

The Effect of Phonological Awareness, Sight Recognition, Decoding on Reading Skills Children

Maharani Dewintha Stani^{1*}, Hisham Abdul Malik², Yuliwati²
¹Early Childhood Teacher Education, PAUD Al Huda, Indonesia
²Early Childhood Teacher Education, STKIP Kusuma Negara, Indonesia
*dewinthamaharani@gmail.com

Abstract

The purpose of this study was to determine the effect of phonological awareness, sight recognition, and decoding on children's reading skills. This study uses a quantitative explanatory approach with path analysis techniques. The population of this study were grade B students aged 5-6 years of PAUD Al Huda in Depok City. The number of samples was taken as many as 24 children using the Isaac and Michael technique. The data collection technique used refers to the Likert Scale. With the requirements test; Normality Test, Heteroskedasticity Test, Multicollinearity Test, and Linearity Significance Test. The results showed: there is a positive direct effect of phonological awareness on decoding 0.43, there is a positive direct effect of sight recognition on decoding 0.43, there is a positive direct effect of phonological awareness on reading skill 0.23, there is a positive direct effect of sight recognition on reading skill 0.37, there is a positive direct effect of decoding on reading skill 0.48. The research concluded that reading skills in children are directly positively influenced by phonological awareness, sight recognition and decoding. This means that the better the phonological awareness, sight recognition and decoding of children will have a positive impact on reading skills in children.

Keywords: decoding, early childhood, phonological awareness, reading skill, sight recognition,

1 INTRODUCTION

Advances in technology have had a huge impact on early reading development (Belina, et.al., 2023; Gulo., et.al., 2023; Rahayu et.al., 2021; Utami., et.al, 2024; Ardhi, et.al., 2023). There are many educational apps and games specifically designed to help children recognize letters, words and early reading concepts. Through the internet and various digital platforms, children now have easy and quick access to a wide range of books, stories and reading materials. Depending on the child's interests, they can explore a variety of reading topics and genres. Technology allows children to interact with peers and teachers from different parts of the world, opening new horizons for understanding different cultures and experiences reflected in children's literature (Puspa., et.al., 2021; Hadiny et.al., 2023; Mulyati et.al., 2021; Wulan, 2024; Evi., et.al, 2024).

Communication technology tools for children have developed rapidly in recent years, offering a wide range of options to support children's learning and interaction. Giving children access to digital books, educational apps and other media that promote literacy accelerates their reading learning process. Well-designed technology provides engaging and effective training to improve children's reading skills.

Children being able to read before entering school is very exciting and illustrates the possibilities in child development. The home environment and daily interactions with adults who read can influence children's reading skills. Children who are familiar with books, stories and reading interactions from an early age tend to develop reading skills faster. Each child experiences unique individual development. Some children may show special interest and ability in reading, which may occur earlier than normally expected.

Reading is more than just seeing a word on a page and saying it out loud (Harini et.al., 2023). Sight recognition is also very important for students to develop for 2 main reasons. First, it allows them to read faster. When they don't have to decode as many words, their reading speed becomes faster. Supporting children's language and literacy development has long been considered a practice that will produce strong readers and writers later in life. The 6-year National Early Literacy Panel (NELP) scientific research supports the practice and its role in language development among children ages 0 to 5. Through its work, NELP revealed a series of abilities such as alphabet knowledge, spoken language, or phonological awareness that exist in the preschool years that are the basis for later reading success. (NELP et al., 2008).

The researcher found that Hollis Scarborough's Reading Rope model provides a conceptual framework that allows readers to consider the different aspects or strands of the reading rope that contribute to children's reading skills. The concept of the reading rope by Hollis Scarborough, the reading rope breaks down the domains of word recognition and simple display language comprehension of reading into specific skill areas. The rope illustration provides an understanding that there are 3 skill areas that make up phonological awareness, sight recognition and decoding. These three areas form the foundation of reading comprehension and automaticity as these skills are essential for reading skills. (Scarborough et al., 1998).

2 RESEARCH METHODS

This research uses quantitative methods with parametric statistical analysis techniques that aim to test between variables of a theory or hypothesis in order to strengthen or even reject the theory or hypothesis of pre-existing research results (explanatory research) using the path analysis method. Data collection techniques using test instruments. (R. Frank et al., 2002).

