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Academic Parenting with VAK Strategy: Improving Reading Skills of 5–6-Year-Old Children through Home Learning Environment Optimization in Indonesia

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Abstract
Parental involvement in children's academic caregiving at home plays a crucial role in their holistic and integrative academic development. This study aims to analyze: (1) descriptive statistics, (2) mean differences, (3) correlations, and (4) the influence of family characteristics, child characteristics, knowledge of the VAK academic parenting strategy, and the quality of the caregiving environment on the reading skills of children aged 5–6 years. The study employed a quasi-experimental one-group pre-test and post-test design. The participants were 100 stay-at-home mothers residing in Ciputat, South Tangerang, from intact families, with children aged 5–6 years enrolled in early childhood education programs. All mothers were aged 25–40 years, held at least a high school diploma or equivalent, and were not employed. The results of the Paired Sample T-Test indicated significant differences between pre-test and post-test scores, showing increases in all measured variables. Regression analysis revealed that the mother's age negatively affected children's reading abilities, while the child's age, gender (with girls performing better), maternal knowledge of the VAK strategy, and the quality of the caregiving environment had significant positive effects. These findings highlight the effectiveness of training in the VAK academic parenting strategy, particularly in helping older mothers transform information into new or improved knowledge that can be applied in caregiving practices at home. A key limitation of this study is its reliance on a single geographic area and a relatively homogeneous sample, which may affect the generalizability of the findings. Future research is recommended to include more diverse participant backgrounds and longitudinal tracking to assess the long-term impact of academic parenting strategies.

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Introduction

The 2022 Programme for International Student Assessment (PISA) results revealed that Indonesian students scored only 359 points in reading literacy, a decline of 12 points from the 2018 assessment (Kemenristek DIKTI, 2023). This score indicates that the quality of education in Indonesia remains below international standards and continues to lag behind other countries worldwide (Hewi & Shaleh, 2020). The low reading performance reflects deeper issues within early education systems and calls for strategic intervention. Improving early literacy is crucial not only for academic achievement but also for equipping future generations with the skills necessary to thrive in a global context. Therefore, strengthening foundational literacy in early childhood should be a national priority.

Reading ability in early childhood is a vital component in building a strong foundation for lifelong literacy. According to the National Early Childhood Education Curriculum, based on Jo Ann Brewer's developmental framework, children's reading abilities progress through several stages. These include the Magical Stage, Self-Concept Stage, Bridging Reader Stage, Take-Off Reader Stage, and finally, the Independent Reader Stage (Brewer, 2014). At each stage, children

demonstrate increasingly complex cognitive and linguistic skills related to reading—from recognizing that books tell stories to independently understanding and interpreting text. To foster optimal literacy development, stimulation must be aligned with children's developmental stages, particularly between the ages of 5 and 6 years, when cognitive and language growth is most rapid (Wahidah & Latipah, 2021).

Parental support and a stimulating home environment are essential in nurturing children's reading development. Unfortunately, many parents of children aged 5 to 6 years in South Tangerang have limited access to information about differentiated instruction, as outlined in Ministerial Decree No. 022/2023 concerning the implementation of the Merdeka Curriculum (Sugiarti et al., 2024). This lack of awareness often leads parents to delegate academic caregiving responsibilities, such as reading support, to schools or tutoring centers. They assume that educational institutions are more capable of stimulating children's reading development. However, optimal literacy outcomes are more likely when schools and parents collaborate in supporting children's reading both at home and at school.

To ensure effective home-based academic parenting, it is important for parents to use appropriate and engaging strategies tailored to their child's learning style. One such approach gaining attention is the VAK learning style strategy, which identifies children's dominant sensory modality in learning: visual, auditory, or kinesthetic. The VAK model, introduced by Fleming, asserts that understanding and applying children's preferred learning styles improves information retention and learning outcomes (Pashler et al., 2008; Morgan, 2021). For young children, learning often occurs through observation, listening, and physical activity, making the VAK strategy highly relevant. By recognizing their child's preferred modality, parents can tailor reading activities that are both effective and enjoyable (Nahumarury et al., 2022; Subagja & Rubini, 2023).

The family is the first and most influential environment in shaping children's academic and behavioral development. Family characteristics such as parental age, education, income, and number of children can directly or indirectly influence a child's academic growth (Puspitawati, 2013). Moreover, child-specific factors like age, gender, and birth order also play a role in shaping academic outcomes, often in interaction with environmental factors (Mardianingsih, 2022). A well-structured and nurturing home environment—including organized learning spaces, consistent parenting practices, and emotional support—is essential for enhancing children's reading abilities (Elmanora et al., 2015; Krousorati et al., 2022). Therefore, understanding and improving the quality of the academic caregiving environment is as important as enhancing parental knowledge.

In Bloom's Taxonomy, knowledge development follows a structured hierarchy: knowing, understanding, applying, analyzing, evaluating, and creating (Lasley II, 2024). Parents' knowledge of the VAK strategy should progress through these stages—from identifying their child's learning style to preparing appropriate learning tools, analyzing and evaluating outcomes, and finally creating effective reading activities. A strong understanding of the VAK framework enables parents to support their children's literacy development more effectively. It also empowers them to respond to their children's individual needs with tailored strategies, fostering deeper engagement in reading. Consequently, providing structured training in academic parenting using the VAK strategy can significantly enhance early literacy outcomes (Romero-González et al., 2023).

This study focuses on the effectiveness of training programs for parents in implementing the VAK academic parenting strategy. The independent variables (X) in this study are family characteristics, child characteristics, parental knowledge of the VAK strategy, and the quality of the academic caregiving environment. The dependent variable (Y) is the reading ability of children aged 5–6 years. This study offers a novel approach by integrating training in academic caregiving knowledge (Yang et al., 2023), VAK learning style assessment (Pashler et al., 2008; Subagja & Rubini, 2023), and learning environment management (Krousorati et al., 2022). The

goal is to improve preschool children's reading readiness and equip them for a smooth transition into formal education (Fauziah et al., 2020).

