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Analysis of Early Childhood Fine Motor Skills Through the Application of Learning Media

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ABSTRACT

Objective: The learning media is one of the methods needed in the learning process when students are in class, especially for developing fine motor skills. Fine motor skills are fine motor skills that involve finely coordinated movements. This research was conducted to describe and analyze the implementation of the learning media to develop and stimulate the development of children's fine motor skills. The novelty of the research is learning media to improve fine motor skills in early childhood. This study aims to describe fine motor skills in early childhood through learning media. **Method:** This research method is a literature study or literature review with a qualitative approach that is carried out by collecting data or based on scientific writing, which combines research with existing literature to solve existing problems—collecting data on library materials by reading and storing and managing research materials and concluding research materials. **Results:** Based on an analysis of 30 learning articles using learning media shows that developing fine motor skills in early childhood requires learning activities using learning media to support and support the learning process. In addition, when the learning process uses learning media, children become interested, enthusiastic, and excited because learning activities become fun. **Novelty:** The novelty of the research is learning media to improve fine motor skills in early childhood.

INTRODUCTION

Early childhood is an individual figure undergoing a rapid development process that is fundamental for the next life. Early childhood is a child who has characteristics of likes to move (does not like to be silent), is unique, active, has high curiosity, likes to experiment and test, can express himself creatively, has imagination, and wants to talk. Early childhood also has spontaneous characteristics, is still easily frustrated, lacks consideration in doing things, has a short attention span, is passionate about learning and learning a lot from experience, and shows increasing interest in friends. An early age or commonly referred to as the golden age because this age is the initial stage of the formation of intelligence in children. Children need special attention from their surroundings during this golden age, known as the golden age (Harefa et al., 2022; Hasanah & Deiniatur, 2018). If the golden age is missed, then the growth and development of the child are not optimal, so early childhood needs to be given the proper education according to the characteristics and development of the child.

Early Childhood Education is a level of education before primary education, which is one of the coaching efforts aimed at children from birth up to the age of six, which is carried out through the provision of educational stimuli to help physical and spiritual growth and development so that children have readiness in entering further education which is held on the formal, non-formal, and informal channel (Nuraeni & Gunawan, 2022). Early childhood education is directed at developing all aspects of early childhood

development, including religious, moral values, physical motor, language, cognitive, arts, and social-emotional. These six aspects of action must be developed as a whole and improved in a balanced and sustainable manner. This assumption is correct because these six aspects are related. A critical part of child development is the physical and excellent motor.

However, many children still have delicate motor development aspects that are not adequately stimulated. This acquires children's learning in the motor aspects of children still at the developmental stage of "starting to develop" and is still not optimal. One of them is a child who has not been able to hold a pencil correctly, and the child still has difficulty writing letters and numbers, and what the child writes is still unclear. This happens because the media and methods used during the learning process in the classroom do not interest children, and children become bored. It is better to use media that is interesting and fun so that it can develop and stimulate children's development properly. There are four kinds of children's fine motor skills: pinching, holding, concentration, and hand-eye coordination (Agustina et al., 2018). Fine motor skills involve finely regulated movements. Grasping a toy, buttoning a shirt, or doing anything that requires dexterity demonstrates fine motor skills. The development of fine motor skills in children includes the child's ability to show and master beautiful muscle movements in coordination, dexterity, and dexterity using hands and fingers.

Fine motor skills for early childhood based on Permendikbud No. 137 regarding the standard level of proficiency for motor-physical development in children are: 1) Make lines and circles. Indicators: Make a perpendicular line, Make a flat line, Make a curved line left/right, Make a slanted left/right line, and Make a circle line; 2) Trace the shape. Indicators: Tracing image, geometric, and media shapes around; 3) Coordinating the eyes and hands to perform complex movements. Arrows: Cutting based on patterns, Weaving with paper, Merronce with beads, Arranging puzzle pieces, Matching pictures; 4) Performing manipulative movements and creating art using various media. Indicators: Making various shapes from plasticine, Making various shapes from clay, Making various shapes from a flour dough, Making various figures from sand by sowing, Making various shapes using leggo, 5) Expressing yourself by creating art using various media. Indicators: Painting with fingers (finger painting), Assembling towers from cubes of at least eight cubes, Creating various shapes using blocks, Coloring with crayons, and Playing simple musical instruments.

The effect of writing activities (holding a pencil and paper) on ten kindergarten children at several institutions in America shows that children's fine motor skills when in class increase substantially. The average percentage was higher in fine motor activity activities in kindergarten classrooms. Fine motor skills take longer to develop than gross motor skills because they require concentration, control, caution, and coordination of the body's muscles. As children age, their fine motor skills will continue to develop (Sholihah, 2019). To this opinion, a study conducted by Sutapa (2021) with the subject of 40 children aged 4–6 years in several kindergartens in Malaysia shows that fine motor skills are improved through learning activities while playing using learning media. Goal-oriented play activities encourage children to move and trigger the movement of body muscles. In addition, there is another research, namely research conducted by Linda (2020), showing that gamelan media abilities in Kindergarten Kasih Bunda Turgak West Lampung, especially in motor development carried out in group B students aged 5-6 years, totaling 15 people, the teacher was successful develop the motor skills of students

by using eye and hand coordination, skillful use of the right hand and left hand and balance between the right hand and left hand.

