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Relationship Between Cognitive Linguistic Abilities And Syntaxic Abilities Of Early Childhood In Surakarta

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ABSTRACT
Early childhood is a golden period of physical, emotional, social and intellectual growth and development. During this period, optimal stimulation is required so that children's potential can develop and flourish to the full. Early childhood development focuses on cognitive and physical-motor aspects. Cognitive linguistics is concerned with how humans think when they speak, and how they speak when they think about something. Syntaxic studies the organization and relationship between words and words, or between words and larger units, or between larger units in language. Syntaxic ability is problematic because linguistic cognitive ability is problematic. Indeed, syntaxic and cognitive linguistic ability are linked to the way human beings process language. The impact of a syntaxic ability problem is the construction of incoherent, ungrammatical and inefficient sentences. The aim of this study is to determine the relationship between linguistic cognitive ability and syntaxic ability. This research method is cross sectional study. The sample for this study consisted of 59 early childhood. Data analysis was carried out using the Spearman Rank method. The results of the analysis obtained a significant value (p-value) of 0.000. The significant value of the test is less than 0.05 (0.000 < 0.05), which means that there is a significant relationship between linguistic cognitive ability and syntaxic ability of early childhood in Surakarta

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INTRODUCTION

Cognitive linguistics is concerned with how humans think when they speak, and how they speak when they think about a subject. Cognitive linguistics is part of the discipline of language, which studies meaning from different angles and applies to multiple domains, in particular to communication between one person and another. Language and thought cannot be separated, but become a harmonious whole, because when we think about a subject, we discuss it (Rao, 2021).

Language can be observed or studied from many different angles. This has given rise to the various branches of linguistics. Phonology, morphology, syntaxic, semantics and pragmatics are all branches of linguistics (Kholillullah & Hamdan, 2020). Syntaxic studies the

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arrangement and relationships between words and words, or between words and larger units, or between these larger units in language (Ngurah & Susandhika, 2016). More clearly, syntaxic deals with the rules or grammar of word arrangement and relationship in the formation of expressions, clauses and sentences. Syntaxic is classified as grammar or grammatical (Volkmer et al., 2020).

Early childhood is a golden period of physical, emotional, social and intellectual growth and development. During this period, optimal stimulation is required to ensure that children's potential can develop and flourish to the full (Pratomo et al., 2018). Early childhood development focuses on cognitive and physical motor aspects (Sari, 2021). The prevalence of cognitive development in early childhood leads to the following conclusions: Firstly, the percentage of children's cognitive abilities individually in the “development in line with expectations” category (24%), in the “development in line with expectations” category (5%), in the “early development” category (43%) and in the “no development” category (28%). Secondly, the percentage of children's classic completeness value is 28% (Nur et al., 2020).

In previous research, Islamiati & Sudrajad, (2023) examined the relationship between syntaxic ability and reading comprehension in Surakarta. In the research, the results are known to be syntaxic ability with reading comprehension there is a strong relationship. Rao, (2021) has also studied the relationship between early childhood linguistic and non-linguistic cognitive abilities in bilingual schools. the result of the relationship between bilingual children's linguistic ability and non-linguistic ability is that there is a relationship between the two variables. There are therefore differences in the independent variables used by the researchers. The purpose of this research is also included in Islamiati & Sudrajad's recommendation. The aim of this study is therefore to determine the relationship between linguistic cognitive ability and syntactic ability in early childhood in Surakarta.

METHODS

Quantitative research is a type of research that produces results that can be obtained using statistical procedures or other means of quantification (measurement). This research was conducted using a cross sectional design. Cross sectional is a study to study the correlation between risk factors by approaching or collecting data at one time only.This population consists of all early childhood in Surakarta. The sample in this study was 59 early childhood. The sampling technique used in this study is purposive sampling. Purposive sampling is sampling using certain considerations in accordance with desired criteria to determine the number of samples to be studied (Obilor, 2023). For sampling, the researchers used Slovin's formula, which determines the size of the sample considered representative of the whole population (Santosa, 2023).