There are several assumptions that must be met in path analysis research, namely: (1) the relationship between variables is linear; (2) the causal flow system is one-way, meaning that there is no reverse direction of causality; (3) Endogenous variables are interval or ratio scales; (4) The variables studied can be observed; (5) The model being analyzed is correctly identified based on relevant theory or built on a theoretical framework that is able to explain the causal relationship between variables.

Variables consist of exogenous variables which include Phonological Awareness (X_1), Sight Recognition (X_2) and intervening variables namely Decoding (X_3), and endogenous variables namely Reading Skill (Y) as the theoretical basis can be described in the form of constellation as follows:

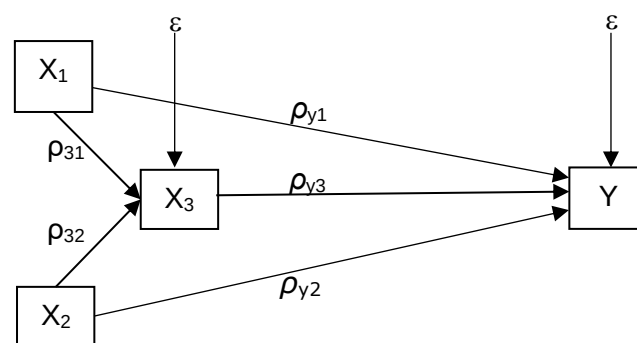


Figure 1. Path Diagram Between Variables

Determination of the number of samples from a particular population developed from Isaac and Michael, for an error rate of 1%, 5%, and 10%. The formula for calculating the

sample size using the Isaac and Michael formula, the sample in this study was calculated in the following way:

$$s = \frac{3,841.25 \cdot 0.5 \cdot 0.5}{(0.05^2 \cdot 24) + (3,841.0 \cdot 0.5 \cdot 0.5)} \quad (1)$$

$$= 23,529$$

It was determined that this sample size was 23.529 or rounded up to 24 students.

3 RESULT AND DISCUSSION

This research data uses 4 types of variables, namely exogenous variables which include Phonological Awareness (X_1), Sight Recognition (X_2) and intervening variables namely Decoding (X_3), and endogenous variables namely Reading Skill (Y).

The data obtained from the Reading Skill (Y) test results are mean 23.71; mode 18; median 23.50; and standard deviation 4.319. Data from the Phonological Awareness (X_1) variable is mean 62.54; mode 61; median 61.00; and standard deviation 3.934. The data of Sight Recognition variable (X_2) is mean 55.75; mode 56; median 56.00; and standard deviation 4.484. Data from the Decoding variable (X_3) is mean 51.21; mode 50; median 50.00; and standard deviation 3.683. The description of the data description of the research results of all research variables is presented in the following table:

Table 1. Data Description of Research Results

		Y	X_1	X_2	X_3
N	Valid	24	24	24	24
	Missing	0	0	0	0
Mean		23.71	62.54	55.75	51.21
Median		23.50	61.00	56.00	50.00
Mode		18 ^a	61	56	50
Std. Deviation		4.319	3.934	4.484	3.683
Variance		18.650	15.476	20.109	13.563
Minimum		17	57	46	45
Maximum		31	71	63	59
Sum		569	1501	1338	1229

3.1 Path Coefficient Test

Path Model and Correlation Matrix between Variables

Before conducting hypothesis testing, first analyze the model that has been theoretically constructed. The requirement for model analysis is if all the variables to be tested are correlated with each other. This is because the basis for calculating the path coefficient is the correlation coefficient.