Fine motor development can be stimulated and developed through play. One of them is using learning media. The word media comes from the Latin medius, which means the middle of an intermediary or introduction. Instructional media are learning resources other than teachers, referred to as distributors or liaisons for teaching messages that educators hold or create in a planned manner. When understood in a line of rice, the media is human, material events that build conditions that enable students to gain knowledge, skills, or attitudes. It can be concluded that using media in teaching and learning activities dramatically influences children's sensory organs. Media use will guarantee a better understanding of the lesson's content. Learning media can also arouse and bring students into an atmosphere of joy and happiness where there is emotional and mental involvement. The use of teaching media at the learning orientation stage will significantly help the effectiveness of the learning process and the delivery of messages and learning content at that time. Apart from arousing student motivation and interest, learning media can also help develop all aspects of their development (Sari, 2015).

Teachers can help children develop their fine motor skills by utilizing various media. Fine motor skills are also a bridge for children of intelligence related to bodily-kinesthetic. These include children's activity and skills in controlling and coordinating body movements and using specific equipment in their playing activities. Moreover, from a social aspect, the maturity of children's fine motor skills helps them instill a positive self-image through self-confidence in interacting with other people and their environment. Fine motor skills involve coordinating the movements of the fingers in carrying out various activities, including being able to use scissors to cut paper, being able to install and unfasten buttons and zippers, and being able to hold the form with one hand. In contrast, the other hand is used for drawing, writing, or other action. Others can put a thread into a needle, c mix beads, shape with plasticine/vase, and fold paper to make a shape (Nurwita, 2019).

Learning media must be by aspects of child development. Motor physical development is the basis for the development of other elements. Suppose the child's physical motor development is hampered. In that case, this will affect development in the following aspect because physical development is sufficient to determine motor activity in children, which will ultimately affect daily activities and behavior. Likewise, motor development will lead to more complex social movements, namely play activities which become the world of learning for early childhood (Komaini et al., 2021). The world of children is the world of play; in children's lives, most of the time is spent playing activities. By playing, children learn, meaning that children who learn are children who play, and children who play are children who learn. The learning process is child-centered and applies the principles of the game.

Learning media stimulates children to explore and experiment with the world and build self-knowledge. According to neuroscience experts, early childhood is a period of formation of brain cell networks and occurs very quickly. In this regard, intensive stimulation from the educational environment is needed so that children can develop optimally. The primary purpose of learning media is to stimulate physical-motor development; it is essential to talk about it. Train every child's physical movements through teaching media (Sofyan et al., 2019). It will help us understand early childhood motor development and how to stimulate appropriate motor activity. Then indirectly, we can develop self-confidence and enjoy and progress in early childhood. However, in

reality, many young children still have a low level of maturity in fine motor skills, which must be set correctly.

Based on the results of observations made in several schools and kindergartens in Surabaya and Sidoarjo. The problem is they still seem hesitant when asked to piece paper into a ball shape, so the report opens again. Likewise, many children still have difficulty putting their hands close to the pencil's eye when holding a pencil. Delicate motor stimulation by the teacher uses more demonstration methods in the class. The children pay attention when the teacher explains. Unfortunately, the media used by the teacher during the demonstration needed to be bigger, so many children should have paid more attention and chose to play alone. Therefore, we need new media to overcome these problems.

Developmental activities in children's fine motor skills still need to be improved, as seen from all the activities implemented need in a class by the teacher so far, only activities make children bored in participating in the learning process, and few activities can improve children's fine motor skills. Actions lacking in stimulating children's fine motor skills can cause the child's hand movements to stiffen so that children's fine motor skills have not improved according to their aspects. Therefore, the researchers found that most children still could not hold pencils and scissors properly, so when children were asked to write, most children could not register properly. Related to this, researchers want to implement activities to help children improve fine motor skills by playing with learning media. This is done so that the activities are more exciting and exciting use children's curiosity and motivate them. Thus there is a need for creative and innovative learning from teachers, for example, in choosing or determining learning strategies, tools or media, types, and forms of the learning systems,s and evaluation instruments. Children must think critically and pick new things (Pura & Asnawati, 2019).

