

Correlation between students' L1 frequency use and their L2 speaking ability scores

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Abstract

The purpose of this study was to find out the correlation between students' L1 frequency use and their L2 speaking ability scores in speaking class. The researcher took a class of 3th semester students of English department at IAIN Palangka Raya of 2016/2017 year. The researcher used correlation design with quantitative approach. For the instrument, the researcher used questionnaire and students' speaking test. The researcher used inter-rater reliability to measure the reliable of the test instrument with the speaking lecturer as the second rater. In measuring the correlation, the researcher took a theory of Pearson Product Moment which calculated by SPSS program. The finding of this research showed the result of r calculation for students' L1 frequency use and their speaking test is -.220. Based on the table of interpretation of r value, the result of r calculated (-.220). This value shows that there is a negative correlation. From the significance (2 tailed), researcher get the score .301. It means $r > 0.05$ which showed H_0 cannot be rejected. The result explained that there is no correlation between two variables, students' L1 frequency use and their L2 speaking ability scores of 3th semester students of English Department at IAIN Palangka Raya.

Keywords: L1, L1 frequency use, L2, speaking ability

INTRODUCTION

Mother-tongue or L1 is the first language acquired by a child and it is successfully used for communication at that level. It is not the language of a child's mother as wrongly defined by some people. Mother in this context probably originated from the definition of mother as a source, or origin; as in mother-country or land. It also describes as a first language (also native

language, mother-tongue, arterial language, or L1) is the language a human being learns from birth. A person's first language is a basis for sociolinguistic identity. Language as a human institution presupposes communication. Individuals who are mute or deaf must learn how to speak by using sign language. One characteristic of language is finding names for objects and persons within the child's reach, so it is possible for a child to grasp, repeat and understand the world.

Mother tongue is an amazing process consider a child's as founding progress from crying, gurgling, cooing, babbling, uttering single word and two words utterances to speaking complete and well-formed sentences in a matter of three to four years (Goh, C. M, Cristine & Rita Elaine Silver, 2004:13). One's L1 makes it possible for a child to take part in the knowledge of the social work. Another impact of the L1 frequency use is that it brings about the reflection and learning of successful social patterns of acting and speaking. It is basically responsible for differentiating the linguistic competence of acting, but there are also many people who prefer to speak and communicate in their second language because their L1 might be very limited and does not provide a large number of words or expressions. Some cases show that students feel difficult to pronounce and express the words in English because the different of pronunciation between English as L2 and their L1. It could be one of reason that makes them get trouble to increase their speaking ability. However, speaking ability will play a large part in the overall competence (Purwatiningsih, 2015:59), and a large percentage of the world's language learners study English in order to develop proficiency in speaking (Richards & Renandya as cited in Rochmahwati, 2013)

The statement of the problem was formulated to clarify the problem that was going to be analyzed, as follow; Is there any significant correlation between students' L1 frequency use and their L2 speaking ability scores at IAIN Palangka Raya in academic year 2016/2017. Then, the objective of the study was stated as follow; To find out whether there is significant correlation between students' L1 frequency use and their L2 speaking ability scores at IAIN Palangka Raya in academic year 2016/2017.

METHOD

This research was quantitative approach. Aliaga and Gunderson (2014) based on Daniel Mujis's book, describe that "quantitative research is explaining phenomena by collecting numerical data that are analysed using mathematically based methods (in particular statistics). The type of this

research was correlational research design. Correlational research is one of descriptive research designs use to measure the relationship between two or more continuous variables.

A scatter plot illustrates the direction of the relationship between the variables. A scatter plot with dots going from lower left to upper right indicates a positive correlation (as variable x goes up, variable y also goes up). One with dots going from upper left to lower right indicates a negative correlation (as variable x goes up, variable y goes down). Scatter plot of z scores also reveals the strength of the relationship between variables.

