



THE INFLUENCE OF LETTER BLOCK MEDIA ON THE EARLY READING ABILITY OF 4-5 YEAR OLD CHILDREN

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Abstract

Early reading ability is an essential component of early childhood language and literacy development that requires appropriate stimulation from an early age. However, observations at TK ABA 15 Medan indicated that several children aged 4–5 years experienced difficulties in recognizing letters, associating letters with their sounds, reading simple syllables and words, and arranging letters into words. This study aimed to determine the effect of letter block media on the early reading ability of children aged 4–5 years at TK ABA 15 Medan. The study employed a quantitative approach using a pre-experimental One-Group Pretest–Posttest Design. The participants consisted of 18 children aged 4–5 years who were selected using total sampling. Data were collected through observation sheets covering letter recognition, letter-sound association, syllable reading, simple word reading, letter arrangement, and word-picture matching. Data were analyzed descriptively and inferentially using a Paired-Samples t-Test with the assistance of SPSS version 20. The results showed that the mean score increased from 1.19 in the pretest to 3.51 in the posttest, representing an increase of 2.32 points. The paired-samples t-test yielded $t = -112.133$, $df = 17$, and $Sig. (2-tailed) = 0.000 < 0.05^*$, indicating a statistically significant difference between children's early reading ability before and after the intervention. These findings indicate that letter block media can serve as a concrete and play-based learning medium to support children's early reading development. The use of letter blocks provides children with direct opportunities to observe, manipulate, arrange, and associate letters with sounds in an engaging learning environment.

Keywords: Early Reading Ability; Letter Block Media; Early Childhood Education.

INTRODUCTION

Early childhood education is a fundamental stage in building various aspects of a child's development, including language development and early literacy skills. At the age of 4–5, children are at a stage of development marked by an increasing ability to recognize symbols, understand spoken language, and connect sounds with written letters. One literacy skill that needs to be developed at this stage is beginning reading. Beginning reading is not only about a child's ability to name letters, but also includes recognizing letter shapes and sounds, distinguishing symbols, and connecting letters with simple language sounds (Chang, 2023; Iskandar, Mesiono, & Sit, 2025). Early childhood education is an important stage for building different parts of a child's development, like language skills and early literacy. Around ages 4–5, kids are developing the ability to recognize symbols, understand what's being said, and link sounds to written letters. One key literacy skill to work on at this age is beginning reading. Beginning reading isn't just about being able to name letters—it also involves recognizing letter shapes and sounds, spotting the differences between symbols, and connecting letters to simple sounds in language.

However, early reading skills in children aged 4–5 still show differences from one child to another. Some children are already able to recognize a few letters and say their sounds, while others still have trouble distinguishing letter shapes, remembering letter names, and connecting letter symbols with their sounds. This can be influenced by the child's development characteristics, as they are still in the stage of learning through concrete experiences, play, observation, and activities that involve multiple senses (Alsubaie, 2022; Sitorus, 2023). Therefore, the process of learning to read at the beginning needs to be adjusted to the child's developmental characteristics and should not be done through an approach that is too abstract or solely focused on academic demands.

In early childhood learning, using concrete and engaging media can help create a more meaningful learning experience. One medium that can be used to support letter recognition is letter

blocks. Letter blocks are a learning tool in the form of concrete objects that contain letter symbols and can be used by children through activities like playing, arranging, matching, observing, and naming letters. Using letter blocks allows children to get hands-on experience in recognizing letter shapes while also developing hand-eye coordination (Turco, Lesaux, & Jones, 2023; Rizkina & Khadijah, 2024). Besides that, playing with letter blocks can create a fun learning atmosphere, making kids more actively engaged in the process of recognizing letter symbols and sounds.

