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Teacher's Efforts to Develop Children's Fine Motor Skills using Tangram Media for Children Aged 4-5 Years at RA Insan Madani

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Abstract

This research is motivated by the importance of learning media in stimulating the development of early childhood, especially fine motor skills that influence daily skills. Tangram as an educational game media not only introduces geometric shapes, but also trains children's hand-eye coordination, imagination, and creativity. The results of a pre-survey at RA Insan Madani showed that most children aged 4-5 years have not yet developed optimally in fine motor skills, while the use of tangram is more focused on the cognitive aspect. Therefore, this study focuses on the role of teachers in developing children's fine motor skills through the application of tangram media in a more targeted manner. The purpose of this study was to determine the efforts of teachers to develop children's fine motor skills using tangram media in children aged 4-5 years at RA Insan Madani. This research is a qualitative descriptive study. Data collection methods are observation, interviews, documentation. While the data analysis techniques use reduction, display and drawing conclusions. Based on the results of the study, it can be concluded that the use of tangram media is proven effective, where children's fine motor skills develop from the category of starting to develop as expected to develop and even develop very well, so that this media can be used as an alternative learning that is fun and beneficial for early childhood. Teachers' efforts to develop fine motor skills in 4-5 year old children at RA Insan Madani through tangram media are carried out by introducing tangram pieces, providing examples of arranging simple shapes, and guiding children to arrange more complex patterns according to their creativity. Teachers not only act as instructors, but also as facilitators who accompany, motivate, and provide direction when children experience difficulties. Through these steps, children are stimulated to move their fingers in a coordinated manner, train concentration, and improve skills in drawing, sticking, and arranging shapes.

Keywords: Teacher Efforts, Fine Motor Skills, Tangram Media

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INTRODUCTION

Media can facilitate all aspects of early childhood development, including language, physical and motor skills, moral and religious values, social and emotional development, cognitive development, and artistic development (Hayati & Putro, 2021). Engaging early childhood development elements should be tailored to the child's age and developmental stage, as each child, even those of the same age, may be at a different stage (Aghnaita, 2017). In this contet, learning media is essential as a tool for conveying information about the

material being taught to help children achieve optimal development for their age (Hamida & Aulina, 2021). For example, educational games (APE) are essential, as this is the age of play (Hayati & Putro, 2021). The use of media will ensure better understanding and retention of the lesson content. Learning media can also inspire and engage students in a joyful and joyful atmosphere (Hamida & Aulina, 2021).

A rectangular medium with seven different geometric shapes forms the tangram play activity (Nugrahani, 2019). Each child is divided into groups, based on the number of students in the school, to complete the tangram according to the shapes previously explained and understood by the teacher. This game is played indoors using group or team learning techniques. Tangrams themselves can take many different forms; some are made from origami paper, geometric shapes, wood, or sponge (Humaira et al., 2024). Playing with tangrams is a lot of fun, and it can also help children develop their imagination, fostering creativity (Hidayat et al., 2021; Nugrahani, 2019).

The oldest known mathematical game is the tangram (Mufti et al., 2020). Often referred to as a Chinese puzzle, this game was originally created in China. The tangram, a puzzle consisting of seven flat pieces—two large triangles, one square, one parallelogram, one medium triangle, and two small triangles—comes from the words tang and ram (Mufti et al., 2020). Tangram media games will be used in this study to enhance fine motor development (Mufida & Prystiananta, 2025). Early childhood learners in playgroups can quickly identify buildings using tangram games, which helps recognize basic geometric shapes (Asdar, 2021; Hamida & Aulina, 2021). Because tangram games are similar to solving puzzles, they are engaging for children, as learning through play is ideal for young children (Humaira et al., 2024).

