The linkage regarding students' level of linguistic intelligence and their English academic performance

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Abstract

The goal of this study was to determine the relationship between the students' linguistic intelligence and their success in English learning. The researchers engaged with a quantitative analysis employing a correlational method. This study's population comprised of all 218 students enrolled in SMK Negeri 1 Banggai. 69 eighth-grade students were employed as the sample for this study. In this investigation, the questionnaire and the documentation served as the instruments. Principal data analysis techniques were linear and simple regression analysis. According to the research findings, there was a strong correlation between the linguistic intelligence of eighth-grade students at SMK Negeri 1 Banggai and their success in English academic performance. The correlation formula calculation result (0.611) indicates that there is a significant relationship between these two variables. This indicates that variable x (linguistic intelligence) is positively linked with variable y (English academic performance).

Keywords: Linguistic Intelligence, English Learning Achievement

INTRODUCTION

One of the factors that makes students difficult to learn English is intelligence. Multiple definitions of intelligence exist, including the ability for abstraction, logic, comprehension, self-awareness, learning, emotional knowledge, reasoning, planning, creativity, critical thinking, and problem-solving (Ma'mun, 2019; Sismanto, 2016). In a broader sense, it is the capacity to receive or infer information and store it as knowledge for application to adaptive behavior

within a given environment or context. Furthermore, Howard Gardner (1987) claims that there are at least eight different human intelligence. Some of them are linguistic intelligence, logical-mathematical, spatial, bodily-kinesthetic, musical, interpersonal, intrapersonal, and naturalist.[1] Along with this, students should recognize their intelligence, and also teachers must recognize the intelligence possessed by students.

Students' challenges in learning English cannot be distinguished from linguistic intelligence since linguistic intelligence is the capacity to utilize words correctly and appropriately in both spoken and written language (Khan, 2011). Linguistic intelligence encompasses the capacity to comprehend and communicate information received from the surrounding environment (Moh. Alamsyah, 2021). Therefore, linguistic intelligence is directly related to language. The explanation demonstrates the significance of linguistic intelligence. Linguistic intelligence demonstrated a person's ability to give and receive information in a linguistically competent manner, resulting in an efficient communication process.

Linguistic intelligence has a role as one of the factors that influences students' learning achievement. On the other side, several factors of students' learning achievements are external and internal factors. External factors include family, school, and community. While internal factors include physiological and psychological factors, where psychological factors are divided into three namely intelligence, attitude, and motivation.

The factors that influence students' learning achievement above also happened in SMK Negeri 1 Banggai. Based on the observation and interview with one of the English teachers in this school in early 2022, the researchers found some problems related to students learning English.

English instruction at SMK Negeri 1 Banggai had factors that influence the learning achievement of its students. Those are internal and external factor (Mahmoudi, 2015). Internal factor is students' lack of self-motivation which can be seen when in the learning process some students lack spirit in expressing opinions with the reason of being shy, fear making mistakes which mostly happened to male students, and lack vocabulary (C Wulandari, MW Surtikanti, Agung, 2020). It was only 10% of students are highly encouraged in learning English, while the rest are lazy to make their assignments. Also when the teacher is explaining material in the

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[1]Thomas Amstrong, *Multiple Intelligences in The Classroom*, (3rd Edition: Alexandria, ASCD Member Book, 2009), p. 5

learning process, some students are still playing with their friends. Besides, many students have a bad perception of English learning. In addition, there are also external factors that include family and environment (Ramli et al., 2018).

Therefore, teachers must know the factors that influence students' learning achievement in order to improve the quality of learning. The teachers can improve the learning process with new concepts and insight along with the era of science and technology which is suitable for students. One of the things that need attention from teachers is the level of students' intelligence. Thus, teachers and students must cooperate to overcome the problems in the learning process from the perspective of linguistic intelligence correlation in English academic performance of the students.

METHODS

This research used quantitative type correlation and then used the ex-post facto method to find out the correlation of both variables (Sugiyono, 2014). The population of this research was all students in SMK Negeri 1 Banggai, then a random sampling technique was employed to take the sample and to determine the sample size using *Slovin* formula (2012, 2017; Hidayat, 2017). So, the sample in this research was 69 students of SMK Negeri 1 Banggai.

The researchers used a questionnaire to collect data from variable x and documentation from variable y. The questionnaire provided information about the thoughts, feelings, attitudes, beliefs, values, perceptions, personality, and behavioral intentions of the research participant. In other words, the researchers attempted to elaborate students' linguistic intelligence from the questionnaire, and students' learning achievement in learning English from the documentation.