One effort that can be made to overcome this problem is to use learning media. Learning media is the foundation in the world of education which can trigger learning motivation for students so that they are enthusiastic and interested in learning. Learning media has functions and benefits for student learning motivation and motivates teachers to provide innovative and creative education given to students. The rapid development of learning media; requires teachers to equip themselves with the ability to use it because learning media is essential in supporting the learning process (Sofyan et al., 2019). Learning media is one of the learning media that includes multimedia. It makes learning more innovative, varied, and fun because it can become an intermediary for information or material from the teacher to students. Therefore the selection of learning media needs special attention because learning media helps teachers achieve learning goals and is popular and widely used in the current learning process. Based on the background of the problems described above, the researcher is interested in researching early childhood fine motor skills through learning media.

RESEARCH METHOD

This study was made based on research that several previous researchers have done. The research in this article uses a qualitative approach, namely the literature study or library research method, to describe and analyze the application of the learning media in the learning process, which can be accepted as new and vital knowledge. This literature study took sources from 20 articles or journals from Google or Google Scholar and was published from 2013 to 2022 about learning media.

Library research or library research is a research activity based on a collection of materials or writing scientific articles, which aims to write a research subject or group of library materials or to conduct research in solving a problem that exists and occurs according to the depth of the library material (Saphira, 2022). Before researching library materials, researchers must know for sure about the sources of scientific information with certainty and where the seeds of scientific details come from. Some of the sources used include; textbooks, scientific journals, research results in the form of theses, theses, dissertations, and the internet, as well as other relevant and appropriate sources. In library research, existing library resources are used to obtain research material so that researchers do not need it and do not have to conduct research directly.

There are three reasons for using library research, namely: 1) This research question can only be found through library research; 2) Library research is needed as a certain step, namely preliminary research, through which one can gain a deeper understanding of the new phenomena that are developing and occurs in the field or the community; 3) There is information library material that can be used as a reference for answering research questions. Library research is carried out by utilizing several library resources to obtain research study materials so that library research can limit activities to only collecting library materials without conducting field research.

This research is a study that uses the literature study method by examining several literature journals related to fine motor skills and learning media. The data collection technique used is documentation, namely documents in the form of literature related to research topics, for example, articles and scientific journals. Data analysis in this study is content analysis and uses data analysis techniques, namely the reduction of literature data, data presentation, and data verification (Situmorang & Herman, 2021). The results of various literature studies will be used to identify fine motor skills through instructional media. The stages of the research were carried out using several library research steps as follows on the implementation of the learning media of early childhood fine motor skills, as in **Figure 1**.

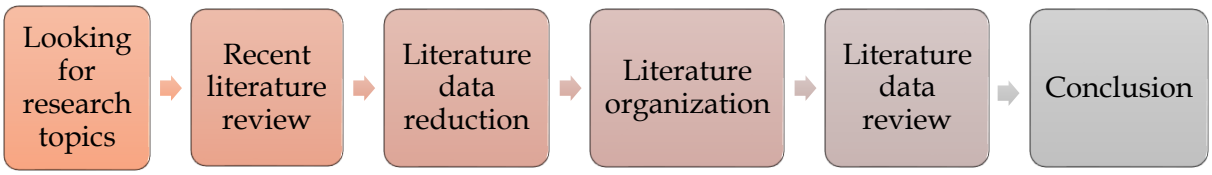

Figure 1. Research stages.

This research begins by searching for research topics, reviewing the latest literature, reducing literature data, organizing literature, reviewing literature data, and drawing conclusions (Situmorang & Herman, 2021). To analyze the research data in this article, the researcher uses qualitative data analysis techniques because the data used is not in the form of numbers but in the form of literature or library materials. Data analysis methods using a descriptive method aim to explain the study results in depth, clarity, and clearly.

RESULTS AND DISCUSSION

Results

Motor development is an opportunity for children to move according to their age. Motoric is the development of controlling body movements through coordinated

activities between the nervous system, muscles, brain, and spinal cord. Using large or small muscles allows children to achieve motor development. Fine motor skills involve finely regulated movements using eye and hand coordination, so hand movements need good development (Chotimah et al., 2021). Fine motor skills organize small muscles, such as the fingers and hands, which often require accuracy and eye and hand coordination. Skills include using tools for work and small objects or controlling machines such as typing, sewing, etc. Fine motor skills are movements that only involve certain body parts and are carried out by tiny muscles. So that learning media is needed to develop children's fine motor skills, especially using fingers. **Table 1** is articles about Fine Motor Skills and Learning Media.

Table 1. Journal articles about fine motor skills and learning media (2013-2022).