Table 2. Correlation Coefficient Matrix Between Variables

	Y	X_1	X_2	X_3
Y	1.00			
X_1	.588	1.00		
X_2	.697	.247	1.00	
X_3	.816	.535	.538	1.00

3.1.1 Result

The results of the correlation analysis for the research hypothesis model displayed in the table above confirm that there are six pairs of correlation values, namely: r_{21} , r_{31} , r_{32} , r_{41} , r_{42} , and r_{43} . However, not all correlation values of this variable pair will be used but must be adjusted to the research hypothetical model. Thus, before determining the path to be tested, first refer back to the hypothesis model that has been set. The path to be tested in the hypothetical research model can be re-described as shown in the following figure:

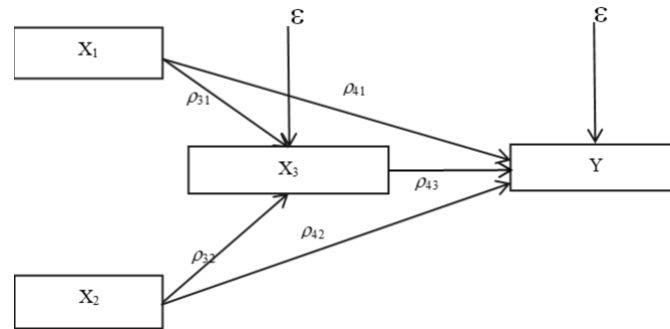


Figure 2. Research Path Model

Path Coefficient on Substructure 1
Causal Relationship in Substructure 1

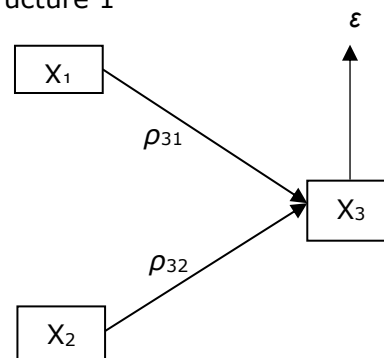


Figure 3. Causal Relationship in Substructure 1

Based on the figure above, the causal relationship between variables in substructure 1 consists of an endogenous variable X_3 , and two exogenous variables X_1 and X_2 .

Coefficient of Determination on Substructure 1

Table 3. Coefficient of Determination on Substructure 1

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.679 ^a	.461	.410	2.829	.461	8.995	2	21	.002
a. Predictors: (Constant), X2, X1									

Based on the results of the analysis above, the coefficient of determination $R^2 = 0.461$ which means that the contribution of X_1 and X_2 to X_3 is 46.1%; and 53.9% is influenced by other variables not included in the study.

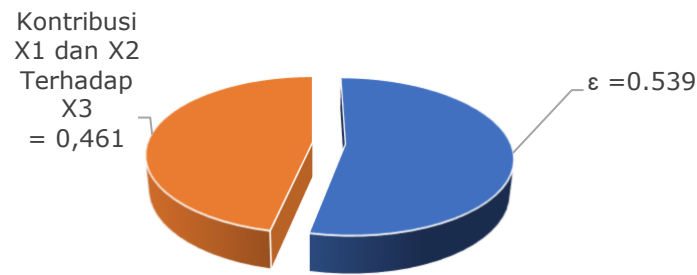


Figure 4. Coefficient of Determination Substructure 1

Significance of Path Coefficient Substructure 1
Overall, Path Coefficient Substructure 1

Table 4. Overall, Path Coefficient Substructure 1

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	143.940	2	71.970	8.995	.002 ^b
	Residual	168.018	21	8.001		
	Total	311.958	23			

a. Dependent Variable: X3

b. Predictors: (Constant), X2, X1

Based on the results of the analysis above, the results of the overall test or F test of the path coefficient on substructure 1 resulted in Fcount = 8,995 with a significance of 0.002 < 0.05 or H₀ is rejected. This means that the variance of X₁ and X₂ together (simultaneously) affects the X₃ variable. Thus, it can be continued in the individual test (partial).

Partial Path Coefficient Test on Substructure 1

Table 5. Partial Path Coefficient on Substructure 1

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.355	10.726		.593	.560
	X1	.401	.155	.428	2.592	.017
	X2	.355	.136	.432	2.613	.016

a. Dependent Variable: X3

Partial Path Coefficient of X₁ and X₃ (p₃₁)

Based on the table above, the results obtained are p₃₁ = 0.43, t₀ = 2.592, p-value = 0.017/2 = 0.0085 < 0.05 or H₀ is rejected, which means that there is a direct effect of Phonological Awareness (X₁) on Decoding (X₃).

Partial Path Coefficient of X₂ and X₃ (p₃₂)

Based on the table above, the results obtained are p₃₂ = 0.43, t₀ = 2.613, p-value = 0.016/2 = 0.008 < 0.05 or H₀ is rejected, which means that there is a direct effect of Sight Recognition (X₂) on Decoding (X₃).

