022) found that role-play activities positively contributed to children's motor development and confidence. The present study extends these findings by demonstrating that hand puppet-assisted role-play activities not only support communication and participation but also significantly improve fine motor skills. Another factor contributing to the improvement was children's increased motivation during learning activities. Hand puppets created a playful and interactive learning atmosphere that encouraged children to participate actively. As children became more engaged, they practiced fine motor movements more frequently and with greater confidence, leading to improved developmental outcomes.

Therefore, the findings suggest that hand puppet-assisted role-play activities represent an effective instructional strategy for enhancing fine motor skills in early childhood education. The combination of play, storytelling, and motor stimulation provides meaningful learning experiences that support children's physical and developmental growth.

CONCLUSION

This study demonstrates that hand puppet-assisted role-play activities are an effective strategy for improving the fine motor skills of children aged 5–6 years. The implementation of the intervention resulted in a consistent increase in developmental mastery, indicating that meaningful play experiences can provide effective stimulation for children's hand and finger coordination, hand flexibility, and hand-eye coordination. The findings contribute to the field of early childhood education by providing empirical evidence that integrating hand puppet media with role-play activities can support fine motor development through active, engaging, and child-centered learning experiences. The study extends previous research on hand puppet media by showing that its educational benefits are not limited to language and communication development but also include the enhancement of fine motor skills.

From a practical perspective, hand puppet media can serve as an enjoyable, low-cost, and easy-to-implement instructional tool for early childhood teachers. Through storytelling and role-play activities, teachers can create learning environments that encourage active participation while simultaneously stimulating children's motor development. Therefore, hand puppet-assisted role-play activities may be considered an alternative learning strategy for promoting fine motor skill development in kindergarten settings. Future studies are encouraged to involve larger numbers of participants and explore the effectiveness of hand puppet media in supporting other developmental domains, such as language, social-emotional, and cognitive development.

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