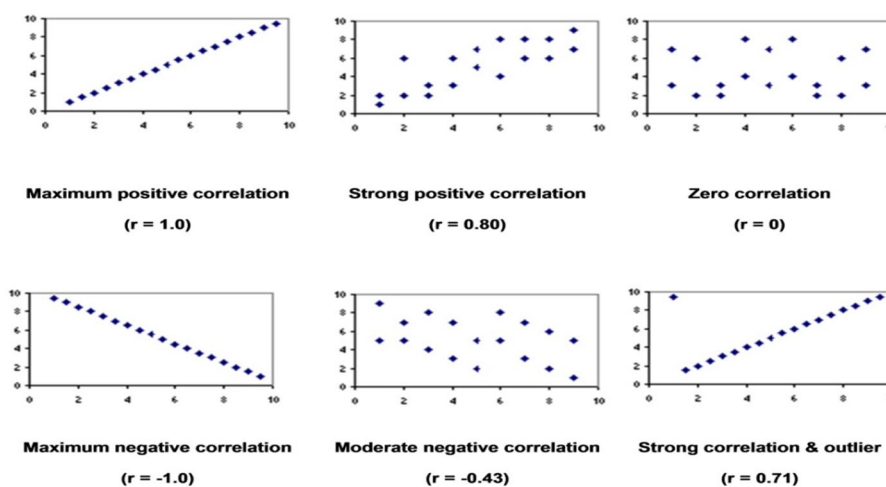


Figure 1. The Scatter Plots Category (Donald Ary et al. 2010: 132)

Arikunto (1997) states that,

if the plots draw a straight line from an angle, it showed positive correlation between variables. If the plots draw a straight line from the right bottom side to the left corner up, it showed negative correlation between variables. Meanwhile, if the data spread irregularly, its mean the data did not have correlation.

The population of this research was all of third semester students of English study program of IAIN Palangka Raya, there were 74 students. The researcher used the cluster sampling technique. The researcher was only took one class to be a sample class. The result was Class B which have been taken as sample class, and class C have been taken as try out class.

Table 1. Students of Speaking Class (IAIN P. Raya)

	Class	Male	Female	Total
Other	A	7	15	22
Sample	B	10	15	25
Try out	C	6	21	27
	Total			74

To get the needed data researcher was used some instruments, such as questionnaire, test, and documentation. In this questionnaire, there were 25 questions which adapted from items on perception of students on the effects of L1 frequency use on performance of English by Mele F. Latu (1994). This research used likert scales to measure the correlation between students' L1 frequency use and their L2 speaking ability scores. The questionnaire items related to the students' views on their frequency use of L1 (question number 1-12), and their perceived ability in English affected by their L1 (question number 13-25). Then, researcher gave speaking test to measure students' speaking ability. The researcher made tape-recording with students. This speaking test given to get the score of students' speaking ability. To took students' scores in speaking test, the researcher made a cooperation with the lecturer of speaking class as the second rater. All their responses will tape-recorded and assessed later. The focus of assessment here was on their ability to use language appropriately in a variety of contexts. However, the following sub-skills is among those assess: appropriate language selected (emotive/neutral etc.), appropriateness of tone, grammar, vocabulary, comprehension, fluency, pronunciation and task. For documentation, the data will be collected as follow: 1. The result of the questionnaire about students' L1 frequency use by the third semester students in English study program of IAIN Palangka Raya in academic year 2016/2017, and 2. The result of speaking test.

In data collection procedures, to get the data about students' L1 frequency use and their L2 speaking ability scores by the students of English study program third semester at IAIN Palangka Raya, the researcher given the questionnaire to know how far the students' L1 frequency use and the researcher given speaking test to know the students' L2 speaking ability scores.

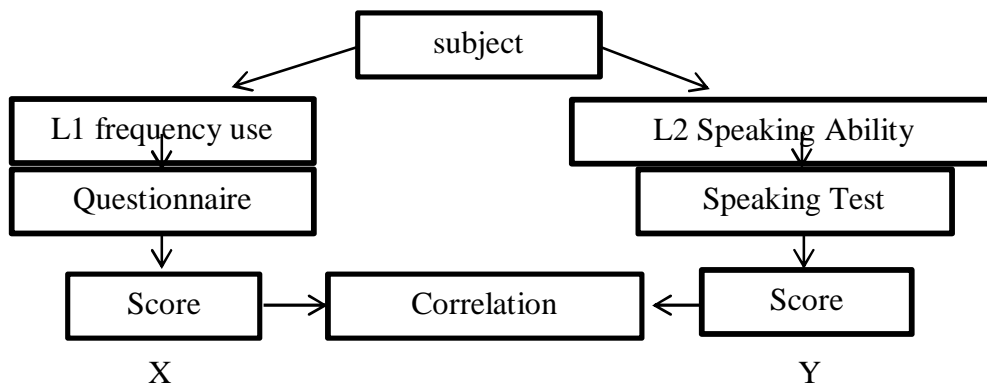


Figure 2. Data Collection Procedures

The collection procedures are:

1. The researcher decided the population and sample of the research. They are the third semester English Department students at IAIN Palangkaraya in academic year 2016/2017 who take speaking class.
2. To measure how far the students use their L1, the researcher use the questionnaire.
3. And then, to measure how far their L2 speaking ability scores, the researcher used speaking test. To take the students' speaking scores, the researcher made cooperation with the lecturer in speaking class.
4. From some data that gotten, the researcher started to sum and make them in numeric data to process more, search the correlation between two variables, students' L1 frequency use and their L2 speaking ability scores based on the questionnaire and their speaking test score using M.S. Excel or SPSS.