Fine motor development is one of the skills fostered in early childhood education (Amalia & Mayar, 2021). The ability to perform various tasks with the fingers is related to the development of fine motor skills. Writing, cutting, stacking blocks, doodling, manipulating objects with the hands, and so on are some examples (Hakim, 2023). Because fine motor skills have both a direct and indirect impact on a child's behavior in everyday life, mastering these skills is considered crucial (Wulansari et al., 2025). It is hoped that children who undergo fine motor training will be able to use their fingers accurately and skillfully for everyday tasks, especially those involving manual labor and crafts. Fine motor skills are the ability to control the use of small muscle groups, such as the hands and fingers, which often require precision and hand-eye coordination (Amalia & Mayar, 2021; Wulansari et al., 2025).

According to Surah Al-Qiyamah, verses 3-4 (Al-Qur'an, 75:3–4), this surah was revealed to assuage the doubts of the disbelievers who believed that Allah was unable to bring humans back to life. In reality, Allah is able to reunite the scattered parts of the human body, including the smallest parts that have mixed with the earth. The essence of this verse emphasizes that there will be a resurrection after death. This demonstrates the extraordinary ability of the creation of human fingers and their perfect function. This research will focus on the fine motor skills of children aged 4-5 years because the children's fine motor skills at RA Insan Madani are still underdeveloped compared to other ability levels (Auliya et al., 2026). Most children aged four to five years have not developed fine motor skills (Aghnaita, 2017). Teachers stated that children have not developed the ability to pay attention to the subject matter during teaching and learning activities. Based on observations, another cause is student boredom and lack of interest in learning because the learning media at school requires development to meet children's needs (Mufida & Prystiananta, 2025).

According to Wahyu Baskoro, the definition of effort is an attempt or requirement to convey something or an intention through reason or endeavor, while according to Torsina, effort is an activity carried out to achieve a desired goal. In line with the two opinions above, according to the Language Development and Fostering Agency, effort is

defined as an effort of reason or endeavor to achieve an intention to solve a problem, find a way out, and so on. Based on the opinions above, it can be synthesized that effort is an effort in the form of activities and/or thoughts to achieve the intended goal.

According to the Indonesian dictionary, a teacher is someone whose job is to teach. Someone who dedicates themselves to the field of education through structured, formal, and methodical educational exchanges is called a teacher. Madyo Ekosusilo defines a teacher as someone whose job is to provide deliberate guidance to students for the growth of their personality and physical and spiritual capacities so that they can live freely and carry out their responsibilities as God's creatures, both as social beings and as individuals. Teachers are crucial and serve as a resource for teaching and learning activities (Rasyidah et al., 2024). Because they are the ones who understand the classroom situation, especially the conditions of children from various backgrounds, instructors must be proactive and creative in their approach to classroom management.

A teacher's primary responsibility is to teach and educate students; they work to ensure that each student successfully understands the science and technology being taught. In the classroom, teachers play a more central role in the learning process (Rasyidah et al., 2024). Without positive interactions between teachers and students, learning objectives cannot be achieved to the best of their ability, regardless of how well-designed or competent the teacher's teaching aids are.

Teachers' efforts in developing children's fine motor skills can be explained in detail through two main roles: inspirators and motivators (Rasyidah et al., 2024). As inspirators, teachers provide direct examples and create a conducive learning environment so that children feel interested and motivated to try various activities that train fine motor skills. Teachers provide creative ideas and use interesting learning media, such as tangrams, to stimulate children's ability to hone hand-eye coordination (Mufida & Prystiananta, 2025). Meanwhile, as motivators, teachers play a role in encouraging and providing encouragement to children to continue practicing and not easily give up in developing fine motor skills. Teachers provide praise, appreciation, and positive feedback for every effort and progress made by children during the learning process (Rasyidah et al., 2024).

One of the skills promoted by early childhood education is the development of fine motor skills (Amalia & Mayar, 2021). The development of fine motor skills is related to the development of the ability to use the fingers for various tasks. Writing, cutting, stacking blocks, scribbling, manipulating objects with the hands, and so on are some examples (Hakim, 2023). Because the development of fine motor skills has both a direct and indirect impact on children's behavior in everyday life, it is considered crucial (Wulansari et al., 2025). Fine motor skills are movements performed by certain body components that only require coordination (balanced collaboration) between the hands, feet, and eyes. These movements do not require much strength from large muscles. Fine motor skills training aims to make children skilled and careful in using their fingers in everyday life, especially in jobs that require manual labor and craft-related skills. Fine motor skills are the ability to coordinate the use of a group of small muscles, such as the hands and fingers, which often requires precision and hand-eye coordination (Amalia & Mayar, 2021).