The use of letter blocks is also relevant to the characteristics of early childhood learning, which considers play as an important part of the learning process. Children don't just receive information verbally from the teacher, but can also interact directly with learning objects. When children pick up, observe, arrange, and name blocks that have certain letter symbols, the learning process involves visual, motor, language, and cognitive activities all at once. This situation can help children build a more concrete connection between the shape of letters, their names, and their sounds (Sysoev, Gray, Fine, Makini, & Roy, 2022; Laja, Ngura, & Fono, 2023). In this way, letter block media can be one of the alternative media that supports early reading learning in line with the child's developmental stage.

Based on the explanation above, research is needed that empirically examines the use of letter block media in improving early reading skills in children aged 4–5 years. This study is important to find out whether using letter block media has an impact on children's early reading abilities, especially in recognizing and naming letters as well as connecting symbols with language sounds. The results of this research are expected to contribute to the development of early literacy learning in early childhood education and serve as a reference for teachers in choosing concrete, engaging learning media that suit children's developmental characteristics. Therefore, this study is titled 'The Effect of Letter Block Media on Early Reading Skills of Children Aged 4–5 Years.'

Research on the use of concrete media in developing early childhood literacy skills has been done a lot. (Ermawati, Wati, Destantya, & Sari, 2023) shows that the use of sandpaper letters has an effect on the letter recognition skills of 4–5-year-old children, with the group using this medium achieving better results compared to conventional learning. Next, (Herawati, Rizawati, & Priyanti, 2025) developing letter box media to improve the ability to recognize letters in children aged 4–5 years and showing that concrete media can be an alternative in providing letter learning experiences that suit the characteristics of early childhood. Research (Azzmil & Affrida, 2026) also shows that using letter puzzle media affects the letter recognition ability of children aged 4–5 years. In addition, the research (Yasrits & Yulsyofriend, 2026) more specifically found that media using block letters has a positive effect on the letter recognition skills of 4–5-year-old children, especially in recognizing the shape and sound of letters and spotting letters in words.

Although previous research has shown that various concrete media can support letter recognition skills and early literacy, there is still a research gap that needs to be examined. Some studies focus on letter recognition skills, not specifically on early reading skills that include the connection between symbol recognition, letter naming, letter sounds, and early reading ability. Even research (Pratama, 2026) Has used letter block games to improve early reading skills, but the research subjects focused on children aged 5–6 years, so it hasn't specifically explained the effect of letter block media on the early reading skills of children aged 4–5 years. Therefore, there is room for research to examine more specifically the use of letter blocks in the 4–5 year age group, which is the period when children are building literacy foundations through concrete experiences, play, and direct interaction with language symbols.

Based on that gap, the novelty of this study lies in focusing on testing the effect of letter block media on the beginning reading skills of children aged 4–5 years, not just letter recognition skills. Letter block media is positioned as a concrete and play-based activity tool that allows children to observe, hold, arrange, match, name, and connect letter symbols with their sounds. Therefore, this study is expected to provide empirical contributions regarding the use of manipulative media in early reading learning for younger age groups. This novelty also expands on previous research, which mostly discussed sandpaper letters, letter boxes, letter puzzles, and block letters in terms of letter recognition, by directing the study toward the beginning reading skills of children aged 4–5 years through letter block media.

RESEARCH METHODS

This study uses a quantitative approach with a quasi-experimental design to find out the changes in early reading skills before and after using letter block media. The design used is a One-

Group Pretest–Posttest Design, where one group is given a pretest, treatment, and posttest. This design was chosen because the research was conducted in natural conditions and the participants couldn't be randomly assigned (Sugiyono, 2022). The research subjects are all children in Group A of ABA 15 Kindergarten Medan, totaling 18 children aged 4–5 years, using a total sampling technique. The subject criteria include children aged 4–5 years, registered as active students for the 2026/2027 academic year, participating in learning during the study, having early reading skills that still need development, and obtaining consent from parents/guardians. The research instrument is an observation sheet that measures the ability to recognize letters, connect letters with sounds, read syllables and simple words, arrange letters into words, and write simple words. Assessment uses the categories Not Yet Developed (BB), Beginning to Develop (MB), Developing as Expected (BSH), and Very Well Developed (BSB) according to early childhood development (Suryana, 2021).