Hypothesis are answers or conjectures that must be tested for the truth. To test the hypothesis whether there is a correlation between linguistic intelligence and learning achievement, the researchers tested it using regression analysis and correlation analysis.

a. Regression Analysis

Regression analysis aims to predict correlations between variables. This correlation analysis is done by using SPSS 16.0 for Windows program with the statistical analysis of formula:

$$Y = a + bX$$

ket :

Y = Dependent Variable

X = Independent Variable

a = constants

b= regression coefficient

b. Correlation Analysis

Simple correlation analysis (Bivariate Correlation) was used to determine the closeness of the correlation between two variables and to know the direction of the correlation that occurred. The simple correlation coefficient shows how big the correlation is between two variables. This correlation analysis was done using SPSS 16.0 For Windows program 16.0.

RESULTS AND DISCUSSION

Results

a. Regression Analysis

To test the hypothesis whether or not there is correlation between linguistic intelligence and learning achievement, the researchers conducted a regression analysis which was assisted by *SPSS for Windows 16.0* that aims to predict the correlation between variables. Since there are variable X and Y then researchers used linear regression. The results of data analysis can be seen in the following table:

Correlations

		LEARNING_ACHIEVEMENT	LINGUISTIC_INTELLIGENCE
Pearson Correlation	LEARNING_ACHIEVEMENT	1.000	.611
	LINGUISTIC_INTELLIGENCE	.611	1.000
Sig. (1-tailed)	LEARNING_ACHIEVEMENT	.	.000
	LINGUISTIC_INTELLIGENCE	.000	.
N	LEARNING_ACHIEVEMENT	69	69
	LINGUISTIC_INTELLIGENCE	69	69

The table above shows that the value of significant correlation between students' linguistic intelligence and learning achievement is 0.000., then if the value of the

significant < 0.05 = 0,000 < 0.005 it means that there is a correlation between linguistic intelligence and English learning achievement.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.611^a	.373	.363	4.68363

a. Predictors: (Constant), LINGUISTIC_INTELLIGENCE

b. Dependent Variable: LEARNING_ACHIEVEMENT

The table above indicates that R Square is 0.373, it mean that the influence of linguistic intelligence to learning achievement in learning English is 0,373 meanwhile 0,627 is influenced by other factors.

The examination of significance with the comparison F_{count} with F_{table} formulates:

$$F_{count} = \frac{RJK_{Reg} \ (b|a)}{RJK_{Res}} = \frac{873,3327489}{21,9364137} = 39,8120112$$

The rule of interpretation decision

If $F_{count} \geq F_{tabel,}$ Then Ho failed its mean significance

If $F_{count} < F_{tabel,}$ Then Ho received its mean there is no significance

$$F_{tabel,} = F \left\{ (1\text{-}\propto) \ (dk_{Reg} \ (b|a) = 1), \ (dk_{Res} = 69 - 2 = 67) \right\}$$

$$= F \left\{ (1 - 0,05) \ (1,67) \right\} = 3,98$$

numeral 1 = numerator

numeral 67 = dennominator

$$= F \left\{ (0,95) \ (1,67) \right\}$$

$$F_{count} = 39,8120112 \geq 3,98$$

With that result, the value of $F_{count} > F_{tabel}$ or $39,8120112 \geq 3,98$ then H_0 is rejected and H_1 accepted. Because the value of $F_{count} > F_{tabel}$ or $39,8120112 \geq 3,98$, this means that there is significance between linguistic intelligence and learning achievement.

b. **Correlation Analysis**

Correlation analysis aims to predict the strength of the correlation between variables. Correlation analysis using Pearson method was in significance of 5% = 0.05. If the result of significance <0.05 then there is correlation between linguistic

intelligence and learning achievement. The results of correlation analysis can be seen in the table as follows:

Correlations

		LINGUISTIC_INTELLIGENCE	LEARNING_ACHIEVEMENT
LINGUISTIC_INTELLIGENCE	Pearson Correlation	1	.611**
	Sig. (2-tailed)		.000
	N	69	69
LEARNING_ACHIEVEMENT	Pearson Correlation	.611**	1
	Sig. (2-tailed)	.000	
	N	69	69

**. Correlation is significant at the 0.01 level (2-tailed).

From the table above, the significance of linguistic intelligence and learning achievement is 0.000. This means $0.000 < 0.05$ and it can be concluded that there is significance correlation between linguistic intelligence and English learning achievement. In addition, from the result of the analysis, the correlation between linguistic intelligence and English learning achievement was 0.611**.