The following table summarizes the calculation of the t test results of the substructure 1 path coefficient:

Table 6. T-test Results of Substructure 1 Path Coefficient

Variable	Coefficient Jalur	t_{hitung}	Test Result
X_3X_1	0,43	2,6	Significant
X_3X_2	0,43	2,6	Significant

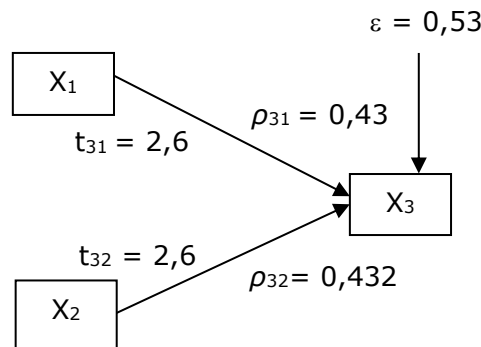


Figure 5. Substructure 1 Path Diagram

3.1.2 Path Coefficient on Substructure 2 Causal Relationship in Substructure 2

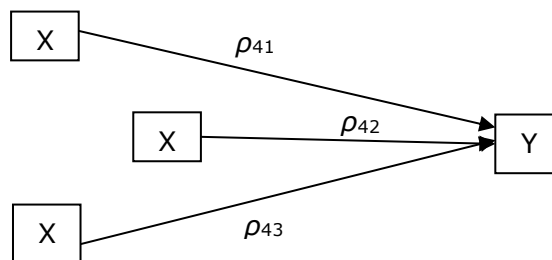


Figure 6. Causal Relationship Substructure 2

Based on the figure above, the causal relationship of variables in substructure 2 consists of an endogenous variable, Y, and three exogenous variables, X_1 , X_2 , and X_3 .

Coefficient of Determination of Substructure 2

Table 7. Coefficient of Determination of Substructure 2

Model Summary						Change Statistics			
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.893 ^a	.798	.768	2.081	.798	26.343	3	20	.000

a. Predictors: (Constant), X_3 , X_1 , X_2

Based on the results of the analysis above, the coefficient of determination $R^2 = 0.798$ which means that the contribution of X_1 and X_2 to X_3 is 79%; and 21% is influenced by other variables not included in the study.

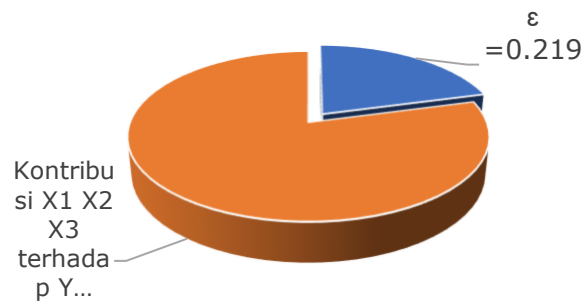


Figure 7. Coefficient of Determination of Substructure 2

Meaningfulness of Substructure 2 Path Coefficient
Overall, Path Coefficient of Substructure 2

Table 8. Overall, Path Coefficient of Substructure 2

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	342.326	3	114.109	26.343	.000 ^b
	Residual	86.632	20	4.332		
	Total	428.958	23			

a. Dependent Variable: Y

b. Predictors: (Constant), X3, X1, X2

Based on the results of the analysis above, the results of the overall test or F test of the path coefficient on substructure 2 resulted in $F_{count} = 26,343$ with a significant $0.000 < 0.05$; This means that the variance of X_1 , X_2 , and X_3 together can explain the variance of Y. Thus, it can be continued in the individual test (partial).

Partial Path Coefficient Test on Substructure 2

Table 9. Partial Path Coefficient on Substructure 2

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-41.869	7.958		-5.261	.000
	X1	.257	.131	.234	1.962	.064
	X2	.362	.115	.376	3.150	.005
	X3	.573	.161	.489	3.568	.002

a. Dependent Variable: Y

Partial Path Coefficient X_1 and Y (py_1)

Based on the table above, the results obtained $py_1 = 0.23$, $t_0 = 1.96$, $p\text{-value} = 0.064/2 = 0.032 < 0.05$ or H_0 is rejected, which means that there is a direct effect of Phonological Awareness (X_1) on Reading Skill (Y).