Author and Year	Sample Characteristics	Research Methods	Research Results / Findings
(Rakimahwati, 2018)	The sample of this study was 24 children in group B at the Amalan Parupuk Tabbing Padang Foundation Kindergarten.	The form of this research is quantitative, with a Quasi-Experimental type of research (pseudo-experiment).	Based on the results of research conducted at the Amalan Parupuk Padang Kindergarten, the fine motor skills of children in the experimental class (B1) with kirigami were higher than those in the control class (B2) with universe origami activities (83.25%) for realistic style and (76.00%) for the control class.
(Nurwita, 2019)	The main subjects in this study were school principals, teachers, and early childhood, totaling 15 people at Early Childhood Education Aiza, Kepahiang Regency.	This study uses a descriptive qualitative method.	Utilization of Puzzle Media in Developing Children's Motoric at Aiza Early Childhood Education, Kepahiang District Playing media such as puzzles is beneficial; this can be seen from the benefits of puzzles that can help develop motor skills such as training eye and hand coordination, where children can place puzzles according to shape.
(Darmiatun & Mayar, 2019)	The subjects of this study consisted of 12 children, seven girls and five boys, aged 5-6 years, at Kindergarten Islam Bakti 91 Bukit Tujuh Dharmasraya.	This research uses Classroom Action Research.	The observations of Cycle 2 shows that 83.30% or ten children out of 12 are in the Very Good Development criteria, so they have reached the indicator of success, for that research in Cycle two was stopped.
(Hendraningrat & Fauziah, 2021)	The subject of this research is one teacher and 18 children aged 3-4 years.	This study uses the 2009 ADDIE development research model.	The results of data analysis from the effectiveness test show that digital media can improve children's fine motor skills. In line with previous research, video tutorial media can improve children's fine motor

Author and Year	Sample Characteristics	Research Methods	Research Results / Findings
			skills. The completeness of the children's fine motor skills in the class action research reached 81.25%.
(Rezieka et al., 2022)	The sample of this research is 24 children in IT Az-Zahira Kindergarten.	This research uses a qualitative descriptive research method, descriptive study.	The results showed that all early childhood could gradually use their fingers skillfully after three mosaic activities. The child's cognitive instructions can be reflected through the function of the child's fingers, which shows an increase in fine motor skills.
(Wirdalena & Mayar, 2022)	The subjects of this study were children in the Pembina State Kindergarten, Tanjung Baru District.	Research using the ADDIE model of R & D (Research and Development).	Developing fine motoric teaching materials based on thematic approaches is effective as a learning medium. Thus the result of fine motoric teaching materials based on thematic approach methods needed in kindergartens is declared valid, practical, and effective.
(Sari, 2015)	The total sample is 13 children. The entire piece is 13 children.	The research method used in this study is a qualitative descriptive method.	The research showed that 11 children had excellent development, and two people had not developed properly. The cause of undeveloped children is influenced by verbal bullying by other children because this child always wants to help others according to his perception. Still, according to other children's perceptions, this is considered disturbing.
(Pura & Asnawati, 2019)	The research subjects were 28 children in group A, 12 boys and 16 girls.	This research is descriptive and quantitative.	The results of research on the fine motor development of children using playdough media were higher than drawing and emergence press; this was evidenced by the achievement of exemplary motor learning using playdough media; the results of 76.00% in the assessment category developed very well.
(Tadoranggi et al., 2022)	The subjects of this study were children aged 5-6 years at GKST Kindergarten in Poso Regency.	Research through the method of giving assignments.	The child's fine motor skills improve by 50.00% to 70.00% at the first meeting. The child's ability increased to 80.00% at the second meeting, and at the third meeting, the child's ability

Author and Year	Sample Characteristics	Research Methods	Research Results / Findings
			increased to 90.00%. This study concludes that playing with plasticine can improve children's fine motor skills.
(Agustina et al., 2018)	The subjects of this study were ten children in group B early childhood education Aulia Bengkulu.	This study was a classroom action research.	Children's fine motor skills prove the result of this study can be improved through playing activities with the media using plastic bottles and cardboard, with learning mastery of 88.00% average total acceptable motor result of children 4.40 (suitable).
(Rohmah & Gading, 2021)	The research subjects were 18 children consisting of 9 boys and nine girls.	This type of research is classroom action research, carried out in two cycles.	The results showed an increase in fine motor skills through playing with plasticine. In the first cycle, the achievement of fine motor skills was 57.62% in the low category; it increased in the second cycle to 81.56% in the high class. Based on the study results, playing with plasticine increases the fine motor skills of group A Kindergarten children.
(Asakawa & Sugimura, 2022)	The type of research used is quantitative research and descriptive statistics for each variable. The participants were 48 young children (M = 64 months; SD = 3.66; 31 boys and 17 girls) enrolled in two classes at a nursery school in a regional city in Japan.	The type of research used is quantitative research and descriptive statistics for each variable. The participants were 48 young children (M = 64 months; SD = 3.66; 31 boys and 17 girls) enrolled in two classes at a nursery school in a regional city in Japan.	The findings were that fine motor skills and finger gnosis were related to numerical abilities, including counting, symbolic comparison, and calculations. Therefore, the results were discussed regarding the functional and redeployment views, suggesting that the two pictures were complementary rather than exclusive.
(Galdi et al., 2015)	The study evaluated 123 male and female children between the ages of 3 and 6.	The type of research used is quantitative research.	Motor activity, particularly the training of coordinative capacity, could increase children's cognitive development potential.