The instrument used in this study is a test. The Cognitive Linguistic Evaluation test consists of four parts: orientation awareness, memory, auditory processing and problem solving (Karnita & Sumarni, 2021). The questionnaire comprises 20 statements with an incorrect score of zero (0) and a correct score of one (1). Each section was scored by answering 5 questions, with each question worth one point. The second test used was the NSST adapted by Rozella J. Sutadisastra. The researcher used receptive items composed of

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20 items, 1 item of which contained 2 sentences. The researcher mentions the sentences provided and asks the child to point to the images given. If the child's response was correct, a score of 1 was awarded; if it was false, or if the child did not respond, a score of 0 was awarded. Thus, if the child is able to respond correctly to 2 sentences in an item, he or she obtains a score of 2.

Bivariate analysis was used to calculate the frequency and percentage of each variable according to Taufik, (2019) in this study, the variables analyzed were linguistic cognitive ability variables and syntaxic ability variables. The bivariate test used Spearman's rank test, because when testing the normality of the data, one of the variables was not normally distributed. Spearman's rank test is one of many types of correlation test used to determine the degree of closeness of the relationship between two variables on an interval or ratio scale, where this test returns a correlation coefficient value with values between -1, 0 and 1. A value of -1 means there is a perfect negative correlation, 0 means there is no correlation and a value of 1 means there is a perfect positive correlation. The range of correlation coefficients between -1, 0 and 1 leads to the conclusion that the closer the value is to 1 or -1, the closer the relationship, while the closer it is to 0, the weaker the relationship According to (Aditya, 2021).

RESULTS AND DISCUSSION

Result

The aim of this study was to examine the relationship between cognitive linguistic ability and syntaxic ability in early childhood in Surakarta. Data were collected using the Cognitive Language Assessment Test to measure cognitive abilities and the Northwestern Syntaxic Screening Test (NSST) to measure sentence comprehension ability. The data scale used in this study for both variables is a ratio scale.

Table 1. Descriptive Analisys

Variable	Frequency	Percent
Male	32	54.2
Female	27	45.8
Total	59	100
5 years old	33	55.9
6 years old	26	44.1
Total	59	100

*) Source : Primary data

For the description of the frequency distribution of respondent characteristics by gender, the results for male respondents are predominantly male, namely 32 children (54.2%), while female respondents are 27 children (45.8%). As for the description of respondent characteristics by age, the oldest respondents were 5 years old, with 33 children (55.9%), while 6-year-old respondents were 26 children (44.1%).

For the description of the frequency distribution of respondents' characteristics according to the Northwestern Syntaxic Screening Test (NSST) score, the results of the syntaxic comprehension ability of 59 children (100%) of the respondents were obtained,

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namely respondents who scored 38 as many as 3 children (5.1%), 37 as many as 6 children (10.2%), 36 as many as 26 children (10.2%), 35 as many as 7 children (11. 9%), 34 as many as 6 children (10.2%), 33 as many as 6 children (10.2%), 32 as many as 5 children (8.5%), 31 as many as 4 children (6.8%), 30 as many as 4 children (6.8%), 29 as many as 4 children (6.8%), 28 as many as 5 children (8.5%), 27 as many as 3 children (5.1%) with a maximum NSST score of 38, a minimum score of 27, a mean of 32.88, a median value of 33.00 and a standard deviation of 1940.

Table 2. Descriptive Analisys Variable

Variable	Score	Frequency	Percent
NSST			
	27	3	5.1
	28	5	8.5
	29	4	6.8
	30	4	6.8
	31	4	6.8
	32	5	8.5
	33	6	10.2
	34	6	10.2
	35	7	11.9
	36	6	10.2
	37	6	10.2
	38	3	5.1
Cognitive Linguistic			
	13	1	1.7
	15	6	10.2
	16	22	37.3
	17	14	23.7
	18	8	13.6
	19	6	10.2
	20	2	3.4
	Total	59	100

*) Source : Primary data

For the description of the frequency distribution of respondent characteristics by linguistic cognitive score, the cognitive ability scores of 59 children (100%) of the respondents were respondents who scored 20 as many as 2 children (3.4%), 19 as many as 6 children (10. 2%), 18 as many as 8 children (13.6%), 17 as many as 14 children (23.7%), 16 as many as 22 children (37.3%), 15 as many as 6 children (10.2%), 13 as many as one child (1.7%) with a maximum linguistic cognitive score of 20, a minimum score of 13, a mean of 16.80, a median value of 17.00 with a standard deviation of 991.