The data were obtained through pretests, posttests, observations, and documentation. The data were analyzed descriptively using the mean, minimum score, maximum score, and percentage, then tested for normality using the Shapiro–Wilk test. If the data are normally distributed, hypothesis testing is done with the Paired-Samples t-Test at a significance level of $\alpha = 0.05$. The decision criterion is that if Sig. (2-tailed) < 0.05 , H_0 is rejected and H_a is accepted, indicating a significant difference in early reading ability before and after using the letter block media (Ghozali, 2021).

Table 1. Blueprint of the Instrument for Assessing Children's Emerging Reading Skills

Variable	Indicator	Observation Item
Emergent Reading Skills	Letter Recognition	Naming vowel and consonant letters
	Associating Letters with Sounds	Identifying the sound represented by a displayed letter
	Reading Syllables	Reading simple syllables
	Reading Simple Words	Reading words formed from familiar syllables
	Matching Words with Pictures	Matching words with their corresponding pictures

Before being used in the research, the instrument was first tested for content validity through expert judgment involving lecturers in Early Childhood Education and teachers experienced in children's literacy learning. The validation was done to ensure the indicators were appropriate, the observation items were clear, and the instrument was relevant to the research objectives. Once declared valid, the instrument's reliability was tested using Cronbach's Alpha coefficient with the help of SPSS version 20. The instrument is considered reliable if the Cronbach's Alpha value is greater than 0.70 (Cohen, Manion, & Morrison, 2018).

Data was collected through tests, observations, and documentation. Tests were given in the form of pretests and posttests to measure children's early reading skills before and after using letter block media. Observations were carried out during the learning process to see the children's abilities and involvement in activities using letter blocks, while documentation was used as supporting data in the form of activity photos, attendance lists, notes on children's development, and other related documents. Using several of these techniques aimed to obtain systematic data and support the achievement of the research goals (Field, 2024).

The data were analyzed using descriptive and inferential statistics. Descriptive statistics were used to find the average score, minimum score, maximum score, and the percentage of progress in initial reading ability. Before testing the hypothesis, a normality test was conducted using Shapiro–Wilk. If the data were normally distributed, the hypothesis test was performed using a Paired-Samples t-Test to see the difference in initial reading ability before and after the treatment. Decisions were made at a 0.05 significance level. If the Sig. (2-tailed) value is < 0.05 , then H_0 is rejected and H_a is accepted, indicating a significant difference in initial reading ability after using letter block media (Fraenkel, Wallen, & Hyun, 2019).

RESULTS AND FINDINGS

Result

The research findings were obtained from measurements of the emergent reading skills of children aged 4–5 years before and after the intervention using letter block media at TK ABA 15 Medan. The research subjects consisted of 18 children. Emergent reading skills were measured using an observation sheet covering several indicators, namely letter recognition,

associating letters with sounds, reading simple syllables, reading simple words, arranging letters to form words, and matching words with pictures. The assessment was conducted twice: before the intervention (*pretest*) and after the intervention (*posttest*).

Pretest and Posttest Results of Emergent Reading Skills

The measurement results indicated differences in the children's emergent reading skills before and after the use of letter block media. At the *pretest* stage, the children's emergent reading skills were still relatively low. This condition was reflected in the individual scores, which ranged from 1.04 to 1.41. Following the intervention using letter block media, the *posttest* scores increased, ranging from 3.33 to 3.62. These individual data indicate that improvement occurred across all research participants.

Overall, the total *pretest* score for the 18 children was 21.33, whereas the total *posttest* score increased to 63.16. Based on these scores, the mean *pretest* score was 1.19, while the mean *posttest* score was 3.51. Thus, the children's mean score increased by **2.32 points** after they participated in learning activities using letter block media.