Author and Year	Sample Characteristics	Research Methods	Research Results / Findings
(Aulie et al., 2018)	Eighty-nine children treated to the traditional method (mean age 9.00 years, 7 to 10) and 93 treated ad modum Ponseti (mean age 8.80 years, 7 to 10) were recruited from a multicentre clinical study in Norway.	Analysis of Covariance for comparison of the two treatment methods.	Results: found no significant difference in any of the various components or the total score of the MABC-2 between patients treated with the two different methods. In all, 76.00% of the children treated according to the traditional method and ad modum Ponseti and 96.00% in the control group were classified as having normal motor abilities.
(Moradi, 2020)	In Human Experimentation at Arak University, participants were 45 undergraduate male, right-handed, healthy students with no basketball experience (Mage ¼ 21.13, primary school ¼ 1.53 years).	This test is quantitative research, and its scoring method has been used in previous studies and has been found to have acceptable validity and reliability.	The results also showed that, by the specificity of the practice hypothesis, participants' performance decreased significantly on transfer testing when PPR was removed from the experimental groups.
(Van et al., 2021)	The sample comprised 169 children aged 3–5 years (87 boys; 51.00%).	This research used Pearson correlations to examine relationships between the ZNA-2 and MABC-2 component and total scores.	The test results of individual 3-5-year-old children who may have been evaluated with these two instruments, or even the results of any child who might have been given one of these tools on one instance and the other later, it is essential to compare and empirically establish performances on these two different motor assessment tools to understand better how they may be related.
(Haga et al., 2018)	The sample of 463 children from 6 to 8 years consisted of 132 Greek children (52.30 % boys), 126 Italian children (53.90 % boys), and 205 Norwegian children (52.70) completed the Test of Motor Competence (TMC).	TMC is designed to be quantitative, simple to administer, applicable for large-group testing, and reliable for assessing fine and gross	The data show differences between children of different countries regarding basic fine and gross motor skills. Suggest that cultural attitudes toward movement and clear indication(s) to preschools/ schools concerning the relevance and the execution of physical activities experience substantially impact motor skill development in children.

Author and Year	Sample Characteristics	Research Methods	Research Results / Findings
		motor development.	
(Sutapa et al., 2021)	Forty children aged 4.50–6 years old were recruited and participated in training activities divided into Posts 1–5.	This study program is quantitative research. The ethical committee of the University of Yogyakarta approved the research.	The results showed that there were significant differences in the motor skills evaluated pre- and post-training with $p < 0.05$. All six training activities conducted for 12 weeks significantly improved the motor skills of children aged 4.50–6.00.
(Asmara, 2020)	The research was conducted in a kindergarten Khadijah Surabaya. The number of students in Kindergarten Khadijah a total of 58 children.	This research model refers to the model classroom action research from Kemmis and Mc Taggart as in the activity using a spiral system cycle.	Enhancement fine motor skills of children in the group, A Kindergarten Khadijah Surabaya, can be seen from the average fine motor skills of children in the initial conditions of 47.30% increased in cycle I became 62.20%, and II reached 84.10%.
(Basa et al., 2020)	The approaching model used is a case study with 37 children of St. Arnoldus Janssen and Aegela kindergartens.	The research method used was qualitative research with a case study approach.	The results of this study show that gross motor development and fine motor development of children in two kindergartens tend to lead to the criteria of developing gross motor on the indicator using the right hand and left hand, while the refined engine on the indicator self-expression through drawing motion.
(Dini & Harahap, 2017)	The subject of this research is a student of Group B of Ar-Rozak Kindergarten.	This research is a quantitative descriptive study.	The results showed that fine motor skills through activities in students of Kindergarten of Group B were excellent. The data obtained showed that the fine motor skills of the students of Group B of Ar-Rozak Kindergarten were 88.40%.
(Alawiyah & Attamim, 2020)	This study is naturalistic qualitative descriptive. The subject is children 4-5 years old, and the research is implemented at	This study is naturalistic qualitative descriptive. The subject is children 4-5 years old, and the research is	This study is naturalistic qualitative descriptive. The subject is children 4-5 years old, and the research is implemented at kindergarten A "Plus."