The general objective of this research is to examine the influence of family and child characteristics, parental knowledge of the VAK strategy, and the quality of the caregiving environment on the reading ability of children aged 5–6 years. Specifically, this study aims to: (1) identify family and child characteristics; (2) analyze differences in parental knowledge, caregiving environment quality, and children's reading ability before and after the intervention; (3) determine the correlations among the independent variables and reading ability; and (4) assess the direct effects of each independent variable on children's reading outcomes. The study also highlights the importance of early academic parenting interventions in promoting literacy development. The findings are expected to inform future programs designed to enhance parental involvement in early childhood education. Ultimately, this research contributes to efforts to raise literacy standards in Indonesia.

Methods

This study employed an experimental design using the One Group Pretest-Posttest Design approach. This design involves administering the same intervention uniformly to all subjects at the same research site but at different times (Sugiyono, 2008). The intervention consisted of training sessions on the VAK academic parenting strategy and improving the quality of the caregiving environment. The same test instruments were used to collect pretest data before the intervention and posttest data afterward. These scores were then compared to determine any significant changes resulting from the intervention.

The study population consisted of parents with children aged 5–6 years enrolled in playgroup (Kelompok Bermain) programs in the Ciputat district, South Tangerang. A cluster random sampling technique was employed, in which smaller units (schools) were randomly selected to form the sample group. Five playgroup schools from the Ciputat subdistrict were randomly chosen as the intervention group. The sample size was determined using the Lemeshow formula:

$$n = z^2 p\,(1 - p) / d^2$$

Description:
n = Sample size
z = Standard value = 1.96
p = Maximum estimated proportion = 50% = 0.5
d = Alpha (0.10) or sampling error = 10% (Lemeshow et al., 1991)

Based on this formula, the minimum required sample size was 96 respondents, which the researcher rounded up to 100 participants. The sampling process involved purposive selection of eligible schools and random selection of participants within them.

Participants were selected based on the following criteria: mothers who are homemakers, from intact families, with children aged 5–6 years attending early childhood education, aged between 25–40 years, and with at least a senior high school education or equivalent. The study was conducted during the second semester of the 2023–2024 academic year, from February to June 2024. The intervention lasted five months and consisted of five sessions, each lasting 180 minutes.

The study used primary data collected directly from respondents through structured questionnaires, which were tested for validity and reliability prior to use. The primary data included maternal characteristics, child characteristics, parental knowledge of the VAK academic parenting strategy, the quality of the academic caregiving environment, and children's reading ability. Reading ability was assessed based on the children's semester report cards, using indicators from the Merdeka Curriculum's learning outcomes (Capaian Pembelajaran), as

evaluated by their early childhood education teachers. The data collection procedures are outlined in the following table (Table 1).

Each variable in this study was measured using instruments that had been validated and tested for reliability. Table 1 summarizes the variables, data scales, categories, and measurement tools used.

Table 1. Variables, Data Scales, Categories, and Instruments

Variable/Dimension	Data Scale	Data Category	Notes
Mother's Characteristics			
Mother's Age (Hurlock, 1980)	Ratio	Early adulthood (19 to 40 years)	
Mother's Education (Snow et al., 2003)	Ratio	[1] High School/Vocational School [2] Higher Education	
Family Income (Statistics-Income-February-2024)	Ratio	Monthly Income in IDR: [1] 2,000,000–4,000,000 [2] 4,100,000–6,000,000 [3] 6,100,000–8,000,000 [4] 8,100,000–10,000,000	
Number of Children (Downey, 2001)	Ratio	Initial value is ratio, categorized as: [1] 1 child [2] 2 children [3] 3 children [4] 4 children [5] >4 children	
Number of Family Members (Haveman, 1995)	Ratio	Initial value is ratio, categorized as: [1] 3 members [2] 4 members [3] 5 members [4] 6 members\ [5] >6 members	
Child's Characteristics			
Child's Age (Lonigan & Whitehurst, 1998)	Ratio	[1] 60–66 months [2] 67–72 months [3] 73–78 months	
Gender (Veloo et al., 2014; Bismawati et al., 2021)	Nominal	[1] Male [2] Female	
Birth Order (Zajonc & Bargh, 1980)	Nominal	[1] First-born [2] Second-born [3] Third-born [4] Fourth-born [5] Fifth-born	
Academic Parenting Knowledge (VAK Strategy)			
• Knowing • Understanding • Application • Analisys • Evaluation • Create (Lasley II 2024)	Ratio	Using the Guttman Scale, the initial values obtained were in ordinal form and then converted into ratio data, categorized as follows: [0] Don't Know [1] Know **Percentage =** Number of correct answers [yes] × 100% (Total number of items) **Scoring Criteria:** a. Good knowledge level if score is ≥76–100 percent b. Fair knowledge level if score is 60–75 percent	• Researcher's modification refers to the Revised Bloom's Taxonomy Questionnaire by Lasley II Originally developed by Benjamin Bloom (1957) • The Cronbach's Alpha reliability value in this study was 0.794, based on the instrument test conducted on January 22, 2024.

Variable/Dimension	Data Scale	Data Category	Notes
		c. Poor knowledge level if score is ≤60 percent	
Quality of Academic Parenting Environment			
• Indoor learning activities • Outdoor learning activities • Digital learning activities • Warmth or Support • Conflict Management • Inconsistent Discipline (Krousorati et al., 2022)	Ratio	**Scale Type:** The initial data obtained are ordinal in nature, then converted into ratio data using the Guttman scale with the following categories: [0] Not Present [1] Present **Scoring Criteria:** • Low: if the number of "Present" responses is only up to 10 items • Moderate: if the number of "Present" responses is between 11 to 20 items • High: if the number of "Present" responses is between 21 to 30 items	This instrument was modified by the researcher based on the Home Learning Environment Questionnaire • Developer: Krousorati et al. (2022) • Cronbach's Alpha value: 0.757 (tested on January 22, 2024)
Children's Reading Ability (Aged 5–6 Years)			
• Magical Stage • Self concept Stage • Bridging Reader Stage • Take Off Reader Stage • Independent Reader Stage (Permendikbud 137-2014 Standar Nasional PAUD)	Ratio	**Scale Type:** Likert Scale The initial data obtained are ordinal in nature and then converted into ratio data using the following categories: [1] BB × 1 [2] MB × 2 [3] BSH × 3 [4] BSB × 4 All scores are summed and then calculated as a percentage using the following formula: **Total Score × 100%**	**Assessment Instrument:** Observation Sheet for Learning Achievement in Early Childhood Education Unit – *Merdeka Curriculum 2022* **Category Descriptions:** • **BB:** Not Yet Developed • **MB:** Beginning to Develop • **BSH:** Developing as Expected • **BSB:** Developing Very Well **Note:** Cronbach's Alpha value: 0.841 (tested on January 22, 2024)

Data processing involved editing, coding, entry, scoring, cleaning, analysis, and interpretation. All statistical analyses were performed using Microsoft Excel and SPSS version 26.0. Raw scores were transformed into indices for statistical testing. The transformed variables included parental knowledge of the ``VAK'' strategy, communication within the family, quality of the academic parenting environment, and children's reading ability.