Partial Path Coefficient X_2 and Y Path Coefficient (py_2)

Based on the table above, the results obtained $py_2 = 0.37$, $t_0 = 3.150$, $p\text{-value} = 0.005/2 = 0.0025 < 0.05$ or H_0 is rejected, which means that there is a direct effect of Sight Recognition (X_2) on Reading Skill (Y).

Partial Path Coefficient X_3 and Y (py_3)

Based on the table above, the results obtained $p_{y3} = 0.48$, $t_0 = 3.568$, $p\text{-value} = 0.002/2 = 0.001 < 0.05$ or H_0 is rejected, which means that there is a direct effect of Decoding (X_3) on Reading Skill (Y).

The following table summarizes the results of the t-test of the substructure 2 path coefficient:

Table 10. T-test Results of Substructure 2 Path Coefficient

Variable	Coefficient jalur	t_{hitung}	Hasil uji
YX_1	0,23	1,96	Significant
YX_2	0,37	3,15	Significant
YX_3	0,48	3,56	Significant

The results of the path coefficient test can be described as follows:

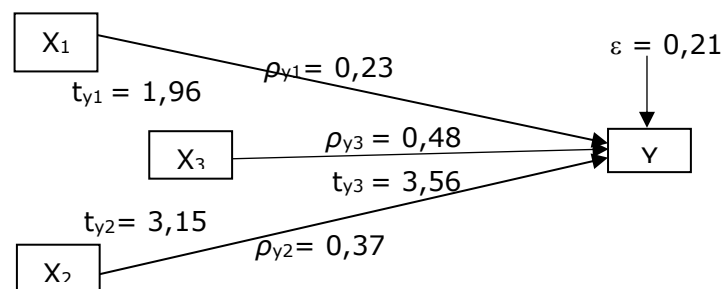


Figure 8. Path Diagram of Substructure 2

Based on the calculation of the path coefficient value above, the form of the structural model of the path analysis results is obtained which is the final model of the structural relationship between the variables described in Figure 13 below:

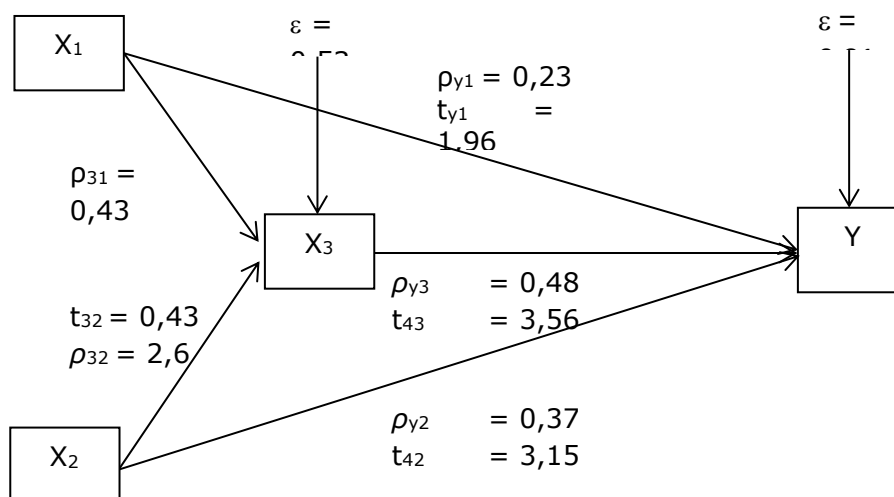


Figure 9. Final Model of Structural Relationship Between Variables

3.1.3 Hypothesis Testing

First Hypothesis Test: There is a Positive Direct Effect of Phonological Awareness (X_1) on Decoding (X_3).

The results of data analysis concluded that the path coefficient value (ρ_{31}) = 0.43. The t_{count} value = 2.6. This figure is greater than the t_{table} ($\alpha = 0.05$; 22) = 1.717. This fact reveals that $t_{\text{count}} = 2.6 > t_{\text{table}} = 1.7$ which means H_0 is rejected and H_1 is accepted. This means that the coefficient of this path is significant. The findings can be interpreted that Phonological Awareness (X_1) has a positive direct effect on Decoding (X_3).

