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Structural Analytic Synthetic Learning Method for Early Reading Ability

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ABSTRACT: The Structural Analytic Synthetic (SAS) method is a learning method that begins with the introduction of complete sentence structures that build meaningful concepts in children. This research aimed to determine the effect of the SAS method on children's early reading abilities. This research uses a quantitative method with an experimental approach, using a pre-experimental one-group pretest and posttest design. Participants in this research were all early childhood children aged 6-7 years, totaling 32 children. Collection techniques include observation, interviews, and tests. The use of the SAS method in classroom learning has a positive influence, children's initial reading Ability when applying the SAS method in learning has a very big influence. The SAS method is an initial reading learning method that begins with presenting complete sentences which are then broken down into words into independent syllables and letters and combined again starting from letters into syllables, and words into complete sentences.

Keywords: children aged 6-7 years, early reading ability, structural analytic synthetic method

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1 INTRODUCTION

When children learn to read, they must map new visual symbol systems onto partially developed spoken language representations, and this is difficult and complex work (Ziegler et al., 2020). As a result, during development, significant structural and functional changes occur in brain circuits connecting the spoken and visual language systems (Dehaene et al., 2015). There appear to be subtle interindividual differences in the neurofunctional architecture of areas that ultimately become part of the reading network and beyond, despite the overall changes observed in each literate brain (Skeide et al., 2017). These variations may impact literacy development and, in certain situations, cause developmental problems such as dyslexia for computational approaches (Perry et al., 2019). There is a large body of literature on cognitive-linguistic behavioral abilities related to literacy development (Landerl et al., 2019).

Reading is an indispensable activity for anyone who wants to progress and improve their potential. Reading ability are acquired by students after they acquire spoken language in the family environment. The acquisition of reading ability is different from the mastery of the two previously mentioned ability. Acquiring reading ability requires more effort than acquiring the two ability do. In addition, reading and writing ability are also affected by the level of intelligence (Mustadi et al., 2022; Perfetti et al., 2008). Early reading is a stage of the reading learning process for elementary school students. Students acquire ability, master reading techniques, and learn to understand what they read (Musbikin, 2019). Early reading is a skill process and a cognitive process. From the results of the interviews, it is known that the problem of early reading in grade 1 is that there are still many students who are not fluent in reading, do not know the shape of the letters, cannot distinguish between the sounds of each letter, and are not able to voice the written language.

The SAS method is a learning method that begins with the introduction of a complete sentence structure that builds meaningful concepts in children. Then it is analyzed, so that children recognize the concept of words, continues to the smallest unit that cannot be decomposed anymore, namely letters (Emgusnadi, 2018). Synthetic analytic structure or commonly referred to as SAS is one method that can be used in learning to read and write beginner. The SAS method is a learning method used to peel and string words by looking at the full structure, then analyzing and knowing one by one the reading elements of a word or sentence (Hasibuan, 2019). The SAS method is a method of learning to read that begins with a storytelling stage while showing supporting pictures. Then students are asked to read the picture, then continue with reading sentences.

Students learn to read sentences without the help of pictures (structural process). The sentence is then analyzed into words, syllables, letters (analytic process). The last stage is to reunite the letters into syllables, syllables into words, and words into sentences (synthetic process).Based on the above problems, it can be concluded that one of the early reading learning methods that can be used to help students recognize letters and words is the Structural Analytic Synthetic (SAS) method. It is hoped that this method can facilitate

the learning process of early reading more effectively and can guide children in developing their early reading ability. From the background above, the researcher will conduct a study. This research aimed to determine the effect of the SAS method on children's early reading abilities.