Table 1. Comparison of Emergent Reading Skills Scores between the Pretest & Posttest

Measurement	Number of Subjects	Total Score	Mean
Pretest	18	21.33	1.19
Posttest	18	63.16	3.51
Improvement	18	41.83	2.32

Based on Table 1, the children's mean emergent reading skills score increased following the intervention. The mean score increased from 1.19 at the *pretest* stage to 3.51 at the *posttest* stage. This improvement indicates a change in the children's emergent reading skills after they participated in learning activities using letter block media. A visual comparison of the *pretest* and *posttest* scores is presented in Figure 1.

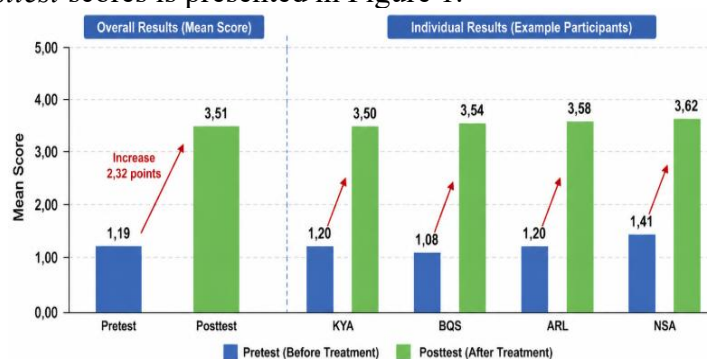


Figure 1. Comparison of Kids' Early Reading Skills Before and After the Test

Figure 1 illustrates the increase in children's early reading ability following the implementation of alphabet block media. The average score increased from 1.19 in the *pretest* to 3.51 in the *posttest*, representing an increase of 2.32 points. The figure also presents examples of individual score improvements, showing that the *posttest* scores were consistently higher than the *pretest* scores.

The improvement was also observed at the individual level. All 18 children experienced an increase in scores from the *pretest* to the *posttest*. For example, KYA's score increased from 1.20 to 3.50, BQS's score increased from 1.08 to 3.54, ARL's score increased from 1.20 to 3.58, and NSA's score increased from 1.41 to 3.62. A similar pattern of improvement was found among the other participants. These results indicate that the use of alphabet block media was associated with positive changes in children's early reading ability during the research process.

Paired Sample t-Test Results

After performing descriptive statistical analysis, the testing continued with a Paired Sample t-Test to find out whether there is a difference in children's initial reading abilities

before and after using letter block media. This test was used because the data came from the same subjects and were measured twice, namely at the pretest and posttest stages. The test results using SPSS version 20 showed that the average pretest score was 1.19 with a standard deviation of 0.096, while the average posttest score was 3.51 with a standard deviation of 0.081. The Paired Sample t-Test results obtained a t value of -112.133 with degrees of freedom (df) of 17 and a significance value (Sig. 2-tailed) of 0.000.

Table 2. Results of the Paired Sample t-Test on Children's Initial Reading Skills

Variable	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)
Pretest	18	1.19	0.096	-112.133	17	0.000
Posttest	18	3.51	0.081	—	—	—

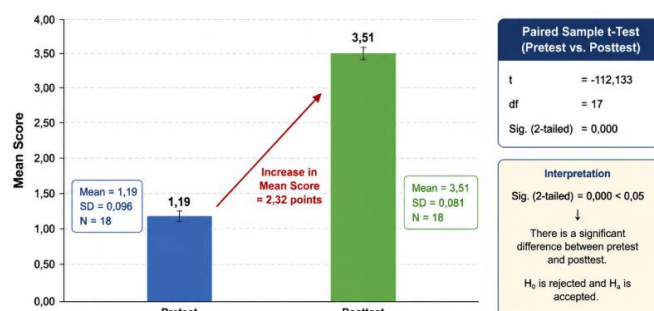


Figure 2. Paired Sample t-Test Results of Children's Early Reading Ability

Figure 2 visually illustrates the difference in the mean scores of children's early reading ability before and after the implementation of alphabet block media. The mean score increased from 1.19 in the *pretest* to 3.51 in the *posttest*, indicating an increase of 2.32 points. The figure also presents the statistical results of the paired-sample t -test, which yielded a t value of -112.133, $df = 17$, and a significance value of 0.000.