Second Hypothesis Test: There is a Positive Direct Effect of Sight Recognition (X_2) on Decoding (X_3)

The results of data analysis concluded that the path coefficient value (ρ_{32}) = 0.43. The t_{count} value = 2.6. This figure is greater than the t_{table} ($\alpha = 0.05$; 22) = 1.717. This fact reveals that $t_{\text{count}} = 2.6 > t_{\text{table}} = 1.7$ which means H_0 is rejected and H_1 is accepted. That is, the coefficient of this path is significant. The findings can be interpreted that Sight Recognition (X_2) has a positive direct effect on Decoding (X_3).

Third Hypothesis Test: There is a positive direct effect of Phonological Awareness (X_1) on Reading Skill (Y).

The results of data analysis concluded that the path coefficient value (ρ_{y1}) = 0.23. The t_{count} value = 1.96. This figure is greater than the t_{table} ($\alpha = 0.05$; 22) = 1.717. This fact reveals that $t_{\text{count}} = 1.96 > t_{\text{table}} = 1.717$ which means H_0 is rejected and H_1 is accepted. That is, the coefficient of this path is significant. The findings can be interpreted that Phonological Awareness (X_1) has a positive direct effect on Reading Skill (Y).

Fourth Hypothesis Test: There is a Positive Direct Effect of Sight Recognition (X_2) on Reading Skill (Y)

The results of data analysis concluded that the path coefficient value (ρ_{y2}) = 0.37. The t_{count} value = 3.15. This figure is greater than the t_{table} ($\alpha = 0.05$; 22) = 1.717. This fact reveals that $t_{\text{count}} = 3.15 > t_{\text{table}} = 1.717$ which means H_0 is rejected and H_1 is accepted. That is, the coefficient of this path is significant. The findings can be interpreted that Sight Recognition (X_2) has a positive direct effect on Reading Skill (Y).

Fifth Hypothesis Test: There is a Positive Direct Effect of Decoding (X_3) on Reading Skill (Y).

The results of data analysis concluded that the path coefficient value (ρ_{y3}) = 0.48. The t_{count} value = 3.56. This figure is greater than the t_{table} ($\alpha = 0.05$; 22) = 1.717. This fact reveals that $t_{\text{count}} = 3.56 > t_{\text{table}} = 1.717$ which means H_0 is rejected and H_1 is accepted. That is, this path coefficient is significant. The findings can be interpreted that Decoding (X_3) has a positive direct effect on Reading Skill (Y).

3.2 Sub Discussion

The Direct Effect of Phonological Awareness on Decoding

In this study, it was found that there is a significant relationship between Phonological Awareness (X_1) and Decoding (X_3). The closeness of the relationship between X_1 and X_3 is emphasized by the results of hypothesis testing, namely that there is a positive direct effect of Phonological Awareness (X_1) on Decoding (X_3).

The direct effect of Phonological Awareness on Decoding in 5–6-year-old children shows the important relationship between these two concepts in early reading development. Phonological Awareness refers to a child's ability to understand and manipulate sounds in language, such as syllables, phonemes, and the sounds that make up words. Decoding is the ability to understand and decipher written text, which is a key step in learning to read.

Phonological Awareness is essential for Decoding, which is the ability to convert written words into spoken language. Phonological Awareness enables individuals to recognize and manipulate the sounds in words, allowing them to break words down into their constituent phonemes and blend those sounds to form words. A strong foundation of Phonological Awareness facilitates accurate and efficient decoding skills. In short, Phonological

Awareness serves as the foundation for a variety of reading skills, including Decoding, word recognition, spelling, and reading comprehension. Developing strong Phonological Awareness skills in early literacy instruction is essential for developing proficient reading and overall literacy skills. (Deva Yanti et al., 2023).

The Direct Effect of Sight Recognition on Decoding

In this study, it was found that there is a significant relationship between Sight Recognition (X_2) and Decoding (X_3). The closeness of the relationship between X_2 and X_3 is emphasized by the results of hypothesis testing, namely that there is a positive direct effect of Sight Recognition (X_2) on Decoding (X_3).