Author and Year	Sample Characteristics	Research Methods	Research Results / Findings
	kindergarten A "Plus."	implemented at kindergarten A "Plus."	
(Filtri et al., 2020)	This research is a descriptive study using a quantitative approach. The sample was 14 students taken by purposive sampling technique.	This research is a descriptive study using a quantitative approach. The sample was 14 students taken by purposive sampling technique.	The results of the research data analysis showed that the feasibility of economic learning media based on recycling systems could be 79.76% in the appropriate category. In comparison, the effectiveness of the press was 82.65% in the efficient class, and the economic value of the learning media was 81.63% in the very economical value category.
(Putri et al., 2020)	This subject is 56 samples taken randomly from a The population is divided into four groups, each with 14 student parents.	The research method used in this research is an experiment with a 2 X 2 factorial design.	The results of hypothesis testing show that parent involvement in child education in kindergarten can be increased through audio-visual learning media for parents with a higher level of self-motivation. On the other hand, parent involvement in child education in kindergarten can be improved through visual learning media for parents with a lower level of self-motivation. The renewal of this research demonstrates the importance of parent involvement in education.
(Nirwana, 2021)	The subject is children aged 5-6 years old (27 Children).	The research methodology uses the Research and Development method with steps from the research of Borg, WR and Gall, M.D which adopts the Dick and Carey model with the development of a multimedia-based software	The field test results show the average value of the pretest early literacy ability observation sheet is 3.16. The post-test early literacy ability observation sheet average value is 3.68. The average value of the increase in pretest and post-test scores is 0.53. The results of the field test show that the ABaCa game learning media can improve early literacy skills aged 5-6 years in phonological awareness, writing knowledge, and writing concepts, letters, and words.

Author and Year	Sample Characteristics	Research Methods	Research Results / Findings
		life cycle model.	
(Anisa et al., 2021)	The subject is children aged 4-5 years.	This research uses an experimental design. This research was conducted in the CABI Tanggamus learning group, which was conducted on fifteen children using a one-group pretest and post-test design.	The results of this study can be concluded that origami play activities can affect the fine motor skills of early childhood, which means that origami games provide changes in children's fine motor development. The results obtained after treatment showed a score of 58 from a maximum score of 72. Based on the study's results, the researcher recommends origami games to improve fine motor skills.
(Ratnasari et al., 2021)	This study aimed to improve the quality of students in group B at kindergarten Dharma Wanita 02 Menduran.	The method used in this research is Classroom Action— research using a demonstration and assignment.	The media used was ed pe that functioned like a game. From the analysis of the findings obtained during the study, it can be concluded that stations and giving assignments improve children's fine motor skills in folding paper activities for students in the groups. B
(Sukardjo et al., 2021)	This study aimed to design learning in developing fine physical-motoric skills in early childhood students based on augmented reality.	This research method uses research design and the development of multimedia-based learning materials.	The results showed that children's good physical development would facilitate their daily activities. Indirectly, motor activities will train children to be more independent and confident. This does not grow alone by the child, but with the right stimulus and exercise given to the child, it will foster a spirit of independence and self-confidence and increase the child's cognitive development.
(Mardhiah, 2018)	This subject is children, consisting of 13 males and seven females.	This research is classroom action research conducted in two cycles of three meetings	The research results showed that the learning activities performed by teachers were suitable to the planning and students' activities

Author and Year	Sample Characteristics	Research Methods	Research Results / Findings
			in very active, and the student's achievement was 95.00% classically. Other Kindergarten teachers should develop fine motor skills by properly sticking pictures using the combination of explicit instruction models and assignment methods utilizing natural materials media.
(Pradana, 2019)	This subject is 30 children in early childhood education RA Al Badri Jember.	The design carried out by researchers in this research uses a quantitative approach to the type of Pre Experiment, using an impure experimental model (one-shot case study). As an experiment is carried out, groups without preliminary tests are not compared.	There is an Effect of the Application of Finger Painting Media on the Fine Motor Capabilities of Children 5-6 years old.
(Wardhani et al., 2021)	This study aimed to optimize the fine motor skills of students with cerebral palsy at special gifted kindergarten D YPAC, South Jakarta, through sewing board media.	In this study, the ADDIE Approach (Analysis-Design-Develop-ImplementEvaluate) was used.	The sewing board media developed in this study were effective and can be used in optimizing the fine motor skills of students with cerebral palsy.

Discussion

The Relationship between Learning Media and Early Childhood Fine Motor Skills

Research that supports that improving fine motor skills can be done through learning media is conducted (Sari, 2015), which proves that overall the development of children's fine motor skills is good. Still, the most appropriate way to develop children's fine motor skills is to use playdough media. In this activity, children make playdough, mixing

ingredients, stirring, and adding color. They are evidenced by the results of the playdough media getting a score of 76% with the Very Good Developing assessment criteria. Learning by using engaging media will develop all aspects of child development, especially children's fine motor skills.