To measures the correlation both the two variables, the researcher use Pearson Product Moment formula, as follow: The formula is as follows:

$$r_{xy} = \frac{\Sigma(X - \bar{X})(Y - \bar{Y})}{N S_y S_x}$$

However, to make easy in calculating the data, the writer uses SPSS 16 in processing the data to get the correlation both of the variable. A t-table was applied to answer the research question about the differences on students' L1 frequency use with students' speaking achievement. The researcher determined the table interpretation of product moment scales, as follow:

0,000-0,200	Very low correlation
0,200-0,400	Low
0,400-0,600	Moderate
0,600-0,800	Enough
0,800-1,000	High correlation

After finding the correlation coefficient, it was necessary to find out whether it is significant or not by using *t* formula, as follow:

$$t_{observe} = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

FINDINGS

1. Testing Normality and Homogeinity (Linierity)

a. Testing Normality

In quantitative research, it important to know the normality of the data. An assessment of the normality of data is a prerequisite for many statistical tests because normal data is an underlying assumption in parametric testing.

Table 2. The data of two variables

No.	Participants	L1 frequency use Score	L2 Speaking Ability Score
1.	A	74	45
2.	B	88	61,66667
3.	C	88	70
4.	D	89	75
5.	E	66	65
6.	F	101	68,33333
7.	G	92	48,33333
8.	H	92	70
9.	I	105	60
10.	J	86	85
11.	K	113	65
12.	L	106	60
13.	M	105	55
14.	N	107	73,33333
15.	O	96	80
16.	P	108	48,33333
17.	Q	97	51,66667

18.	R	93	48,33333
19.	S	100	41,66667
20.	T	114	56,66667
21.	U	123	56,66667
22.	V	113	53,33333
23.	W	109	40
24.	X	118	56,66667

From the data above, the researcher found out whether the data is normal or not by using SPSS program. The result can be looked below:

Table 3. Normality testing by One-Sample Kolmogorov-Smirnov Test
One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		24
Normal Parameters ^a	Mean	.0000000
	Std. Deviation	11.77195392
Most Extreme Differences	Absolute	.107
	Positive	.107
	Negative	-.090
Kolmogorov-Smirnov Z		.525
Asymp. Sig. (2-tailed)		.946

a. Test distribution is Normal.

As the table show above, the result of the distribution data is normal. The table of One-Sample Kolmogorov-Smirnov Test was obtained probality number/Asym. Sig.(2-tailed). This percentage will be compared with 0.05 ($\alpha=5\%$) to take the decision based on:

1. The percentage of the significance (Sig.)/probality >0.05 it means the distribution data is normal.
2. The percentage of the significance (Sig.)/probality <0.05 it means the distribution data is not normal.

b. Linierity

From the data above, the rsearcher also found out whether the data is linier or not by using SPSS program. The result can be looked below:

Table 4. One Anova Linierity Testing

			Sum of Squares	Df	Mean Square	F	Sig.
L2 Speaking Ability Scores * L1 Frequency Use	Between Groups	(Combined)	2982.958	19	156.998	1.711	.322
		Linearity	162.644	1	162.644	1.773	.254
		Deviation from Linearity	2820.315	18	156.684	1.708	.323
	Within Groups		367.000	4	91.750		
	Total		3349.958	23			

As the table show above, the result of the distribution data is linier. The table of Anova was showed significance = 0,323 > 0,05, it means that based on the significance score between two variables is linier. Based on the F score, the researcher found $F_h=1.708$ with df 18.4, it means that $F_t= 5,82$ (From F 0,05 table distribution). Because $F_h < F_t$, the researcher conluded that there is linier relationship between variable L1 Frequency Use (X) and variable L2 Speaking Ability Scores (Y)

2. Testing Hypothesis

a. Students' L1 Frequency Use

The result shown the means of students' L1 frequency use (X)= 99,29 , (s= 13,67)