Sight Recognition includes Decoding and the ability to recognize printed words. Decoding is the ability to identify letter-sound relationships and letter patterns to correctly pronounce what is being read. Another important component to sight recognition is the ability to decode. When teaching children to decode accurately, they must understand the principle of the alphabet and know the letter-sound correspondence. When students make the connection that letters signify the sounds we say, they are said to understand the purpose of the alphabetic code, or the "alphabetic principle". Letter-sound correspondence is known when students can give the correct sounds for letters and letter combinations. Students can then be taught to decode, which means combining letter sounds to read words. Decoding is a deliberate act in which readers must "consciously and deliberately apply their knowledge of the mapping system to produce a plausible pronunciation of a word they do not immediately recognize". (Murray et al., 2016).

The Direct Effect of Phonological Awareness on Reading Skill

In this study, it was found that there is a significant relationship between Phonological Awareness (X_1) and Reading Skill (Y). The closeness of the relationship between X_1 and Y is emphasized by the results of hypothesis testing, namely that there is a positive direct effect of Phonological Awareness (X_1) on Reading skill (Y).

The influence of phonological awareness on reading skills goes beyond the basic mechanics of reading and writing. It also plays an important role in developing vocabulary, comprehension, and overall language skills. A strong foundation in phonological awareness enables children to recognize and manipulate the sounds of language, facilitating their understanding of word meaning and effective communication. Phonological awareness is one of the most important elements in the process of teaching reading so that low-achieving children can read fluently and accurately. This result also implies that to improve the reading skills of low-achieving children early.

The Direct of Sight Recognition on Reading Skill

In this study it was found that there is a significant relationship between Sight Recognition (X_2) and Reading Skill (Y). The closeness of the relationship between (X_2) and (Y) is emphasized by the results of hypothesis testing, namely there is a positive direct effect of Sight Recognition (X_2) on Reading Skill (Y).

Developing sight recognition is a key skill for beginning readers. It is an important role in their reading development. When readers can read words correctly at the right time, their reading fluency improves, their reading comprehension, or the ability to understand what is being read, also improves, one's overall reading ability becomes greater. Sight recognition is words that can be recognized with little or no effort. Having visual word recognition means having the ability to read words accurately and automatically, which is an early literacy skill that plays a role in reading development. (Kaylee Simonton et al., 2019).

The Direct of Decoding on Reading Skill

In this study it was found that there is a significant relationship between Decoding (X_3) and Reading Skill (Y). The closeness of the relationship between (X_3) and (Y) is emphasized

by the results of hypothesis testing, namely there is a positive direct effect of Decoding (X_3) on Reading Skill (Y).

Decoding is a basic reading skill that teaches children the relationship between individual letters or letter combinations and spoken words. Basic decoding skills are essential for students learning to read, as memorizing letter patterns and their sounds allows students to eventually focus on higher-level literacy skills, such as comprehension and writing. Early achievement of decoding skills is important because these early skills accurately predict later skills in reading comprehension. There is strong and persuasive evidence that children who start slowly rarely become strong readers. Early decoding learning leads to more extensive reading habits both in and out of school.

4 CONCLUSION

The results showed: there is a positive direct effect of phonological awareness on decoding 0.43, there is a positive direct effect of sight recognition on decoding 0.43, there is a positive direct effect of phonological awareness on reading skill 0.23, there is a positive direct effect of sight recognition on reading skill 0.37, there is a positive direct effect of decoding on reading skill 0.48. The conclusion of the study is that reading skills in children are directly positively influenced by phonological awareness, sight recognition and decoding. This means that the better the phonological awareness, sight recognition and decoding of children will have a positive impact on children's reading skills.

5 ACKNOWLEDGEMENT

All praise to Allah SWT for His grace and karnia which gave the opportunity to the author to complete the article well and smoothly, the author would like to express his sincere gratitude to all those who have provided tremendous support during the research and writing of my thesis, help and encouragement from various parties. Every contribution, whether big or small, has helped the author overcome challenges and achieve academic goals. May the kindness that has been given to the author be returned to all supporter's manifolds.