Statistical analyses were conducted to address the research objectives as follows: (1) descriptive statistics were used to profile the sample based on family characteristics and child characteristics; (2) paired sample t-tests were conducted to compare pretest and posttest scores related to parental knowledge of the "VAK'' strategy, family communication, quality of the academic parenting environment, and children's reading ability, with comparisons also made based on the child's gender; (3) Pearson correlation analysis was applied to examine the relationships among family characteristics, child characteristics, parental knowledge, and the quality of the academic parenting environment about children's reading ability; and (4) multiple regression analysis was used to assess the extent to which family characteristics, child characteristics, parental knowledge of the VAK'' strategy, and environmental quality influenced the reading ability of children aged 5–6 years.

Result

Description of Family and Child Characteristics

The sample's maternal age was categorized as early adulthood (Santrock, 2003), with 47% of mothers aged between 25 and 30 years. The average maternal age was 31.54 years (SD = 4.58). In terms of education, the majority of mothers (87%) held a high school diploma, equivalent to 12 years of schooling, with a mean of 12.46 years (SD = 1.21). Family income was most commonly within the IDR 4,100,000 to 7,000,000 range (51%), with an average monthly income of IDR 6,282,000 (SD = 1,918,931). Half of the respondents had two children (50%), and the most frequent family size was 3 to 4 members (44%), with a mean household size of 4.51 (SD = 1.03). Regarding child characteristics, 61% of the children were between 66 and 72 months old, with an average age of 68.83 months (SD = 3.86). The majority were boys (62%), while girls made up 38% of the sample. Birth order data showed that 40% of the children were first-born and another 40% were second-born, with a mean birth order of 1.87 (SD = 0.91). A detailed summary of family and child characteristics is presented in Table 2.

Table 2. Family and Child Characteristics: Frequency, Percentage, Minimum, Maximum, Mean, and Standard Deviation

Criteria	Frequency (%)	Min	Max	Mean	SD
FAMILY CHARACTERISTICS					
Mother's Age					
• 25–30 years	47	25	40	31.54	4.584
• 31–35 years	28				
• 36–40 years	25				
Mother's Education					
• High School (12 years)	87	12	17	12.46	1.210
• Diploma (15 years)	6				
• Bachelor's Degree (17 years)	7				
Family Income (IDR)					
• 2–4 million	18	2,000,000	10,000,000	6,282,000	1,918,931
• 4.1–7 million	51				
• 7.1–10 million	31				
Number of Children					
• 1 child	17	1	5	2.25	0.869
• 2 children	50				
• 3 children	26				
• 4 children	5				
• More than 4 children	2				
Family Size					
• 3–4 members	44	1	8	4.51	1.030
• 5–6 members	37				
• 7–8 members	19				
CHILD CHARACTERISTICS					
Child's Age (months)					
• 60–65 months	20	60	79	68.83	3.86
• 66–72 months	61				
• 73–79 months	19				
Gender					
• Male	62	1	2	1.38	1.488
• Female	38				
Birth Order					
• First child	40	1	5	1.87	0.906
• Second child	40				
• Third child	14				
• Fourth child	5				
• Fifth child	1				

Difference Test Results

Parental Knowledge of the "VAK" Academic Parenting Strategy Before and After Training

The results of the paired sample t-test indicated a significant improvement in parental knowledge across all six cognitive levels of the VAK strategy following the training intervention.

In the Knowing level, the percentage of parents in the "high" category increased from 23% to 41%, with the mean score rising from 26.60% to 67.20%. The Understanding level showed a similar trend, with an increase in average scores from 29.40% to 70.80%. For the Application level, knowledge rose from a mean of 27.00% to 57.60%. In the Analysis level, parents' scores improved substantially from 24.60% to 74.00%. Meanwhile, in the Evaluation and Creation dimensions, average scores increased from 20.40% to 65.20% and from 41.60% to 78.40%, respectively. In all dimensions, the differences were statistically significant at the $p < 0.01$ level, confirming the effectiveness of the training.

Table 3. Difference Test Results for Parental Knowledge of the "VAK" Academic Parenting Strategy

Knowledge Dimension	Knowledge Level	
	Pre-test (%)	Post-test (%)
Knowing		
Low (≤ 60%)	6	–
Moderate (60–75%)	71	59
High (≥ 75%)	23	41
Mean ± SD	26.60 ± 17.069	67.20 ± 18.095
Pre–Post Increase	40.6	
Min–Max	40–100	
p-value	0.000**	
Understanding		
Low (≤ 60%)	58	–
Moderate (60–75%)	42	42
High (≥ 75%)	–	58
Mean ± SD	29.40 ± 11.876	70.80 ± 14.611
Pre–Post Increase	41.4	y
Min–Max	20–100	
p-value	0.000**	
Application		
Low (≤ 60%)	66	3
Moderate (60–75%)	34	80
High (≥ 75%)	–	17
Mean ± SD	27.00 ± 15.667	57.60 ± 15.899
Pre–Post Increase	30.6	
Min–Max	40–100	
p-value	0.000**	
Analysis		
Low (≤ 60%)	78	–
Moderate (60–75%)	22	27
High (≥ 75%)	–	73
Mean ± SD	24.60 ± 12.667	74.00 ± 10.445
Pre–Post Increase	49.4	
Min–Max	40–80	
p-value	0.000**	
Evaluation		
Low (≤ 60%)	–	–
Moderate (60–75%)	100	85
High (≥ 75%)	–	35
Mean ± SD	20.40 ± 6.532	65.20 ± 14.105
Pre–Post Increase	44.8	
Min–Max	0–80	
p-value	0.000**	
Creation		
Low (≤ 60%)	–	–
Moderate (60–75%)	100	85
High (≥ 75%)	–	35
Mean ± SD	41.60 ± 12.927	78.40 ± 5.453
Pre–Post Increase	36.8	
Min–Max	0–80	