According to the Child Development Achievement Level Standards (STPPA), the levels of achievement for fine motor development in children aged 4-5 years are as follows: 1) Drawing circles, curves, vertical and horizontal lines; 2) Following shapes; 3) Using hand-eye coordination to perform complex maneuvers; 4) Using multiple media to create shapes through manipulative movements; 5) Using various methods to express oneself artistically; 6) Regulating hand movements that require fine motor skills (squeezing, twisting, clenching, pinching, stroking, and poking) (Aghnaita, 2017; Kementerian Pendidikan dan Kebudayaan, 2014).

Learning media can be defined as instruments or objects that serve as channels for delivering lessons or other content, facilitating students' understanding of the teacher's

message (Hamida & Aulina, 2021). Learning media function as teaching aids that also influence the atmosphere and conditions created and managed by the teacher. Through the use of learning materials, students are expected to use as many of their senses as possible to see, hear, feel, absorb, and understand information, attitudes, and skills. Tangram is an ancient Chinese puzzle game dating back to the Kang Dynasty (Mufti et al., 2020). A simple square puzzle consisting of seven parts: two large triangles, one square, one parallelogram, one medium triangle, and two small triangles, is used to create the Tangram instructional game. The benefits of tangram media include: familiarity with various geometries, the ability to distinguish between various shapes, gaining an intuitive understanding of geometric relationships and shapes, gaining proficiency in spatial rotation, gaining the capacity to transform shapes using the correct terminology, and understanding congruence (Humaira et al., 2024; Nugrahani, 2019).

Based on pre-survey data obtained by researchers at RA Insan Madani, it is known that the implementation of tangram media at the school has been implemented since two years ago. Tangram media can be used to improve cognitive abilities, creativity, and motor skills of early childhood children at RA Insan Madani (Mufida & Prystiananta, 2025). The use of tangram media to improve fine motor skills at RA Insan Madani still faces several challenges. This is due to the perception that tangram media is more often used for geometry learning and strengthening children's cognitive abilities (Asdar, 2021; Hamida & Aulina, 2021), so its potential in developing fine motor skills has not been fully utilized. Therefore, this study aims to describe teachers' efforts to develop children's fine motor skills using tangram media in children aged 4-5 years at RA Insan Madani in the 2025/2026 academic year.

METHOD

This research uses qualitative descriptive techniques. Based on post-positivist philosophy, qualitative research methods are used to study the natural conditions of objects (not experiments) and use researchers as the primary instrument. Purposive sampling is used for data source sampling (Lenaini, 2021), triangulation (combination) is used for data collection techniques, inductive and qualitative data analysis are used for data analysis, and qualitative research findings emphasize meaning rather than generalization. The location of this research was RA Insan Madani. The researcher conducted the research at the school because many students had suboptimal fine motor development and because the researcher was also conducting a field experience (PPL) practice that addressed this issue in the PPL report. The time used by the researcher for this research was carried out in the first semester, October-November 2025. Within approximately one month of the research permit being issued, 15 days were spent collecting and analyzing data, including presenting the findings in the form of a thesis and continuing the mentoring process.

The subjects of qualitative research are informants, or individuals who provide information about the data the researcher desires for the research being conducted. The subjects in this study were the principal, teachers, and 4-5 year-old children at RA Insan Madani. The total number of 4-5 year-old children who participated in this study was 18, consisting of 8 boys and 10 girls. This study used a purposive sampling method (Lenaini, 2021). The author used several data collection techniques to obtain the information needed for this study. These techniques included observation, interviews, and documentation. Observations were used to observe the implementation of tangram media at RA Insan Madani and the children's fine motor skills. Interviews were conducted with the Principal of RA Insan Madani and teachers at RA Insan Madani. Documentation was used to obtain data on the school profile and photographic documentation.