Playdough allows children to practice fine motor skills. Children use their hands to pound, press, shape, and flatten. Through these experiences, children develop hand-eye coordination, dexterity control, and strength, which they will need later. Therefore playdough dough can develop children's fine motor skills when children play directly and are directly involved in making playdough (Sari, 2015). The soft dough represents children's fine motor development needs. Similar research was also conducted (Hendraningrat & Fauziah, 2021), that using digital-based learning media can be one of the new nations in the classroom to improve children's fine motor skills. Because one of the characteristics of children is getting bored quickly, various learning methods and media are needed. This research implies that learning technology education training is required to maximize the use of technology, including material on operating, compiling, and developing digital media for prospective teachers to have better self-preparation when teaching using technology.

The teacher told the researcher that the students were enthusiastic about participating in the learning process because digital learning media in the form of learning videos was rarely used. A study that revealed that most of them were early childhood teachers said that the lack of experience in teachers using technology impacted the use of technology during the learning process. Thus, teachers will be motivated to involve learning media in every learning process in class. The atmosphere in the classroom will also become more varied and lively to facilitate the process of building students' knowledge (constructivism).

Furthermore, fine motor development through learning media using mosaic techniques with a combination of demonstration and assignment methods. Amin Martapura Banjar Regency. The teacher prepares creative, innovative, and active media and learning methods that adapt to the theme and must provide clear instructions so children can understand and complete activities. Kindergarten teachers must plan daily learning activities and media to develop all aspects of child development that are important for the quality of existing learning. Improving the learning process is essential for teachers so that daily learning activities are better and optimal for developing children's potential intelligence.

This is in line with research conducted by Rakimahwati (2018) through learning media, one of which is using kirigami, which is proven to have significant differences in developing fine motor skills in early childhood at the Kindergarten of the Amalan Parupuk Padang Foundation. This can be seen from the fine motor skills of children who can develop well in drawing, folding, cutting, and pasting activities. Kirigami is the art of folding, cutting, or cutting paper into creative shapes; the materials needed are easy to find, such as paper, scissors, and glue. Kirigami can develop learning in art, mathematics, graphic design, and eye-hand coordination.

Through this learning media through kirigami activities in the experimental class (B1), all children looked enthusiastic and enthusiastic in doing kirigami activities. In the control class (B2), they made origami universes to develop fine motor skills (Rakimahwati, 2018). Learning media and learning strategies in the classroom also increase children's fine motor skills because kirigami activities are also interspersed with singing so that children become cheerful and learning is conducive. In kirigami activities,

the children are arranged in a circle so that the children help each other when their friends are having difficulties.

Furthermore, research conducted by Nurwita (2019), namely the use of puzzle media in developing children's motor skills in Early Childhood Education Aiza, Kepahiang Regency, that play media such as puzzles helps develop fine motor skills in early childhood. The benefits of the puzzle include the first: Eye and hand coordination skills. The child's hands and eyes must be able to coordinate well. Many activities are carried out in everyday life using the eyes and hands. Then a puzzle game is a good game in this regard. The ability of children to focus on completing their tasks in assembling puzzle pieces can make them have good eye and hand coordination—second, problem-solving skills. The goal of the puzzle game is to create works of letters or numbers based on the shape you want. Then the puzzle is rearranged in a variety of ways or sequences.

Third, the skill of using fine motor skills. The puzzle pieces are small and sometimes feel slippery, which is a challenge for children. It is easy for a child to pick up a spoon or pencil. However, taking puzzle pieces can train children to use their hands (fine motor skills). This will help the child learn to write later; his fingers will be more adept at holding and playing with a pencil or pen. Fourth, Skills in managing emotions. This game requires patience and a high concentration level, and playing puzzles; children will be trained to complete a task with patience and a focused mind.

Other research supports that learning media can improve children's fine motor skills. Based on the results of research conducted by Agustina et al. (2018) that has been achieved on group B children in Kindergarten Aulia Bengkulu City, it can be concluded that playing activities using used media can improve children's fine motor skills, which include aspects of pinching, holding, and eye and hand coordination, which can improve aspects of fine motor skills child well. This can be seen from the observations on the score sheets for each activity step as follows: 1) making cardboard planes, 2) making butterflies, 3) making bees, 4) making turtles, 5) painting bottles, and 6) making fish.

Based on the results of the research data described above show that playing with used media improves children's fine motor skills. Fine motor skills are those that use smooth muscles or certain parts of the body (hands and fingers) and are used to manipulate the environment. As it is known that hand control starts from the shoulder, which produces rough arm movements, becomes good elbow movements, and finally,y the actions of the wrists and fingers. So the child must always be trained to make movements or finger exercises in play activities to stimulate the child's fine motor skills so that the child's motor skills increase.

Other research that shows that learning media is effectively and efficiently applied in learning to improve children's fine motor skills is research conducted by Pura & Asnawati (2019). The effect of collage media on the fine motor development of children in Kindergarten Kasih Ibu can be concluded that the effect of pencil shavings media collage has a significant impact on the development of children's fine motor skills; this can be seen from the observations made by researchers in learning activities using pencil shavings media collage when using pencil shavings collage media the results are very different because by playing pencil shavings collage children can be directly involved in shaping. Children are also able to explore according to their imagination. So that children's fine motor skills develop optimally according to the stage of child development and can also guide children to have good concentration, children must follow the learning process at school and train their courage.