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Knowledge Dimension	Knowledge Level	
	Pre-test (%)	Post-test (%)
p-value	0.000**	

*Significant at p < 0.05; * *Significant at p < 0.01 (2-tailed)*

Quality of the Academic Parenting Environment Before and After the Intervention

The results of the paired sample t-test demonstrated a statistically significant improvement in the quality of the academic parenting environment after parents received the intervention. Significant increases were observed across five out of six measured dimensions of environmental quality. These included indoor learning activities, outdoor learning activities, digital learning activities, emotional warmth or support, and conflict management. The Management of Conflict dimension showed one of the largest improvements, rising by 16 points from the pretest to the posttest. However, no significant change was found in the Inconsistent Discipline dimension, where the pretest and posttest scores remained almost the same. These findings suggest that while most aspects of the caregiving environment improved significantly after the intervention, some areas may require further emphasis in future training.

Table 4. Difference Test Results for the Quality of the Academic Parenting Environment

Parenting Environment Dimension	Pre-test n (%)	Post-test n (%)
Indoor Learning Activities		
Low	11	58
Moderate	72	40
High	17	2
Mean ± SD	30.60 ± 14.89	52.40 ± 18.809
Pre–Post Increase	21.8	
p-value	0.000**	
Outdoor Learning Activities		
Low	54	29
Moderate	46	56
High	–	15
Min–Max	17–80	24–80
Mean ± SD	27.20 ± 17.870	45.00 ± 23.333
Pre–Post Increase	17.8	
p-value	0.000**	
Digital Learning Activities		
Low	2	–
Moderate	61	35
High	37	65
Min–Max	20–80	60–100
Mean ± SD	63.80 ± 15.841	76.60 ± 14.229
Pre–Post Increase	12.8	
p-value	0.000**	
Warmth of Support		
Low	2	2
Moderate	88	62
High	10	36
Min–Max	20–80	20–100
Mean ± SD	57.60 ± 12.482	*missing*
Pre–Post Increase	6.2	
p-value	0.000**	
Management of Conflict		
Low	7	–
Moderate	93	35
High	–	65
Min–Max	40–100	40–100
Mean ± SD	76.20 ± 15.491	92.20 ± 13.602
Pre–Post Increase	16.0	
p-value	0.000**	

Parenting Environment Dimension	Pre-test n (%)	Post-test n (%)
Inconsistent Discipline		
Low	4	2
Moderate	86	87
High	10	11
Min–Max	20–80	20–100
Mean ± SD	55.60 ± 13.508	*missing*
Pre–Post Increase	0.4	
p-value	0.831**	

Note: *Significant at p < 0.05; **Highly significant at p < 0.01 (2-tailed)*

Children's Reading Ability Before and After the Intervention

The results of the paired sample t-test demonstrated a statistically significant improvement in children's reading ability across all five developmental reading stages following the intervention. These stages—Magical Stage, Self-Concept Stage, Bridging Reader Stage, Take-Off Reader Stage, and Independent Reader Stage—are part of the early literacy development framework for children aged 5–6 years. The greatest gain was observed in the Independent Reader Stage, with a 31-point increase, while the Magical Stage showed a 22.31-point improvement. The proportion of children progressing from "not yet developed" to "developing as expected" or "very well developed" increased substantially across all stages. All improvements were statistically significant at the p < 0.01 level, confirming the effectiveness of the academic parenting intervention in enhancing early reading skills.

Table 5. Difference Test Results for Reading Ability in Children Aged 5–6 Years

Reading Stage	Pre-Intervention Reading Ability n (%)	Post-Intervention Reading Ability n (%)
Magical Stage		
Not Yet Developed	74	4
Emerging	13	66
Developing as Expected	6	17
Very Well Developed	7	13
Min–Max	0–100	0–100
Mean ± SD	36.21 ± 21.954	58.52 ± 18.651
Reading Improvement	22.31	
p-value	0.000**	
Self-Concept Stage		
Not Yet Developed	57	–
Emerging	30	55
Developing as Expected	8	32
Very Well Developed	5	13
Min–Max	21.5–100	21.5–100
Mean ± SD	31.71 ± 24.998	56.57 ± 21.955
Reading Improvement	24.86	
p-value	0.000**	
Bridging Reader Stage		
Not Yet Developed	59	4
Emerging	27	56
Developing as Expected	8	27
Very Well Developed	6	13
Min–Max	14.29–100	14.29–100
Mean ± SD	28.00 ± 22.603	54.14 ± 20.028
Reading Improvement	26.14	
p-value	0.000**	
Take-Off Reader Stage		
Not Yet Developed	64	4
Emerging	27	59
Developing as Expected	4	28
Very Well Developed	5	9
Min–Max	14.29–100	14.29–100
Mean ± SD	27.43 ± 22.673	53.28 ± 20.290

Reading Stage	Pre-Intervention Reading Ability n (%)	Post-Intervention Reading Ability n (%)
Reading Improvement	25.85	
p-value	0.000**	
Independent Reader Stage		
Not Yet Developed	68	4
Emerging	23	61
Developing as Expected	4	25
Very Well Developed	5	10
Min–Max	23.40–100	23.40–100
Mean ± SD	15.33 ± 29.746	46.33 ± 25.467
Reading Improvement	31.00	
p-value	0.000**	

Note: *Significant at p < 0.05; **Highly significant at p < 0.01 (2-tailed)*

Reading Ability of Children Aged 5–6 Years Based on Gender

The difference test results based on gender (Table 6) show that the average reading ability of girls was consistently higher than that of boys, both before and after the intervention. Before the intervention, girls had an average reading score of 46.14 points, which increased to 72.23 points after their mothers received training. In comparison, boys started with an average score of 27.70, which improved to 51.78 following the intervention. The findings indicate that girls were more likely than boys to reach the "developing as expected" (BSH) level in reading ability. The difference in scores was statistically significant for both groups (p = 0.000), confirming the effectiveness of the intervention, particularly among girls.