The significance value of 0.000 is lower than the significance level of 0.05 ($0.000 < 0.05$). Therefore, there is a statistically significant difference between the children's early reading ability before and after the treatment using alphabet block media. Based on these results, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted. This means that the use of alphabet block media has a significant effect on the early reading ability of children aged 4–5 years at TK ABA 15 Medan.

The Development of Early Reading Skills After Treatment

The observation results obtained during the study indicated that the development of emergent reading skills was reflected not only in the overall increase in scores but also in the children's performance across several observed indicators. Before the intervention, some children still experienced difficulties in recognizing letter symbols, distinguishing between similar-looking letters, associating letter shapes with their corresponding sounds, and arranging letters into syllables or simple words. These conditions indicate that the children's emergent reading skills still required stimulation through concrete learning activities that actively involved the children.

Following the implementation of learning activities using letter block media, the children's abilities improved across nearly all observed indicators. The children became more capable of recognizing letters, associating letters with their corresponding sounds, reading simple syllables, arranging letters to form words, and reading simple words. Activities involving letter blocks provided opportunities for children to see, touch, select, move, and arrange letters directly. This process made the learning experience more concrete and enabled children to acquire learning experiences through play-based activities.

Overall, the research findings indicate that the use of letter block media was associated with an improvement in the emergent reading skills of children aged 4–5 years. The increase

in the mean score from 1.19 at the *pretest* stage to 3.51 at the *posttest* stage, accompanied by a significance value of $0.000 < 0.05$, provides empirical evidence that there was a statistically significant difference in children's emergent reading skills before and after the intervention. These findings further suggest that letter block media can serve as an alternative form of concrete instructional media for stimulating emergent reading skills in early childhood.

Discussion

The research findings indicate that the use of letter block media was associated with an improvement in the emergent reading skills of children aged 4–5 years at TK ABA 15 Medan. This improvement was descriptively reflected in the change in the mean emergent reading skills score, which increased from 1.19 at the *pretest* stage to 3.51 at the *posttest* stage, representing an increase of 2.32 points. In addition to the increase in the group mean score, all 18 children who participated in the study also demonstrated higher scores after receiving the intervention. These findings indicate that the use of letter block media was associated with consistent changes in children's emergent reading skills throughout the research process. The observed changes were further supported by statistical analysis using a *Paired-Samples t-Test*, which yielded a *t* value of -112.133 , with $df = 17$ and a significance value of 0.000 . Since the significance value was lower than 0.05 , there was a statistically significant difference in the children's emergent reading skills before and after the use of letter block media.

The improvement in emergent reading skills can be understood not only through the overall change in scores but also through changes across the observed skill indicators. Before the intervention, some children still experienced difficulties in recognizing letter symbols, distinguishing between similar-looking letters, associating letter shapes with their corresponding sounds, and arranging letters into syllables or simple words. Following the learning activities using letter blocks, improvements were observed in the children's ability to recognize letters, associate letters with sounds, read simple syllables, arrange letters to form words, and read simple words. These changes indicate that the use of letter block media was not merely associated with children's ability to memorize alphabetic symbols but also supported the process of connecting visual symbols with speech sounds and word structures.

The finding is important because knowledge of the alphabet is one of the main components in early literacy development. (Liu & Chung, 2024), Through a systematic review of alphabet knowledge learning in early childhood, it is explained that alphabet knowledge is consistently seen as one of the important predictors for reading success. The review also shows that various approaches can be used to develop alphabet knowledge in preschool children, including increasing the intensity of exposure to the alphabet, learning through writing activities, an explicit teaching approach, and play-based learning. These findings provide a foundation for understanding the improvements in this study because letter blocks give children the opportunity to be repeatedly exposed to letter shapes while also interacting directly with the symbols.