Triangulation is a method used to assess the reliability of data in this study (Mekarisce, 2020). Triangulation refers to the method of verifying the accuracy of data by comparing it with something other than the data itself. This study employed source

triangulation, technical triangulation, and time triangulation (Alfansyur & Mariyani, 2020; Mekarisce, 2020). The process of organizing data for interpretation is known as data analysis. The data analysis techniques used include data reduction, data display, and conclusion drawing/verification.

RESULTS AND DISCUSSION

RA Insan Madani began operating in 2020 as an early childhood education institution. This institution was born out of its founder's concern about the local community's lack of adequate access to early childhood education. The socioeconomic background of the community surrounding RA Insan Madani is largely lower-middle class, resulting in relatively low awareness and ability to educate their children at an early age. Recognizing this situation, the founder of RA Insan Madani took the initiative to provide educational services that were not only high-quality but also accessible to all groups.

Children with noble character, independence, skills, intelligence, and character. The facilities and infrastructure are quite good, with two classrooms, one office, and adequate indoor and outdoor play areas. The teachers who were the subjects of the study were educators with bachelor's degrees (SI) and experience in early childhood education. The students studied were 18 children from class KB 1.

Fine Motor Skills

Researchers are interested in discussing fine motor skills in children aged 4-5 years at RA Insan Madani because the average development of fine motor skills in children aged 4-5 years is not optimal, this is due to the lack of application of learning media that can optimize children's abilities in fine motor skills, such as the application of tangram media. So that children still seem less enthusiastic about games that have rules in them, this is because children still do not understand and obey the rules in a game. Pre-survey data explains why the average fine motor skills of four- to five-year-old students at RA Insan Madani have not yet developed. Of the eighteen students, 9 have not developed (BB), 7 are in the category of beginning to develop (MB), and 2 are developing as expected (BSH). Meanwhile, no child was categorized as developing very well. Therefore, this study chose to develop the fine motor skills of 4- to 5-year-old children at RA Insan Madani because these fine motor skills are still considered underdeveloped.

Several supporting factors play a significant role in implementing tangrams to improve children's fine motor skills. These include the availability of adequate tangram media, teacher creativity in designing activities, a variety of engaging teaching techniques, and children's enthusiasm during the learning process. This support makes it easier for children to be motivated to practice arranging shapes, thus fostering the development of fine motor skills.

The fine motor skills of 4-5 year olds at RA Insan Madani began to develop after the implementation of the tangram media. Based on research data on the level of fine motor skills of children at RA Insan Madani, out of a total of 18 children aged 4-5 years, 9 children were categorized as starting to develop, 7 children were categorized as developing as expected, and 2 children were categorized as developing very well (BSB), then there were no children who were categorized as not yet developing.

Teachers' Efforts to Develop Children's Fine Motor Skills Using Tangram Media

The application of tangram media for children aged 4-5 years at RA Insan Madani is as follows:

Teachers Use Tangram Media to Explain Learning Methods

Based on observations, the first step taken by teachers in learning with tangram media is to introduce the game tool to the children. The teacher shows the basic shapes of tangrams, such as triangles, squares, and parallelograms, then explains how the pieces can

be arranged into various patterns. The teacher tries to attract attention by giving examples of arranging simple shapes, such as houses and boats, so that children can more easily understand how to use them. The head of the RA said that using media such as tangrams really helps children recognize shapes and train hand coordination. The teachers also agree that the initial explanation makes children more confident and careful.

Teacher Distributes Worksheets and Instructs the Class to Design Tangrams

Based on observations, when the teacher distributed tangram worksheets to the children, most of them appeared enthusiastic and curious about the shapes they had to arrange. This activity shows that using tangrams can attract children's attention and concentration while also training their hand-eye coordination. Interviews with teachers confirmed that the initial step of distributing worksheets and providing clear instructions really helped children avoid confusion when starting the activity. Using tangrams accompanied by worksheets helped children focus more on arranging the shapes because of the clear visual guide.