Table 6. Reading Ability of Children Aged 5–6 Years by Gender

Intervention / Training	Average Reading Score		p-value	Overall Mean
	Boys	Girls		
Before	27.70	46.14	0.000**	37,11
After	51.78	72.23	0.000**	59,55

Note: *Significant at p < 0.05; **Highly significant at p < 0.01 (2-tailed)*

Correlation Between Family Characteristics, Child Characteristics, Parental Knowledge of the "VAK" Strategy, and the Quality of the Academic Parenting Environment with Reading Ability

This study employed Pearson and Spearman correlation tests, given that the measurement scales included interval, ratio, and ordinal data. The correlation results are presented in Table 7.

Table 7. Correlation Between Family and Child Characteristics, Parental Knowledge of the "VAK" Strategy, Academic Parenting Environment, and Children's Reading Ability

Variables	Parental Knowledge of "VAK" Strategy		Quality of Parenting Environment		Reading Ability of Children (5–6 years)	
	Correlation	Sig	Correlation	Sig	Correlation	Sig
Mother's Age (years)	0.450**	0.000	0.076	0.452	–0.061	0.547
Education (years)	–0.020	0.847	0.168	0.096	–0.039	0.696
Household Income (IDR)	0.022	0.829	0.401**	0.000	0.006	0.953
Number of Children	0.377**	0.000	0.221*	0.022	0.019	0.852
Family Size	0.224*	0.025	–0.051	0.612	0.008	0.938
Child's Age (months)	0.124	0.220	0.320*	0.017	0.208*	0.038
Gender (0=Male, 1=Female)	–0.091	0.367	–0.094	0.353	0.550**	0.000
Birth Order	0.492**	0.000	0.032	0.756	0.030	0.768

The correlation analysis (Table 7) revealed several significant relationships. Regarding parental knowledge of the VAK strategy showed significant positive correlations with maternal age (r = 0.450**), number of children (r = 0.377**), family size (r = 0.224*), and birth order (r = 0.492**). This suggests that older mothers with more children and larger families tend to have a

better understanding of academic parenting, likely due to greater experience and exposure to various stages of child development.

Household income (r = 0.401**), number of children (r = 0.221*), and child's age (r = 0.320*) were significantly correlated with the quality of the academic parenting environment. These findings imply that higher income and older children are associated with better learning environments, possibly due to improved resources and increased parental readiness.

Regarding children's reading ability, only child's age (r = 0.208*) and female gender (r = 0.550**) showed significant correlations. This suggests that girls, as well as older children, tend to demonstrate better reading development. These findings support previous results indicating that girls progress more quickly toward the "developing as expected" reading category than boys.

The Influence of Family and Child Characteristics, Parental Knowledge of the ``VAK'' Strategy, and the Quality of the Academic Parenting Environment on the Reading Ability of Children Aged 5–6 Years

This study employed multiple linear regression analysis to examine the influence of various independent variables on children's reading ability. Prior to regression analysis, classical assumption tests were conducted, including tests for normality, multicollinearity, heteroscedasticity, and autocorrelation. The results of these tests confirmed that all assumptions were met and are provided in the appendix. The regression results are presented in Table 8.

Table 8. Multiple Regression Results: Influence of Family Characteristics, Child Characteristics, Parental Knowledge of ``VAK'', and Academic Parenting Environment Quality on Reading Ability

Independent Variables	Dependent Variable: Reading Ability (Age 5–6)		
	Unstandardized Coefficients (β)	Standardized Coefficients (β)	Sig.
Constant	-18,881		0,064
Family Characteristics (X1)			
Mother's Age (years)	-0,555	-0,171	0,019**
Mother's Education (years)	0,320	0,030	0,599
Family Income (IDR)	0,185	0,019	0,841
Number of Children	-2,107	- 0,173	0,192
Family Size	-0,028	- 0,003	0,981
Child Characteristics (X2)			
Child's Age (months)	1,932	0,116	0,045**
Female Gender (vs. Male)	9,184	0,550	0,000**
Birth Order	2,021	0,173	0,780
Academic Parenting Knowledge: ``VAK'' (X3)	0,798	0.426	0,000**
Parenting Environment Quality (X5)	0,596	0.379	0,026**
Model Statistics		0,647[a]	
R		0,478	
R^2		0,381	
Adjusted R^2		11,212	
F		0,000**	

Note: *Significant at p < 0.05; **Highly significant at p < 0.01*

The regression analysis results in Table 8 show that the model accounts for 38.1% of the variance in reading ability among children aged 5–6 years (Adjusted R^2 = 0.381). This indicates that the independent variables in this study—family and child characteristics, parental knowledge of the ``VAK'' strategy, and parenting environment quality—collectively explain 38.1% of the variance, while the remaining 61.9% is explained by other variables not included in this model. All classical assumption tests were satisfied, confirming the model's validity.

Specifically, mother's age had a significant negative effect on children's reading ability (β = –0.171; p = 0.019), meaning that a one-year increase in maternal age is associated with a 0.555-point decrease in children's reading scores. In contrast, child's age had a significant positive

effect (β = 0.116; p = 0.045), with each additional month of age associated with a 1.932-point increase in reading ability. Gender was also significant (β = 0.550; p = 0.000), indicating that girls scored 9.184 points higher in reading ability than boys, on average.

The parental knowledge of the ``VAK'' academic strategy showed a strong positive influence (β = 0.426; p = 0.000), where each unit increase in knowledge raised children's reading scores by 0.798 points. Additionally, the quality of the academic parenting environment was a significant predictor (β = 0.379; p = 0.026), meaning that implementing one additional quality aspect in the caregiving environment increased reading scores by approximately 6.596 points. These findings emphasize the importance of both parental knowledge and home learning conditions in fostering early literacy development.

Discussion

The descriptive analysis of this study revealed that the participating mothers were predominantly in early adulthood, specifically between the ages of 25 and 30. According to John Santrock's theory of development, mothers in early adulthood play a crucial role in fostering the development of children aged 5–6 years (Santrock, 2003). Responsive, supportive, and engaged parenting—particularly when grounded in an understanding of children's cognitive and emotional development—is essential for supporting the emergence of reading skills (Romero-González et al., 2023).