Darmiatun & Mayar's (2019) research shows that college learning media can improve children's fine motor skills. Collage media using used materials can enhance fine motor skills in children. Thus, the teacher must increase various kinds of collage activities with several types of materials to make collage media so that learning is more exciting and fun to improve fine motor skills in children. With this research, it is hoped that teachers will improve fine motor skills in early childhood by providing learning understanding to children, especially instilling play while learning, so that children do not feel burdened with boring learning activities. For each teacher, this research can be used as input to improve the quality of students through college media activities so that fine motor skills in children can increase.

This cycle 2 for three meetings showed that the children's fine motor skills had increased according to predetermined success indicators. This increase's success was known from comparing the results of Pre-Action, Cycle 1, and Cycle 2. The observations of Cycle 2 showed that 83.3% or ten children out of 12 children were in the Very Well Developed criteria, so they had reached indicators of success; for this reason, the research in Cycle two was stopped. A collage combines several objects into one. This collage activity can train hand muscles and eye coordination with his hands (Suseni et al., 2021). Collage activities can also produce a work of art so that children who do this activity will feel happy and have children can also enjoy the work that has been made.

Subsequent research discusses the importance of learning media as a support and support for the learning process. A study conducted by Filtri et al. (2020) proved that learning media based on the recycling system is feasible and very effective for early childhood education learning and has significant economic value. Each percentage is 79.76% for eligibility, 82.65% for media effectiveness, and 81.63% for monetary value. One of the benefits of developing learning media based on the recycling system is that it can open new jobs and increase people's income. Recycling has benefits, one of which is that it can increase revenue by selling its recycled products. Therefore, apart from being a learning medium that makes it easy for teachers in early childhood learning, it can also add to the financial coffers of teachers or the school.

Research by Putri et al. (2020) proves that learning audio-visual media benefits children and parents. The results showed that parental involvement in children's education in kindergarten could be increased through parental learning using audio-visual media for parents with high self-motivation. Conversely, parental involvement in student education in kindergarten can be improved through parental knowledge using media. Visual parents have low self-motivation. The use of learning media could clarify the presentation of messages and information to expedite and improve the process and results of learning activities so that the purpose of using learning media is to increase the understanding and knowledge of parents can run effectively.

Furthermore, Nirwana (2021) found that learning media in the form of android-based game learning media helps develop aspects of early childhood development. Children aged 5-6 years gain learning experience using android-based game learning media to improve early literacy skills in awareness, written knowledge, and written concepts, letters, and words. Besides that, children aged 5-6 years get new learning methods as an alternative to facilitate early literacy skills. Children can also learn independently and be motivated to complete games containing material to recognize letters and write through games to identify colors, match words, and compose words. Moreover, teachers can use Android-based game learning media as an alternative media in learning to welcome Education 4.0.

Research on digital supports game-based reading and underscores that using a multi-component reading approach combined with flow principles benefits children with reading disorders. Android-based ABaCa games can increase phonological awareness, writing knowledge, and written concepts, letters, and words and improve children's motivation because ABaCa games have attractive audio, graphical, visual, and animated displays so that children aged 5-6 years are interested in completing the game. This aligns with pow-pow games can motivate children to learn English vocabulary. From some of the descriptions of the research results above, learning media is an effective and efficient way of developing fine motor skills in early childhood. Learning videos are effective and efficient in the physical development of children's motor skills and excellent motor skills. Because children generally like real and concrete media, this media is exciting and has educational value.

CONCLUSION

Fundamental finding: Based on the literature review of the 2013-2022 implementation of the learning media, it can be concluded that it positively influences students' fine motor skills. Physical motor development, excellent motor skills in using the fingers of early childhood, is significant to be developed and appropriately stimulated. Because one aspect of early childhood development that must be stimulated and developed by teachers is the aspect of physical motor development, excellent motor skills because fine motor skills become a bridge for children to build aspects of intelligence related to bodily-kinesthetic intelligence, which includes children's abilities in sensitivity and skills in controlling and coordinating body movements and being skilled in using specific equipment that children use in their play activities. **Implication:** Fine motor skills in early childhood through learning media support and support the learning process. Learning media can motivate children to know so they are excited, enthusiastic, and interested in learning. **Limitation:** is that the learning media is only natural and concrete media. However, it is hoped that learning media can be developed and applied as online-based media. **Future research:** Developing a learning media with online-based media and new materials is suggested. This learning media can improve student learning, motivate students, and improve children's fine motor skills, especially users. This learning media can only be applied to material that is very relevant in everyday life; besides that, learning media is very important in supporting the learning process in early childhood.

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