Table 5. Percentage frequency of students' L1 Frequency Use

Level	Class Boundaries	Frequency	Percentage
A	66-77	2	8,3%
B	78-89	4	16,67%
C	90-101	7	29,17%
D	102-113	8	33,3%
E	114-125	3	12,5%
TOTAL		24	99,9%

The data showed that the percentage of level A (students who got very low L1 frequency use) there are 8,3%, level B (low L1 frequency use) 16,67%, level C (enough) 29,17%, level D (high L1 frequency use) 33,3%, and level E (very high L1 frequency use) 12,5%.

b. Students' L2 speaking test

By the result, the researcher got the mean score and standard deviation. From all participants (N=24) the result shown the means score of speaking test (\bar{X})= 59,79, (s= 11,96).

Table 6. Percentage frequency of L2 speaking test

Level	Class Boundaries	Frequency	Percentage
A	40-49	6	25%
B	50-59	6	25%
C	60-69	6	25%
D	70-79	4	16,6%
E	80-89	2	8,3%
TOTAL		24	99,9%

The data showed that the students who got very low score (level A) and low score (level B) had a high frequency with same percentage 25%, enough score (level C) and high score (level D) 20,8%, and very high score (level E) with percentage 8,3%.

c. The relationship between L1 frequency use and L2 speaking ability scores

This is the result of correlation between students' L1 frequency use and their L2 speaking ability score.

Table 7. Analysis result of Pearson Product Moment

		L1 Frequency Use	L2 Speaking Ability Scores
L1 Frequency Use	Pearson Correlation	1	-.220
	Sig. (2-tailed)		.301
	N	24	24
L2 Speaking Ability Scores	Pearson Correlation	-.220	1
	Sig. (2-tailed)	.301	
	N	24	24

The table above showed the correlation coefficient equaled $r = -.220$, which indicated there was negative correlation between two variables.

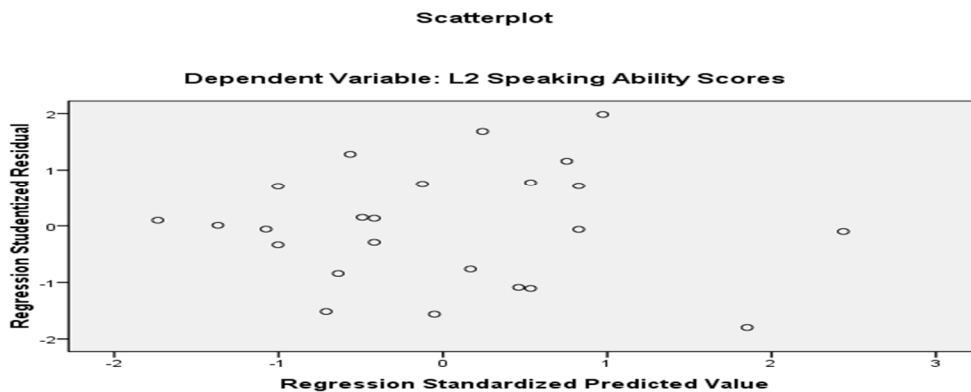


Figure 3. Scatterplot Dependent Variable: L2 Speaking Ability Scores

The scatterplot showed that the plots draw a straight line from the right bottom side to the left corner up, it showed low negative correlation between variables. It means that the higher students' L1 frequency use the lower their L2 speaking ability scores. Whereas, for the number significance (Sign)=.301 will be used to know which hypothesis will be accepted or rejected.

3. Interpretation of the Result

To know the answer, the researcher used SPSS hypothesis testing based on the N.Sig (number of significance) and t test. As the result of correlation above (table), we get $r=-.220$, N.Sig=.301. Before the writer concluded the answer, these were the theories of hypothesis based on SPSS calculation:

1. Based on the N.Sig (number of significance)
 - a. H_0 accepted if N.Sig < 0.05 ($\alpha=5\%$)
 - b. H_a rejected if N.Sig > 0.05 ($\alpha=5\%$)
2. Based on t test theory
 - a. H_a accepted if $t_{\text{observe}} > t_{\text{table}}$
 - b. H_a rejected if $t_{\text{observe}} < t_{\text{table}}$

The result of analyzing the data significance 0.301 (Level of Significance 0.05 and 2 Tailed) clarified H_a rejected. The hypothesis testing concluded that N.Sig > 0,05 ($\alpha=5\%$), where H_0 cannot be rejected. It told that both students' L1 frequency use and their L2 score in speaking class are not correlated. The null hypothesis which said, "There is no significant correlation between students' L1 frequency use and their L2 speaking ability scores", answered the research problem.