The difference test results showed a consistent increase in the mean scores across all dimensions of parental knowledge regarding the VAK academic parenting strategy following the intervention. This indicates an overall enhancement in parental understanding and capacity to implement effective academic parenting and create a well-structured home learning environment. These findings align with Weerden (2019), who emphasized that parenting training can transform parents' understanding into new or improved knowledge, though practical application may require iterative efforts of trial and adjustment.

The average posttest scores were higher across all knowledge dimensions, demonstrating the effectiveness of the intervention in improving mothers' comprehension and skills. These findings are consistent with Adriana and Zirmansyah (2021), who noted that appropriate interventions can make mothers more proactive and reflective in creating enjoyable learning experiences for their children, particularly in reading. Similarly, Yang et al. (2023) found that parents become more adaptive and effective in their parenting strategies following knowledge-based training.

Regarding the quality of the academic parenting environment, the Inconsistent Discipline dimension showed no significant improvement and the lowest mean gain between pretest and posttest. This suggests that many mothers still struggle with applying consistent discipline, which may lead to conflicts during reading activities at home. Krousorati et al. (2022) argue that parent-child conflict during academic activities is often triggered by high inconsistency in discipline and poor conflict management. On the other hand, the greatest improvement was seen in the Digital Learning Activities dimension, indicating that mothers increasingly engaged their children in digital-based reading activities—such as using mobile phones, laptops, or educational apps—after receiving training.

Children's reading ability was highest in the Bridging Reader stage and lowest in the Independent Reader stage. This suggests that, through academic parenting, children had reached the stage of connecting images with corresponding words and sounds, but still required further stimulation to become fluent independent readers. Notably, the study found that girls were more likely to reach the developing as expected (BSH) level than boys. This supports Lamb and Arnold's theory that physiological factors, including gender, affect children's reading development (Bismawati et al., 2021).

The correlation analysis showed a significant relationship between maternal age and parental knowledge, suggesting that younger mothers may lack the experience necessary for effective academic parenting. This finding is consistent with Krisnatuti et al. (2017), who observed that very young mothers often have lower parenting readiness, which can negatively

affect their knowledge and practices. Santrock (2011) also noted that a mother's age influences her parenting style through psychological maturity and interaction patterns. Additionally, variables such as the number of children, family size, and birth order were significantly correlated with knowledge of the VAK strategy, suggesting that broader family dynamics can shape maternal learning and adaptation in parenting.

Household income, number of children, and child's age were all positively and significantly correlated with the quality of the academic parenting environment. As income, family size, and child age increased, so did maternal support in creating a quality learning environment. Brooks-Gunn and Duncan (1997) emphasized that family socioeconomic status significantly influences the home environment's ability to support children's academic development.

Only child's age and gender showed significant positive correlations with reading ability. As girls aged, their reading ability increased more rapidly than that of boys. Girls tend to develop language skills earlier, and Halpern (2000) noted that they generally outperform boys in verbal tasks, including reading. Moreover, girls often receive more reading-related stimulation due to social expectations—a trend supported by Ready et al. (2005), who found that gender gaps in reading skills appear as early as preschool. Teacher and parental biases may further reinforce this advantage by providing girls with more guided literacy opportunities (Bismawati et al., 2021).

Regression analysis showed that maternal age had a significant negative effect on reading ability, indicating that younger mothers may lack the experience to effectively enhance their child's literacy. In contrast, child's age, female gender, knowledge of the VAK strategy, and quality of the academic parenting environment all had significant positive effects. These findings suggest that older girls benefit most from academic parenting. Furthermore, an increase in maternal knowledge of the VAK strategy, effective family communication, and an improved home learning environment all contribute to the development of reading skills in children aged 5–6 years. The intervention was thus proven effective in enhancing maternal knowledge, which in turn improved parenting practices and the home environment—factors that collectively foster children's reading development.

Conclusion

The descriptive analysis indicated that most mothers in this study were between 25 and 30 years old, had completed 12 years of formal education, lived in households with a monthly income ranging from IDR 4,100,000 to IDR 7,000,000, had two children, and resided in families comprising 3 to 4 members. The participating children were predominantly male, aged 66 to 72 months, and were generally the first- or second-born in their families. Following the training intervention, parental knowledge of the VAK academic parenting strategy improved significantly across all dimensions. In the area of family communication, a significant decrease was observed only in the Conformity Orientation dimension, suggesting that mothers became more open and responsive in their interactions with their children. Regarding the quality of the parenting environment, all dimensions showed improvement except for Inconsistent Discipline, indicating ongoing challenges among mothers in maintaining consistent disciplinary practices. Correspondingly, the reading ability of children aged 5–6 years advanced from the emerging (MB) level to the developing as expected (BSH) level after mothers applied the strategies and structured the home learning environment according to their child's learning style.

Correlation analysis showed that both the child's age and female gender were significantly associated with improved reading outcomes, indicating that older girls experienced faster development in reading skills compared to boys. Regression analysis further revealed that the mother's age, child's age, female gender, parental knowledge of the VAK strategy, and the quality of the academic parenting environment all had significant effects on children's reading ability. Notably, younger maternal age was negatively associated with reading outcomes, possibly reflecting a lack of parenting experience. These results suggest that

older girls benefit most when supported by knowledgeable mothers in a high-quality home learning environment.

The results of this study demonstrate that academic parenting knowledge, family communication, and the quality of the academic parenting environment significantly influenced children's reading ability. Therefore, it is recommended that national and local education authorities, along with early childhood education institutions, work collaboratively to implement structured parenting education programs. These initiatives should promote alignment between schools and families through a shared understanding of the goals and vision of early childhood education. Priority should be given to training programs focused on the VAK strategy, as these help parents understand their child's learning style and apply effective academic support at home. Strengthening parental competence through such programs is expected to enhance literacy development among children, particularly those aged 5–6 years.