Furthermore, the total value was analyzed by using the formula Analysis correlation as follow:

$$r = \frac{(n.\sum XY - \sum X . \sum Y}{\sqrt{(n.\sum x^2 - (\sum x)^2 (n .\sum Y^2 - (\sum Y)^2)}}$$

$$= \frac{((69 .362 .072) - (4936).(4999))}{\sqrt{(69 .375.914 - (4936)^2 (169.364517 - (4999)^2)}}$$

$$= \frac{24 . 938 . 037 - 24 . 675.064}{\sqrt{(25 . 938 . 066 - 24 . 364 . 096)(25 . 151 . 673 - 24 . 990 . 001)}}$$

$$= \frac{307.973}{\sqrt{254.466.877.840}}$$

$$= \frac{307.973}{504.447,1}$$

$$= 0,61051 = 0,611$$

The Criteria correlation assessment as follows:

Table Criteria of correlation assessment

Coefficient Interval	Degree of Correlation
0.00 – 0.199	Very low
0.20 – 0. 399	Low
0.40 – 0. 599	Medium
0.60 – 0.799	Strong
0.80 – 1.000	Very strong

This shows strong correlation between linguistic intelligence and English learning achievement while the direction of the correlation is positive. In other words, the higher linguistic intelligence is, the more English learning achievement has increased (Khadka 2010).

This research is included in correlational research which involves data collection action that aims to determine whether there is correlation and correlation level of linguistic intelligence variable and English learning achievement. To find out that, the researchers used linear regression analysis to predict the correlation between linguistic intelligence variable with learning achievement. The results obtained showed that the score of the significance of linguistic intelligence and learning achievement is 0.000 meaning 0.000 <0.05. It can be concluded that there is a correlation between the variables of linguistic intelligence and learning achievement. R Square is 0.373 which means the influence of linguistic intelligence to learning achievement in learning English is 0,373 while 0,627 is influenced by others.

Furthermore, to see the strength of the correlation between variables, the correlation analysis with the Pearson method was performed and resulted in 5% = 0.05. Criteria if the results of significance are <0.05 then there is a correlation between linguistic intelligence with learning achievement. The table shows that the significance of linguistic intelligence and learning achievement is 0.000. This means 0.000< 0.05 and it can be concluded that there is a significant correlation between linguistic intelligence and English learning achievement. In addition, from the result of correlation analysis, the obtained correlation between linguistic intelligence and English learning achievement was 0.611**. This shows the strong correlation between linguistic intelligence and English learning achievement, while the direction of the correlation is positive. It means high linguistic intelligence increase achievement in learning English.

Based on the explanation above, the result of the correlation accepts the hypothesis that there is correlation between students' linguistic intelligence and students' English learning achievement in SMK Negeri 1 Banggai (H_1).

Discussion

The average scores on linguistic intelligence and English academic performance, as well as the linkage between them, demonstrated that there is no doubt about the influence of linguistic intelligence on the language performance or accomplishments of students. However, it is possible that other characteristics, such as the students' personal and familial histories, contribute to disparities in language ability. However, sufficient evidence suggests that linguistic intelligence is primarily responsible for foreign language ability.

According to several researches, the outcomes obtained are impacted by internal variables, namely: 1) Descendants (Jovanović et al., 2021). When considered from the perspective of the students' family histories, the majority of students come from rich homes (only 10% of students originated from disadvantaged families, as determined by the quota poor line). 2) bodily in general. Being self-employed enables parents of students who are predominantly public servants and entrepreneurs to survive on food and nutrition alone. Students' physical development and health are supported by the nourishment they get. 3) The emotional environment of the individual's upbringing influences the development of the individual's mind. 4) Socioeconomic backdrop history. It relates to family income, employment age, and further socioeconomic characteristics (Mahmoudi, 2015).

External features such as favorable school environment, a pleasant learning environment, a beautiful garden area with a decorated fish pond, and a cool school climate help pupils feel at home in school and engage in learning activities (Sun et al., 2018). A school environment that is never devoid of school program activities.

CONCLUSIONS

Based on the results of the research, it can be concluded that there is a significant correlation between linguistic intelligence with learning achievement in learning English in school SMK Negeri 1 Banggai. This statement is supported by the results of the analysis that shows the value significance shows that linguistic intelligence and learning achievement 0.000 from the result of 0.000 <0.05. It can be concluded that there is a significant correlation. R

Square is 0.373 and it means that the influence of linguistic intelligence to learning achievement in learning English is 0,373 meanwhile 0,627 is influenced by others.

The correlation between linguistic intelligence and learning achievement is closely related to the correlation analysis using the Pearson method with 5% = 0.05 significance to see the strength of linguistic intelligence and learning achievement. The result of the significant correlation analysis between linguistic intelligence and learning achievement is 0.000. If the significance of the result <0.05 then there is a correlation between linguistic intelligence with learning achievement, and if the score is negative then there is an opposite correlation. Correlation analysis results show that 0.000 <0.05. Therefore, H_0 is rejected and H_1 accepted (there is a correlation between linguistic intelligence and English learning achievement at SMK Negeri 1 Banggai. Then the result of correlation analysis also obtained a correlation between linguistic intelligence and English learning achievement which is 0.611**. This shows the strong correlation between linguistic intelligence and English learning achievement while the direction of the correlation is positive. It means, higher linguistic intelligence increases learning achievement in learning English.

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