6 REFERENCES

- Ardhi, M. N. K., Rochmadi, N. W., & Sukriono, D. (2024). Enhancing Civics Learning Outcomes Through Android Application-Based Media in Class VII C At SMP Shalahuddin Malang. *Jurnal Ilmu Pendidikan (JIP) STKIP Kusuma Negara*, 16(1), 90-96
- Belina, M., Pawitri, A., & Mappapoleonro, A. M. (2023). Improving the Ability to Count Numbers in Children through the Media of Number Trains. In *Proceeding of International Conference on Education* (Vol. 2, pp. 75-79).
- Deva Yanti Siregar, Khairani, Yani Lubis. 2023, The Influence of Phonological Awareness On Early Literacy Development. *Jurnal Pendidikan dan Sosial Humaniora*, Vol.1 No.3 Agustus 2023. DOI: <https://doi.org/10.59061/guruku.v1i3.185>.
- Evi, E., Yurniwati, Y., & Ulfa, M. (2024). Optimizing Algebraic Thinking in Elementary Students: Exploring the Impact of Generative Learning. *Jurnal Ilmu Pendidikan (JIP) STKIP Kusuma Negara*, 16(1), 1-8.

- Gulo, Y. F., Malik, H. A., & Nadar, W. (2023). Implementation of Kamishibai Media as Vocabulary Learning for Kindergarten Children. In *Proceeding of International Conference on Education* (Vol. 2, pp. 59-62).
- Hadiny, R., Nadar, W., & Pawitri, A. (2023). Parents' Perceptions of 5-6 Years Old Beginning Reading Ability. In *Proceeding of International Conference on Education* (Vol. 2, pp. 4-8).
- Kaylee Simonton, 2019. "Effective Sight Word Methods for Young Readers." Culminating Projects in Teacher Development. 39. https://repository.stcloudstate.edu/ed_etds/39.
- Harini, H., Lestari, I. D., Adisel, A., Yuni, Y., & Perkasa, D. H. (2023). Assessing Professional Development Training for Library Leader Candidates. *Jurnal Ilmu Pendidikan (JIP) STKIP Kusuma Negara*, 15(1), 32-46.
- Mulyati, R., Herminastiti, R., & Malik, H. A. (2021). Upaya meningkatkan kemampuan matematika permulaan melalui media papan literasi air. In *Prosiding Seminar Nasional Pendidikan STKIP Kusuma Negara III* (pp. 33-38).
- National Early Literacy Panel. Developing Early Literacy: Report of the National Early Literacy Panel, (Washington DC. 2008). hlm 55. Publication was developed National Center for Family Literacy under a grant funded by Inter-agency agreement IAD-01-1701 and IAD-02-1790.
- Puspa, E. N., Syaikh, A., & Mappapoleonro, A. M. (2021). Efektivitas Penggunaan Media Celemek Hitung terhadap Kemampuan Berhitung Permulaan. In *Prosiding Seminar Nasional Pendidikan STKIP Kusuma Negara III* (pp. 52-55).
- Rahayu, H., Pawitri, A., & Syaikh, A. (2021). Peningkatan Kemampuan Pengenalan Geometri Anak Usia Dini melalui Media Roda Kincir. In *Prosiding Seminar Nasional Pendidikan STKIP Kusuma Negara III* (pp. 127-133).
- R. Frank. (2002). The Explanatory Power of Models Research. Kluwer Academic Publishers. ISBN 978-1-4020-4676-6, hlm 51. DOI 10.1007/978-1-4020-4676-6.
- Scarborough, H. S. Early identification of children at risk for reading disabilities: Phonological awareness and some other promising predictors. In B. K. Shapiro, P. J. Accardo, & A. J. Capute(Eds), *specific reading disability: A view of the spectrum* (1998b), (pp. 75-119). Timonium, MD: York Press.
- Utami, P. P., Vioreza, N., Nugraheny, D. C., & Alghadari, F. (2024). The Influence of Responsibility on the Job Commitment of Public Elementary School Principals in East Jakarta. *Jurnal Ilmu Pendidikan (JIP) STKIP Kusuma Negara*, 16(1), 71-77.
- Wulan, S. (2024). Factors Affecting Teacher Performance. *Jurnal Ilmu Pendidikan (JIP) STKIP Kusuma Negara*, 16(1), 112-118.