References

Adriana, N. G., & Zirmansyah, Z. (2021). Pengaruh pengetahuan parenting terhadap keterlibatan orangtua di lembaga PAUD. *Jurnal Anak Usia Dini Holistik Integratif (AUDHI)*, *1*(1), 40. https://doi.org/10.36722/jaudhi.v1i1.565

Aslaksen, K., & Lorås, H. (2018). The modality-specific learning style hypothesis: A mini-review. *Frontiers in Psychology*, *9*, 1538. https://doi.org/10.3389/fpsyg.2018.01538

Azizah, A., & Eliza, D. (2021). Pelaksanaan metode bermain peran dalam mengembangkan kemampuan membaca dan menulis pada anak. *Jurnal Basicedu*, *5*(2), 717–723. https://doi.org/10.31004/basicedu.v5i2.798

Bismawati, T., Kurnia, R. ., & Puspitasari, E. . (2021). Perbedaan Kemampuan Membaca Permulaan Anak Laki-Laki dan Perempuan Usia 5-6 Tahun di TK Al-Munawarah Kecamatan Merbau Kabupaten Kepulauan Meranti. *Jurnal Pendidikan Tambusai*, *5*(2), 2560–2568. Retrieved from https://jptam.org/index.php/jptam/article/view/1249

Bradley, R. H., & Corwyn, R. F. (2002). Socioeconomic status and child development. *Annual Review of Psychology*, *53*(1), 371–399. https://doi.org/10.1146/annurev.psych.53.100901.135233

Brewer, J. A. (2014). *Introduction to early childhood education: Preschool through primary grades* (6th ed., Pearson new international edition). Pearson.

Bronfenbrenner, U. (1994). Ecological models of human development. *International Encyclopedia of Education*, *3*(2), 37–43. *(Publisher: Elsevier)*

Cohen, F., Schünke, J., Vogel, E., & Anders, Y. (2020). Longitudinal effects of the family support program Chancenreich on parental involvement and the language skills of preschool children. *Frontiers in Psychology*, *11*, 1282. https://doi.org/10.3389/fpsyg.2020.01282

Dewanggi, M., Hastuti, D., & Herawati, T. (2015). The influence of attachment and quality of parenting and parenting environment on children's character in rural and urban areas of Bogor. *Jurnal Ilmu Keluarga dan Konsumen*, *8*(1), 20–27. https://doi.org/10.24156/jikk.2015.8.1.20

Elmanora, E., Hastuti, D., & Muflikhati, I. (2015). Kesejahteraan keluarga dan kualitas lingkungan pengasuhan pada anak usia prasekolah. *Jurnal Ilmu Keluarga dan Konsumen*, *8*(2), 96–105. https://doi.org/10.24156/jikk.2015.8.2.96

Fauziah, H., Hastuti, D., & Yuliati, L. N. (2020). Parenting practice, parental involvement in school, child's self-concept and school readiness. *Jurnal Ilmu Keluarga dan Konsumen*, *13*(1), 61–74. https://doi.org/10.24156/jikk.2020.13.1.61

Fitzpatrick, M. A., & Ritchie, L. D. (1994). Communication schemata within the family: Multiple perspectives on family interaction. *Human Communication Research*, *20*(3), 275–301. https://doi.org/10.1111/j.1468-2958.1994.tb00324.x

Halpern, B. P. (2000). The use and utility of glutamates as flavoring agents in food: Glutamate

and flavor of foods. *Journal of Nutrition*, *130*, 910–914.

Hastuti, D., Alfiasari, A., & Chandriyani, C. (2010). Nilai anak, stimulasi psikososial, dan perkembangan kognitif anak usia 2–5 tahun pada keluarga rawan pangan di Kabupaten Banjarnegara, Jawa Tengah. *Jurnal Ilmu Keluarga dan Konsumen*, *3*(1), 27–34. https://doi.org/10.24156/jikk.2010.3.1.27

Hastuti, D., & Muflikhati, I. (2015). *Kesejahteraan keluarga dan kualitas lingkungan pengasuhan pada anak usia pra sekolah*. Bogor: IPB Press.

Hewi, L., & Shaleh, M. (2020). Refleksi hasil PISA (The Programme for International Student Assessment): Upaya perbaikan bertumpu pada pendidikan anak usia dini. *Jurnal Golden Age*, *4*(1). https://doi.org/10.29408/jga.v4i01.2018

Hurlock, E. B. (1980). *Psikologi perkembangan: Suatu pendekatan sepanjang rentang kehidupan*. Jakarta: Gramedia.

Kemenristek DIKTI. (2023). *PISA 2022 dan pemulihan pembelajaran di Indonesia*.

Krisnatuti, D., Setyowati, Y. D., & Hastuti, D. (2017). Pengaruh kesiapan menjadi orang tua dan pola asuh psikososial terhadap perkembangan sosial anak. *Jurnal Ilmu Keluarga dan Konsumen*, *10*(2), 95–106. https://doi.org/10.24156/jikk.2017.10.2.95

Krousorati, K., Gregoriadis, A., Tsigilis, N., Grammatikopoulos, V., & Evangelou, M. (2022). Introducing the Home Learning Environment Questionnaire and examining the profiles of home learning environments in Greece. *Frontiers in Education*, *7*, 987131. https://doi.org/10.3389/feduc.2022.987131

Lasley, T., II. (2024). Bloom's taxonomy. *Encyclopaedia Britannica*. https://www.britannica.com/topic/Blooms-taxonomy

Lemeshow, S., Lwanga, S. K., & Lachenburch, P. A. (1991). Sample size determination in health studies: A practical manual. *Journal of the American Statistical Association*, *86*(416), 1149. https://doi.org/10.2307/2290547

Latifah, L., & Rahmawati, F. P. (2022). Penerapan program CALISTUNG untuk meningkatkan literasi numerasi siswa kelas rendah di sekolah dasar. *Jurnal Basicedu*, *6*(3), 5021–5029. https://doi.org/10.31004/basicedu.v6i3.3003

Lilawati, A. (2020). Peran orang tua dalam mendukung kegiatan pembelajaran di rumah pada masa pandemi. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, *5*(1), 549. https://doi.org/10.31004/obsesi.v5i1.630

Mardianingsih, M., & Azizah, D. N. (2022). Karakteristik perkembangan anak usia 5–6 tahun dalam aspek kognitif melalui permainan balok. *Jurnal Caksana: Pendidikan Anak Usia Dini*, *5*(1). Retrieved from https://trilogi.ac.id/journal/ks/index.php/PAUD/article/download/1332/691

Morgan, H. (2021). Howard Gardner's multiple intelligences theory and his ideas on promoting creativity. In F. Reisman (Ed.), *Celebrating giants and trailblazers: A-Z of who's who in creativity research and related fields* (pp. 124-141). London, UK: KIE Publications. http://hanimorgan.com/wp-content/uploads/2024/03/Howard-Gardners-Multiple-Intelligences-Theory-and-His-Ideas-On-Promoting-Creativity.pdf