More specifically, the results of this study can be linked to research (Ibaibarriaga, Acha, & Perea, 2025) which analyzed the development of alphabet knowledge among 998 preschool children. The study demonstrated differences in the developmental patterns of letter-name knowledge and letter-sound knowledge among children. Children with lower levels of early alphabet knowledge may progress toward alphabet mastery; however, some children may also experience developmental delays. This condition highlights the importance of providing systematic stimulation during the preschool period. In the context of the present study, letter blocks can serve as a form of such stimulation because children do not merely receive information about letters but also engage directly with objects that represent alphabetic symbols.

The relationship between letter recognition and reading ability is further supported by research examining the relationship between *alphabet knowledge* and *phonological awareness*. Knowledge of letters does not develop independently of reading skills but is associated with children's ability to understand the structure of spoken language. Longitudinal research examining the relationship between these two skills has demonstrated a reciprocal association between alphabet knowledge and phonological awareness during the preschool period. Initial levels of one skill may contribute to the development of the other. Therefore, the use of letter blocks in the present study has theoretical relevance because children are not only learning to recognize letter forms but are also encouraged to

associate letters with their corresponding sounds and use them to construct syllables and simple words.

This relationship may also explain why improvements in the present study were observed across several indicators simultaneously. When children recognize letters, they acquire a foundation for associating visual symbols with sounds. As the connection between symbols and sounds becomes stronger, children can more easily engage in activities involving the arrangement of letters into syllables and words. The observations conducted in this study showed that following the intervention, the children demonstrated greater ability to recognize letters, associate letters with sounds, read simple syllables, arrange letters to form words, and read simple words. Thus, the improvement in emergent reading skills observed in this study can be understood as development across several interconnected components of early literacy rather than as an improvement in a single, isolated skill.

From the perspective of early childhood learning, the use of letter blocks also offers an advantage by transforming abstract symbols into concrete objects that children can manipulate. Children can directly see, touch, select, move, and arrange the letters. These characteristics are consistent with the learning needs of young children, who benefit from active, concrete, and meaningful learning experiences. Learning media that enable children to interact directly with objects can help bridge the gap between the concepts being learned and children's real-life experiences. In the context of emergent reading, letters that initially function merely as abstract symbols can be learned through activities involving the selection and arrangement of objects representing particular letter forms.

This explanation is consistent with the literature that examines (Aerin, Hermawan, Fitri, & Isnaeni, 2025) about the contribution of play activities to early literacy development. They explain that play experiences in the preschool years can contribute to various aspects of literacy, including language development, early reading and writing behaviors, print awareness, phonological awareness, word recognition, and skills related to the decoding process. They also emphasize the importance of adult roles in providing guidance during play activities so that play experiences still have clear learning objectives. In this study, letter blocks can be seen as a medium that combines play activities with instructional goals because children get the chance to play with letters while also developing early reading skills.

However, these findings do not mean that all forms of play automatically lead to improved literacy skills. Research (Yasmine, Fitri, Fairuzillah, & Widayati, 2025) Through a systematic review and meta-analysis of 39 studies, it was shown that the benefits of guided play highly depend on the type of learning goals and how play activities are designed and guided. For literacy outcomes, the evidence of guided play being superior to direct instruction is still limited and does not always show significant differences. These findings actually call for a more cautious interpretation of the research results. The improvement in reading skills in this study is likely not solely due to the presence of blocks as play objects, but also because of how the blocks were used in learning activities that had clear goals, indicators, and guidance.

Thus, the effectiveness of using letter blocks needs to be understood in the context of guided play, not just free play. Teachers can guide children to find certain letters, say the name or sound of the letters, match letters with pictures, arrange several letters into syllables, and then develop those arrangements into simple words. This process allows children to still enjoy fun and play activities, while at the same time having structured literacy goals. This kind of approach aligns with the view (Octavia & Purwani, 2022) that playing experiences can contribute to literacy development if the activities give children the chance to use language, symbols, and skills related to reading.