2 THEORITICAL STUDY

2.1 *Early Reading Ability*

Early reading can be explained as the first step of children to take acquire reading ability (Sulistyawati & Sujarwo, 2016). That is, the ability to recognize letters as symbols of a language so that children can pronounce them. Early reading is reading at a beginning stage, usually used by students in grades 1 and 2. Early reading is the first skill that a reader must learn or master. Early reading is both a skill and a cognitive process (Musbikin, 2019). The skill process involves recognizing and mastering the symbols of sound units and the cognitive process involves understanding the meaning of words or sentences using familiar phonemic symbols. Early reading learning is the initial stage of learning and ability acquired by students that become the basis for further reading learning that will be carried out in higher grades. Based on the above definition, it can be concluded that early reading is the ability of students to recognize and understand letters and symbols, with an emphasis on aspects of literacy accuracy, proper pronunciation and intonation, fluency, and clarity of voice. In the early phase, children must pay attention two things, namely the regularity of shapes and patterns of letter combinations. A child's ability to understand letter order has psychological and neurological prerequisites.

The main purpose of reading is to seek and obtain information, cover the content, understand the meaning of reading. In the early stages, the child must pay attention to two things, namely the regularity of shapes and patterns of letter combinations. A child's ability to understand letter order has both psychological and neurological prerequisites. Psychological sessions include the development of cognitive ability, including the ability to mark shapes, the ability to develop an attitude to pay attention to the surrounding environment, increase attention and motivation and develop associative abilities, namely the ability to associate or use symbols. Symbolization is necessary because the child must already be aware that what is stored in his memory, namely sounds, can be symbolized by letters. He knows that the same letter can be written vertically, diagonally or in another shape.

Psychological sessions include the development of cognitive ability, including the ability to recognize shapes, the ability to develop an attitude to pay attention to the surrounding environment, increase attention and motivation and develop associative abilities, namely the ability to associate or use symbols. Symbolization is necessary because the child must already be aware that what is stored in his memory, namely sounds, can be symbolized by letters. He knows that the same letter can be written in vertical, diagonal, or other shapes. The neurological aspect is that reading can only be finish by children who have fulfilled the prerequisites for speaking. That is, the child has

mastered the phonological system of his language (in this case Indonesian). The ability to speak also means that the child has mastered the grammar of the language. Other ability is semantic ability, which is ability to understand the meaning of words.

2.2 *Structural Analytic Synthetic Method*

This method was mainly developed in teaching reading and writing in elementary schools although it was also developed at later levels and in other subjects (Emgusnadi, 2018). Synthetic analytic structure or commonly known as SAS is one of the methods that can be used in early reading and writing learning. The SAS method is a learning method used to examine and organize words by looking at the overall structure, then analyzing and knowing the reading elements of a word or sentence. The SAS method is a method of learning to read that begins with telling a story and showing pictures to support it (Hasibuan, 2019). After that, students are asked to read the picture, which is followed by reading the sentence. Students learn to read sentences without the help of pictures (structural process). The sentences are then analyzed into words, syllables, letters (analytic process). The last step is to recombine the letters into syllables, syllables into words, and words into sentences (synthetic process).

The SAS method is the learning of early reading by breaking down sentences into words, words into syllables, syllables into letters or phonemes and then continuing with the synthetic process. The results of the decomposition are returned in the following order, from letters or phonemes in the form of syllables, a combination of syllables into words, and a combination of words into the original sentence. The SAS method is one of the methods that has three important processes by connecting letters into words then the word is analyzed and recombining letters in the original structure. From the opinions of several experts above, it can be concluded that the Synthetic Analytical Structure (SAS) method is a learning method so that students can read sentences globally and analyze sentences into words, words into syllables, syllables into letters and students can synthesize sentences, namely from words into syllables, syllables into words and words into sentences.

3 METHOD

The method used by researchers is a quantitative method with an experimental approach using a pre-experimental design type one group pretest and posttest design (Sugiyono, 2017). In this study, the research subjects were 1st grade students of SDN Meruya Utara 09 Pagi. with a population of 62 students and a sample of 32 students, the sampling technique used was non-probability sampling with purposive sampling.