Mori, A. S., Furukawa, T., & Sasaki, T. (2013). Response diversity determines the resilience of ecosystems to environmental change. *Biological Reviews*, *88*(2), 349–364. https://doi.org/10.1111/brv.12004

National Institute of Child Health and Human Development (NICHD). (2008). *Wiley Encyclopedia of Clinical Trials*. https://doi.org/10.1002/9780471462422.eoct466

Nahumarury, F. F., Tarmilia, T., Istiqomah, I. W., & Ruhaena, L. (2022). Peningkatan pengetahuan orang tua tentang gaya belajar dalam mendampingi anak TK belajar daring. *CARADDE: Jurnal Pengabdian Kepada Masyarakat*, *4*(3). https://doi.org/10.31960/caradde.v4i3.1056

Pashler, H., McDaniel, M., Rohrer, D., & Bjork, R. (2008). Learning styles: Concepts and evidence. *Psychological Science in the Public Interest*, *9*(3), 105–119. https://doi.org/10.1111/j.1539-6053.2009.01038.x

Pertiwi, A. D. (2016). Study deskriptif proses membaca permulaan anak usia dini. *Jurnal Pendidikan Anak*, *5*(1). https://doi.org/10.21831/jpa.v5i1.12372

Piaget, J. (1964). Cognitive development in children: Piaget development and learning. *Journal of Research in Science Teaching*, *2*, 176–186.

Piaget, J. (1972). *Development and learning* (2nd ed., Vol. 2). W. H. Freeman Company.

Puspitawati, H. (2012). *Sinergisme keluarga dan sekolah*. Bogor: IPB Press.

Puspitawati, H. (2013). *Ekologi keluarga: Konsep dan lingkungan*. Bogor: IPB Press.

Puspitasari, R., Hastuti, D., & Herawati, T. (2016). Pengaruh kecerdasan spiritual ibu terhadap karakter anak usia sekolah dasar di perdesaan. *Jurnal Ilmu Keluarga dan Konsumen*, *9*(2), 101–112. https://doi.org/10.24156/jikk.2016.9.2.101

Riany, Y. E., Cuskelly, M., & Meredith, P. (2018). Psychometric properties of parenting measures in Indonesia. *Makara Human Behavior Studies in Asia*, *22*(2), 75. https://doi.org/10.7454/hubs.asia.1160118

Ritchie, L. D., & Arts, C. (1989). Family communication patterns and the flow of information in the family. *Educational Resources Information Center (ERIC)*.

Romero-González, M., Lavigne-Cerván, R., Gamboa-Ternero, S., Rodríguez-Infante, G., Juárez-Ruiz De Mier, R., & Romero-Pérez, J. F. (2023). Active home literacy environment: Parents' and teachers' expectations of its influence on affective relationships at home, reading performance, and reading motivation in children aged 6 to 8 years. *Frontiers in Psychology*, *14*, 1261662. https://doi.org/10.3389/fpsyg.2023.1261662

Rukmana, W., Hardjono, N., & Aryana O, A. (2018). Peningkatan Aktivitas dan Hasil Belajar dengan Model Pembelajaran VAK Berbantuan Media Tongkat Tokoh. *International Journal of Elementary Education*, *2*(3), 156–164. https://doi.org/10.23887/ijee.v2i3.15954

Santrock, J. W. (2003). *Adolescent – Perkembangan remaja*. Jakarta: Erlangga.

Santrock, J. W. (2011). *Children* (14th ed.). McGraw-Hill Education.

Snow, C. E., Burns, M. S., Griffin, P., & National Research Council (Eds.). (2003). *Preventing reading difficulties in young children: Intellectual property in the information age* (9th print). National Academy Press.

Subagja, S., & Rubini, B. (2023). Analysis of student learning styles using Fleming's VARK model in science subject. *Jurnal Pembelajaran dan Biologi Nukleus*, *9*(1), 31–39. https://doi.org/10.36987/jpbn.v9i1.3752

Sudirman, S., Ernawati, S., Justin, W. O. S., Amiruddin, A., & Malik, A. (2022). Lingkungan pengasuhan dan tingkat perkembangan anak usia 4–5 tahun. *JSHP: Jurnal Sosial Humaniora dan Pendidikan*, *6*(2), 178–189. https://doi.org/10.32487/jshp.v6i2.1447

Sugiarti, S., Patonah, S., & Ismartiningsih, I. (2024). Analisis penerapan pembelajaran berdiferensiasi dengan model Problem Based Learning pada mata pelajaran matematika kelas V SDN Pandean Lamper 04. *NUSRA: Jurnal Penelitian dan Ilmu Pendidikan*, *5*(3), 1394–1403. https://doi.org/10.55681/nusra.v5i3.3177

Sugiyono. (2008). *Metode penelitian kuantitatif kualitatif dan R&D*. Bandung: Alfabeta.

Sulaiman, U., & Ardianti, N. (2019). Tingkat pencapaian perkembangan anak usia 5–6 tahun berdasarkan standar nasional pendidikan anak usia dini. *NANAEKE: Indonesian Journal of Early Childhood Education*, *2*(1), 52–68. https://doi.org/10.24252/nananeke.v2i1.9385

Voyer, D., & Voyer, S. D. (2014). Gender differences in scholastic achievement: A meta-analysis. *Psychological Bulletin*, *140*(4), 1174–1204. https://doi.org/10.1037/a0036620

Weerden, M. P. (2016). *The impact of the parenting training 'We are Parents' on positive parenting in Ethiopia* [Master's thesis, Utrecht University].

Widodo, M. M., & Ruhaena, L. (2018). Lingkungan literasi di rumah pada anak pra sekolah. *Indigenous: Jurnal Ilmiah Psikologi*, *3*(1), 1–7. https://doi.org/10.23917/indigenous.v3i1.3059

Yang, J., Lawrence, J. F., & Grøver, V. (2023). Parental expectations and home literacy environment: A questionnaire study of Chinese-Norwegian dual language learners.

Journal of Research in Childhood Education, *37*(1), 159–173. https://doi.org/10.1080/02568543.2022.2098427