The findings of this study are also directly in line with the research (Aerin, Hermawan, Fitri, & Isnaeni, 2025) about improving early reading skills through letter block media in group B at TK Negeri Pembina Bantul. The study involved 17 children and focused on reading skills such as pronouncing letter sounds in words, clearly saying words, and arranging letters into meaningful words. The results showed that early reading skills improved after the children engaged in activities using letter blocks. The media allowed children to arrange letters by rotating them and provided challenges in the learning activities. This similarity reinforces the findings of this study that directly manipulating letters can be one way to help children understand the relationship between letter symbols and word formation.

Research (Neumann, 2023) also provides more up-to-date empirical support. The study used classroom action research on 10 children in group B at PAUD Cendana and showed that early reading

skills improved from the pre-cycle condition to cycle II. The percentage of children who reached the very good development category reached 80% in cycle II after letter block games were applied. The researcher emphasized that letter blocks can make learning activities more interactive and fun. These findings are consistent with the results of research at TK ABA 15 Medan, even though the research designs used were different. Herawati et al.'s study used a classroom action design, while this study compared pretest and posttest conditions on the same subjects.

The difference in design actually becomes an important part of this study's contribution. Previous research on letter blocks mostly used a classroom action research approach, observing improvement through several cycles. Meanwhile, this study uses a quantitative approach with measurements before and after the treatment and statistical testing using a Paired Sample t-Test. The results show a significance value of 0.000, so the changes in early reading skills observed descriptively are also supported through inferential statistical testing. Therefore, this study provides additional empirical evidence that changes in early reading skills after using letter blocks are not only seen in achievement percentages but are also reflected in significant differences in average scores.

Research (Lumbin, Ardini, & Jamin, 2023) It also shows the relevance of using letter blocks as a concrete medium for early reading learning. The study used letter block media to help improve early reading skills in children with mild intellectual disabilities. The researcher emphasized the importance of using concrete media according to the characteristics of the students. Although the subjects in this study were different from those in TK ABA 15 Medan, the findings support the principle that language symbols can be learned through objects that can be touched and manipulated. In other words, the advantage of letter block media isn't just in its form as a game, but in its ability to make the concept of letters more concrete and directly usable by children.

Findings from research on other alphabetic media also show a similar pattern. Research (Baroody & Diamond, 2024) about the use of alphabet cards using a quantitative approach with pretests and posttests to see the development of early reading skills. The study showed that media specifically featuring alphabet symbols can be used to support early reading learning. Although alphabet cards are different from letter blocks in form and how they are used, both media share the same principle, which is providing a visual representation of letters so that children can gain learning experience through concrete symbol recognition.

Research on alphabet knowledge also shows that literacy stimulation in the preschool years needs to be given continuously. (Lestari & Ichsan, 2022) This shows that preschool children have different patterns of alphabet knowledge development, and children with low initial alphabet knowledge don't all progress at the same speed. This implies that teachers need to provide materials and activities that give children repeated opportunities to interact with letters. In the context of this study, letter blocks can offer these opportunities through activities like arranging, matching, selecting, and repeatedly reading letters.

The research findings also get support from meta-analyses (Saleky, Lokollo, & Abarua, 2023) which analyzed 29 randomized controlled trials with 43 interventions and 9,333 children aged 4–6 years. The review showed that early literacy interventions that combined language skills and code skills, like alphabet knowledge and phonological awareness, had a positive effect on literacy development, even though the overall effect size was relatively small. Specifically, the meta-analysis found a small average effect on alphabet knowledge ($g = 0.23$) and phonological awareness ($g = 0.32$). These results support the argument that early reading instruction shouldn't just focus on memorizing letter names, but also on developing the connection between letters, sounds, spoken language, and the ability to use symbols in meaningful contexts.

Compared with the findings of the present study, there is a clear correspondence in terms of the development of several literacy components simultaneously. The research instrument did not merely assess letter recognition but also examined the ability to associate letters with sounds, read syllables, read words, arrange letters to form words, and match words with pictures. Thus, the use of letter blocks in this study encompasses a broader range of learning objectives than simple alphabet recognition. Children were encouraged to use their knowledge of letters as a foundation for developing more complex reading skills.