3.1 *Data Collection*

This study using observation is an activity of observing objects in certain situations to obtain information that researchers want to observe human behavior, work processes and natural phenomena and see if the object observed is not too large, human behavior, work processes and natural phenomena and see if the observed object is not too large. The

interviews are a data collection technique to reveal the problems and potential to be studied. In this study, interviews conducted by researchers were unstructured, namely interviews conducted freely without using systematic and complete interview guidelines, but only the outline of questions to be asked to get in-depth information from respondents. This interview was conducted to the 1st grade homeroom teacher at SDN Meruya Utara 09 Pagi. The test-shaped instrument can be used to measure basic abilities of achievement or achievement. To measure basic abilities, among others, tests to measure IQ, interest tests, special talent tests, and so on. Documentation is used to collect data and then analyzed. The documentation used in this research includes school profiles and learning activities.

3.2 *Instrument*

Research instruments are tools used to measure observed natural or social phenomena. More precisely, all these phenomena are called research variables. This instrument is used as a tool to measure and collect data about a variable (see Table 1).

Table 1. Instrument

Aspect	Indicator	Item
Letter shape introduction	1. Arrange letters into words	1,2
	2. Completing the missing letters	3,4,5
Introduction to linguistic elements	1. Organize words into sentence	6,7,8
	2. Complete the missing sentences	9,10,11,12
Ability to vocalize written material.	1. Read word-for-word in a sentence	13, 14, 15
	2. Write your identity on a piece of paper, then read it out	16
Reading speed to slow level	1. Fluency reading writing	17,18
	2. Speed reading the story	19,20

3.3 *Data Analysis Technique*

Data analysis is an activity after data from all respondents or other data sources are collected. Data analysis techniques in quantitative research use statistics. Analysis is observed by studying all the data obtained from the research conducted to make a core summary. The next step is to compile and check the validity of the data that has been obtained and the final step is to conclude. From the data that was successfully collected, it was then analyzed using SPSS (Statistical Package for the Social Sciences).

4 RESULT AND DISCUSSION

4.1 *Result*

SDN Meruya Utara 09 Pagi is one of the elementary schools committed to improving the early reading ability of grade 1 students. In this context, the use of the SAS (Structural Analytic Synthetic) method in early reading learning is an interesting research focus. The SAS method is a teaching approach that combines elements of structural analysis with a synthetic approach to strengthen students' understanding of language structures. Although the SAS method has been widely used in educational contexts, no research has

specifically explored its effect on grade 1 students' beginning reading ability at SDN Meruya Utara 09 Pagi, especially in the Indonesian language subject. Therefore, this study aims to fill this knowledge gap by investigating the effect of the SAS method on grade 1 students' beginning reading ability at the school.

The research conducted is related to the effect of the SAS method on the ability to read at the early of Indonesian language subjects for 1st grade students at SDN Meruya Utara 09 Pagi. This research at SDN Meruya Utara 09 Pagi This research was conducted starting in August 2023 - October 2023. In this study, the sample used amounted to 32 students from class 1 A. Before conducting the research, the researcher asked and consulted regarding the condition of the students to the principal and the first-grade teacher. Then, it was calculated using the help of SPSS version 25 so that researchers got the results of the validity test where all 20 questions were declared valid and could be given to class I A.

Table 2. Posttest and Pretest Result

Pair 1		Mean	N	Std. Deviation	Std. Error Mean
		Pretest	55.03	32	9.132
	Posttest	87.25	32	7.094	1.254

Based on the results of the paired sample t-test above, there is a significant difference between the results before and after the SAS method is applied. It is known that the sig value. (2-tailed) value of $0.000 < 0.05$, then H_0 is rejected, and H_a is accepted. From the table above, the t-count value is 31.265 and the t-table is 2.039. So, it can be said that $31.265 > 2.039$. It can be interpreted that there is an effect of the SAS method on students' early reading ability.