Showing Students How Tangrams Can Be Arranged into a Square

In the initial stages of using tangram media, the teacher provides a direct example of how tangram pieces can be arranged into a square shape. Children are seen paying enthusiastic attention as the teacher demonstrates the arrangement step by step. This activity stimulates children's eye-hand coordination, as they try to match the shape of the pieces to the pattern shown. Providing direct examples by the teacher is an effective step in early childhood learning, because children understand more easily through observation and imitation.

Invite Students to Assemble Tangrams in Various Ways

When teachers invite children to assemble tangrams in various ways, most children appear enthusiastic about trying to arrange the tangram pieces into various simple shapes, such as houses, animals, and boats. This activity allows children to practice controlling hand movements, coordinating eyes and fingers, and increasing patience when the desired shape is not quite right. The variety of shapes also makes children more motivated and less likely to get bored in participating in learning.

Instructing Children to Draw Various Tangram Shapes by Examining the Lines

When the teacher instructed the children to draw various tangram shapes by paying attention to each line on the tangram piece, it was seen that most of the children still seemed to have difficulty in following the line flow precisely. However, this activity really helps children practice hand-eye coordination, as well as train their patience in completing the drawing. With direct guidance from the teacher, the children become more focused in drawing.

Discussion

Early childhood is in a golden age, the most crucial period in human development. During this phase, children are highly sensitive to various stimuli from their environment, both natural and specially designed. Fine motor skills are a child's ability to control small movements involving hand-eye coordination. These skills provide a crucial foundation for children to perform daily activities, such as writing, drawing, and holding objects correctly. The use of tangrams at RA Insan Madani is implemented in stages, tailored to the child's needs. Teachers begin by introducing tangram pieces and how to assemble them into simple shapes. Afterward, children are guided to try creating more complex shapes based on their imagination. This process not only trains fine motor skills but also fosters children's confidence in completing challenges. Observations show that when children play with tangrams, they appear enthusiastic and focused on constructing the desired shapes.

The implementation of tangrams at RA Insan Madani also has a positive impact on children's social development. When playing together, children learn to share, cooperate, and appreciate each other's work. Thus, the use of tangrams not only benefits fine motor

skills but also supports children's overall social development.In line with the findings of this study, Montessori theory emphasizes that stimulation of children's fine motor skills should be provided through concrete and manipulative activities, as direct experience can optimally train hand-eye coordination. Similarly, a study by Wijayanti found that the application of tangrams in early childhood education can improve both cognitive and fine motor skills in children, which aligns with the findings of this study. Overall, this study proves that the use of tangram media at RA Insan Madani is proven effective in improving children's fine motor skills.

The suggestions in this study include: 1) To RA Insan Madani: It is hoped that they can continue to support the application of creative learning media such as tangram by providing adequate facilities so that children's fine motor development can be more optimal. 2) To Teachers: It is recommended to be more consistent and varied in using tangram media, and combine it with other relevant learning methods so that children are more motivated and trained in developing their fine motor skills. 3) To Further Researchers: It is hoped that they can develop this research by expanding the indicators studied, for example connecting the use of tangram media with aspects of children's cognitive or social development, so that the research results will be more comprehensive and useful for the world of early childhood education.

CONCLUSION

Based on the research results, it can be concluded that the use of tangram media has proven effective, where children's fine motor skills develop from the category of starting to develop as expected and even develop very well, so that this media can be used as an alternative learning that is fun and beneficial for early childhood. Teachers' efforts in developing fine motor skills in children aged 4-5 years at RA Insan Madani through tangram media are carried out by introducing tangram pieces, providing examples of arranging simple shapes, to guiding children to arrange more complex patterns according to their creativity. Teachers not only act as instructors, but also as facilitators who accompany, motivate, and provide direction when children experience difficulties. Through these steps, children are stimulated to move their fingers in a coordinated manner, train concentration, and improve skills in drawing, sticking, and arranging shapes.

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