From the perspective of literacy development, this condition is important because emergent reading skills develop progressively. Children first need to acquire knowledge of symbols and subsequently understand the relationship between symbols and sounds before applying this

knowledge to construct and read words. Research on *alphabet knowledge* indicates that the ability to recognize and understand letters is an important skill in early literacy development and is associated with children's readiness to enter formal education. Therefore, the improvement identified in the present study can be viewed as development in an important literacy foundation that supports subsequent reading processes.

The findings also indicate that learning through letter blocks can provide a more engaging experience than instruction based solely on verbal methods. During the learning activities, children were given opportunities to engage directly in hands-on activities, meaning that their participation was not limited to listening. The observations showed that letter blocks enabled children to see, touch, select, move, and arrange letters. These activities allowed the learning process to occur through a combination of visual, motor, and language experiences. This condition is particularly important in early childhood education because learning activities that actively involve children can provide more meaningful learning experiences.

Nevertheless, the findings should be interpreted proportionately. The significance value of 0.000 indicates a statistically significant difference between the *pretest* and *posttest* scores; however, the one-group design does not allow the researchers to conclude that all observed changes were solely attributable to the use of letter block media. Other factors, such as children's learning experiences during the study, interactions with teachers, repeated exposure to the learning materials, natural developmental processes, and literacy experiences outside the research activities, may also have contributed to the observed improvement. Therefore, future research could employ a control or comparison group, a larger sample size, and a longer intervention period to obtain stronger evidence regarding the specific contribution of letter block media.

Overall, the findings demonstrate that letter block media has strong potential as a concrete instructional medium for supporting the development of emergent reading skills among children aged 4–5 years. The increase in the mean score from 1.19 to 3.51, representing an improvement of 2.32 points, together with the *Paired-Samples t-Test* result showing a significance value of 0.000, indicates a statistically significant change in emergent reading skills following the intervention. These findings are further supported by research on letter blocks, *alphabet knowledge*, phonological awareness, and play-based learning, which suggests that concrete, structured, and child-centered literacy experiences can support the development of early literacy skills.

CONCLUSION AND SUGGESTIONS

Conclusions

Based on the research findings, the use of letter block media demonstrated a significant change in the emergent reading skills of children aged 4–5 years at TK ABA 15 Medan. The mean score increased from 1.19 at the *pretest* stage to 3.51 at the *posttest* stage, representing an improvement of 2.32 points, and all 18 children demonstrated increased scores. The results of the *Paired-Samples t-Test* showed a *t* value of -112.133 , $df = 17$, and $Sig. (2-tailed) = 0.000 < 0.05$, indicating a statistically significant difference in emergent reading skills before and after the use of letter block media. These findings imply that letter blocks can be used as a concrete, play-based instructional medium to stimulate children's ability to recognize letters, associate letters with sounds, read simple syllables and words, and arrange letters to form words. Nevertheless, the study has several limitations, including a limited number of participants, the use of a one-group design without a control group, and the absence of long-term measurements. Consequently, the findings cannot yet be broadly generalized and do not fully establish that the observed changes were attributable solely to the use of letter block media. Therefore, future research is recommended to involve larger and more diverse samples across multiple research settings, employ a control or comparison group or a *quasi-experimental* design, extend the intervention period and incorporate *follow-up* assessments, analyze each emergent reading indicator more specifically, and incorporate qualitative data to obtain a deeper understanding of the process through which children's emergent reading skills develop.

Suggestions

Early childhood education teachers are encouraged to integrate word-block media into literacy learning activities as an engaging and developmentally appropriate instructional strategy. Schools are also encouraged to provide and develop varied, affordable, and child-friendly literacy learning media.

Future researchers are recommended to employ stronger experimental designs, involve larger samples and control groups, and conduct longer intervention periods to obtain more comprehensive evidence regarding the effectiveness of word-block media in developing children's early literacy skills.

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