Table 3. Uji Paired Sample T-test.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pretest Posttest	-32.219	5.829	1.031	-34.321	-30.117	-31.265	31	.000

Based on Table 3 descriptive analysis above, the results of the pretest value in the experimental class obtained a minimum value of 35 and a maximum of 67 with an average obtained of 55.03, while the posttest value of the experimental class obtained a minimum value of 72 and a maximum of 99 with an average obtained of 87.25.

Then the normality test used is the Kolmogorov-Smirnov test with a signification level > 0.05 . The normality test in this study obtained the experimental class pretest value with a sig. of 0.139 and the experimental class posttest with a sig. of 0.062. Because each value has a significance > 0.05 , the data tested is declared normally distributed. While for the homogeneity test using the help of the SPSS version 25 application through Levene's test with a significant level of 0.05. The homogeneity test in this study obtained a significant value of $0.217 > 0.05$ which means that the variance of the results of students'

early reading ability is homogeneous. After conducting the normality test and homogeneity test, the paired sample t-test was calculated. In the paired sample t-test results, there is a significant difference between the results before and after the SAS method is applied. It is known that the sig value. (2-tailed) value of $0.000 < 0.05$, then H_0 is rejected, and H_a is accepted. From the table above, the t-count value is 31.265 and the t-table is 2.039. It can be said that $31.265 > 2.039$. So, it can be interpreted that there is an effect of the SAS method on students' early reading ability. The effect size test was conducted to determine how much influence the SAS method had on students' early reading ability. The value obtained is 5.52 which means > 1.00 with the interpretation of the effect which is classified as high. the magnitude of the effect of the SAS method on students' early reading ability.

4.2 Discussion

This study aims to investigate the effect of using the SAS (Structural Analytic Synthetic) method on grade 1 students' beginning reading ability at SDN Meruya Utara 09 Pagi in Indonesian language subjects. The SAS method is a teaching approach that integrates structural analysis with a synthetic approach to strengthen students' understanding of language structures. By focusing on the primary level of education, this study sought to identify the positive impact of the SAS method on students' literacy development in the early stages of learning to read. Through this approach, this study aims to provide a deeper insight into the effectiveness of the SAS method in improving grade 1 students' beginning reading ability. The research methods used include quantitative data collection through tests of beginning reading ability before and after the application of the SAS method, as well as qualitative data collection through observations and interviews with teachers and students. The essence of this research is to provide a deeper understanding of the impact of the SAS method on grade 1 students' beginning reading ability at SDN Meruya Utara 09 Pagi. Most children between the ages of one and five attend preschool, which is designed to support children's learning and development in all aspects. Early childhood teachers are under increasing pressure when many children are communicating. As in research conducted in Sweden, the preschool system has problems because of this. Preschool teachers are tasked with helping children achieve as many goals as possible in school readiness and mastery of language skills such as children's reading skills (Brodin & Renblad, 2020).

This study is expected to contribute to the development of more effective and innovative learning strategies in Indonesian language learning at the basic education level. Reading ability is a fundamental skill that plays an important role in the educational process. At the basic education level, especially grade 1, early reading learning has a significant impact on students' literacy and academic development. Effective teaching methods in early reading learning are essential to help students acquire good reading ability early on. By gaining an in-depth understanding of the effect of the SAS method on beginning reading ability, this study is expected to contribute to the development of more effective learning strategies at the basic education level, particularly

in improving students' literacy and academics. The results of this study are expected to provide guidance for teachers, schools, and related parties in improving existing approaches to learning beginning reading. Research conducted in Finland can be used as a reference in developing children's reading skills in Indonesia. Key early predictors of decoding and reading fluency among Finnish children have been repeatedly reported to include letter knowledge, phonological awareness, and rapid naming (Torppa et al., 2015). However, research in transparent orthographies such as Finnish, shows that the relationship between phonological awareness and reading fluency becomes weaker after the 1st or 2nd grade of elementary school whereas in less transparent orthographies, the relationship remains strong (Torppa et al., 2015).