According to the results of the normality test, the significance of Cognitive Linguistic $\rho = 0.011 < 0.05$ and the significance of NSST $\rho = 0.408 < 0.05$, indicate that the data are not normally distributed.

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Table 3. Coefficients

Variable	Statistic	df	Sig.
NSST	.116	59	.408
Cognitive Linguistic	.210	59	.011

*) Source : Primary data

On this basis, the hypothesis test to determine the relationship between the variables is the Spearman-Rank test and obtained a p-value = 0.000 < 0.05 with r of 0.913, Ha is therefore accepted Amin et al., (2023), meaning that there is a relationship between cognitive linguistics and syntaxic ability in early childhood in Surakarta. The test value of the correlation coefficient (r) shows a number of 0.913, meaning that the strength of the relationship between cognitive linguistics and syntaxic ability is included in the very strong category.

Table 4. Spearman Rank

Variable	Coeff.	N	Sig.
NSST	1.000	59	.000
Cognitive Linguistic	.913	59	.000

*) Source : Primary data

Disscussion

In Karnita & Sumarni (2021) research, oral sentence comprehension is one aspect of the relationship between cognitive linguistics and linguistics. In the process of listening to a sentence, children must immediately understand a brief acoustic signal that quickly disappears. This requires children to activate and maintain linguistic knowledge structures that simultaneously integrate incoming information with what has already been heard.

Language is the system a person uses to communicate with others. It includes how words are created and put together, what those words mean, and how language is applied in various social situations. According to Luthfiyah, (2021) there are two important aspects to language development, namely receptive language and expressive language, which are at the level of speaking and listening. Receptive language involves listening, and expressive language involves speaking. These two words are probably the shortest and most commonly used definitions to explain expressive and receptive language. Although these are two key elements of language, they are not the whole story. There are several aspects to language acquisition and development in children, one of which is syntaxic. Syntaxic refers to the grammatical rules of a language is how words are combined to form grammatically correct phrases and sentences (Nisa, 2022).

Syntaxic skills are necessary for children to understand and form correct and appropriate sentences so that communication between children and those around them can run smoothly. The syntaxic aspect in spoken receptive language is the ability to understand and identify syntaxic structures appropriately when listening to interlocutors. When speaking, syntaxic aspects enable speakers to use sentences in the right order according to contextual meaning. Surianti, (2020) also stated that early childhood's know a lot of vocabulary, but don't yet have knowledge of the right patterns and grammar, so the child's interrogative,

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imperative, declarative and interjection sentences are still incomplete, as is the use of subjects, predicates and objects.

Early childhood is very important for children's development in a variety of ways, particularly cognitive and language development, as cognitive abilities influence children's language outcomes. At this early age, the process of language acquisition and formation, from phonological to pragmatic aspects, occurs very massively or strongly (Wiratno & Santosa, 2014).

Research findings by Nurasia Natsir et al., (2022) also show that cognitive development began in the first years of life and undergoes enormous neural changes between the ages of 3 and 6. For example, memory, particularly short-term memory, is very important for children when understanding sentences, as they need to remember word order and sentence elements when accommodating verbal information orally.

CONCLUSION

Based on the results of research the following conclusions can be drawn: Cognitive language skills in early childhood, it is known that 59 respondents with a maximum score of 20, while the minimum score is 13, with an average of 16.80, median of 17.00 and standard deviation of 991. Syntaxic ability in early childhood based on the results of the Northwestern Syntaxic Screening Test (NSST), it is known that 37 respondents obtained a maximum score of 38, a minimum score of 27, a mean of 32.88, a median of 33.00 and a standard deviation of 1.940. The results of the Spearman-Rank correlation show that the ρ value is 0.000 ($\rho < 0.05$). This means that there is a relationship between linguistic cognition and syntaxic ability in early childhood . The correlation coefficient / r result is 0.913, which means that the strength of the relationship between linguistic cognition and syntaxic ability is included in the category of very strong, positive r values. This shows that as cognitive linguistic ability increases, so does the syntaxic ability of the people surveyed. Suggestions for further research should add other determining factors to produce more informative research.

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