Students' difficulties in early reading are that students have difficulty identifying letters and assembling letter arrangements, changing words, eliminating letters in word arrangements, stammering, paying less attention to punctuation and not understanding the content of reading. One of the things that teachers can do to improve students' early reading ability is learning by playing and applying interesting learning methods. Early reading ability must be developed properly and correctly by using the right method. One of the methods that can be used in learning early reading is the SAS (Structural Analytic Synthetic) method. Rapid initial letter recognition or reading in kindergarten is a strong predictor of reading fluency (Georgiou et al., 2008), and in transparent orthographies, it is one of the strongest predictors of existing reading skills in the early grades (Puolakano et al., 2007). This happens because the grapheme-phoneme correspondence is almost perfect, thus contributing to rapid reading mastery (Aro, 2017). More than 95% of Finnish children become accurate code readers after several months of reading instruction in Grade 1. Therefore, stimulating reading skills through various methods such as SAS is important. While Finnish children on average become relatively fluent readers in their early school years, listening comprehension skills, not decoding accuracy, explain the greater individual differences in reading understanding in elementary grades (Eklund et al., 2018). Subsequent research showed that vocabulary size is also a reliable predictor of reading comprehension (Manolitsis et al., 2011). Weak vocabulary knowledge can be an obstacle, especially when reading comprehension requires understanding complex words to make inferences (Cain, 2016).

Early reading ability are an important foundation for children's literacy development. If the SAS method proves to be effective, this means that children will be faster and better at understanding the basics of reading, such as letter recognition, word recognition and early text comprehension. This will provide a stronger base for their future reading and writing ability. Data analysis was conducted to evaluate differences in beginning reading ability before and after the use of the SAS method, as well as to understand the perceptions and experiences of teachers and students related to the use of this method. Data interpretation is carried out to explain in more detail the formulation of research problems. This research was conducted at SDN Meruya Utara 09 Pagi with a total of 32 students in class IA. The learning used in class IA is using the SAS method. This research was conducted for 1 month with 2 lessons each. This study was conducted to determine

whether there was an effect of the SAS method on the ability to read at the beginning of Indonesian language subjects of 1st grade students at SDN Meruya Utara 09 Pagi.

Most children between the ages of one and five attend preschool, which is designed to support children's learning and development in all aspects. Early childhood teachers are under increasing pressure when many children are communicating. The preschool system has problems because of this. Preschool teachers are tasked with helping children achieve as many goals as possible in school readiness and mastery of language skills such as children's reading skills. The greater individual variation in reading comprehension in elementary grades is explained by listening comprehension ability rather than decoding accuracy because Finnish students often become highly competent readers early in their school years (Eklund et al., 2018). Subsequent research revealed that reading comprehension can also be accurately predicted based on vocabulary size (Manolitsis et al., 2011). Lack of vocabulary can be a barrier, especially when reading comprehension requires understanding complex terms to infer (Cain, 2016). The implementation of the SAS technique in class I Indonesian language acquisition has a beneficial effect, according to the conclusions that can be taken from the students' early reading abilities using the approach. The SAS approach is a way to start reading at a young age that starts with full sentences, which are broken down into words, syllables, and letters that stand alone, and then reassembles them in the order of letters into words, words into sentences, and so on. When using the SAS methodology in the learning process, students' early reading proficiency has a significant impact. The difference between the pretest value of 55.03 and the posttest values of 87.25 indicates the extent of this impact.

5 CONCLUSION

The conclusions that can be drawn from the students' early reading ability with the Sas method are the use of the SAS method in Indonesian language learning in class I has a positive effect. The SAS method is a method of learning to read early that begins with the presentation of whole sentences which are then decomposed into words to become syllables and letters that stand alone and recombine them starting from letters into words, words into whole sentences. Students' early reading ability when applying the SAS method in learning experience a very large influence. The magnitude of this influence can be seen from the posttest results of 87.25 compared to the pretest value of 55.03.

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