The analysis has been accomplished in order to answer the research problems. From the analysis, the researcher got the result as follow;

1. The number of participants used in this study was 24.
2. The most students (25%) in very low level of speaking test and (25%) in low level of speaking.
3. The highest number of students' L1 frequency use (12,5%) in enough level (29,17%) of L1 frequency use.
4. The result of calculating correlation between students' L1 frequency use and their speaking test was $r=-.220$. Based on scatterplots interpretation the strength of correlation is negative low correlation.
5. From SPSS calculation the writer get $N.Sig = .301$, where $significance > 0.05$.
6. The hypothesis accepted was the null hypothesis (H_0).

By the results, it can be concluded that there was negative correlation both two variables in very low correlation. But the hypothesis testing showed there was no correlation between two variables, because $N.Sig > 5\%$, so it means H_a rejected and H_0 accepted.

DISCUSSION

In this study, the researcher has conducted the data collecting. The data was collected by using two instruments. The first was a questionnaire sheet that given to all students as participants in this research. They asked to fill the items of statement on the questionnaire. The questionnaire used to know the L1 frequency use. The second instrument used was speaking test. This test was conducted by the researcher and the speaking lecture as second rater in that class. Nevertheless, as the researcher explained before if the students had high L1 frequency use it may be impact or influence in their L2 speaking acquisition or their test. The student can be failed in their test when they have high L1 frequency use.

According to behaviorist theories (including the Contrastive Analysis Hypothesis) For Behaviorists, practice should be based on repetition and memorization so that learners can make habit formations because they believe that the more learners repeat the forms of L2 the better they will learn L2. It means that the habit of use L2 can develop their L2 ability (Chapter II, pg. 15).

Guion et al (Chapter II, pg.15) investigated the interaction of the L1 and L2 systems in bilinguals by assessing the effect of L1 use on L1 and L2 production accuracy. A novel design feature of this study is that it examined bilinguals who used their L1 on a regular basis in a bilingual setting: Otavalo,

Ecuador. Thirty native Quichua speakers who were matched for age of Spanish acquisition were recruited to form three groups differing in self-reported L1 use. The three groups repeated aurally presented sentences from their L1 and L2. Monolingual listeners from each language rated the blocked, randomly presented sentences for degree of foreign accent. For the Spanish sentences, the group with the highest L1 use had stronger Quichua accents than the group with the lowest L1 use. On the other hand, L1 use had no effect on the ratings of the Quichua sentences. Results from an analysis of Korean-English bilinguals are also reported. These results replicate the finding that L1 use affects L2, but not L1 production. These findings indicate that the interaction of the L1 and L2 systems affects the success of L2 acquisition, providing evidence that factors other than neurological maturation influence L2 acquisition.

If we back to the theories and compare to the result that said there was no correlation between students' L1 frequency use and their L2 speaking ability scores, it was in line with the theory that said that L1 use give significant effect in L2 production. By the result of hypothesis testing, it means where high in one so low in the other, or, low in one so high in the other. In term of this research, we can take the conclusion that if students have high level of L1 frequency use, they will get low score in L2 speaking test. And when student have low L1 frequency use they will get high L2 speaking score. However, the correlation showed very negative low correlation of two variables, as the researcher opinion, thought to there was correlation between L1 frequency use and their L2 speaking ability scores.

The researcher assumed there are some reasons why this result (Ho cannot be rejected) can be happened:

1. When the questionnaire distributed to the students, they might be confuse with the statement (because the statement wrote in English). The students could not understand the sentences in the questionnaire, so they did not answer them maximal or became misunderstanding in answering the sentences.
2. Next, because of the time distributing the questionnaire was not directly with the time in speaking testing, it may make the students forgot the feeling when they took the test.

CONCLUSION

After the calculating the data above, it was found out that the result of r calculated is -0.220 . This value showed that there is a negative correlation between students' L1 frequency use and their L2 speaking ability scores. Based

on the table of interpretation of r value, the result of r calculated (-.220). It means that the strength of correlation coefficient between two variables came in very low negative correlation.

The result of analyzing the data significance 0.301. The hypothesis testing explained that $N.Sig > 5\%$ and for the result, the null hypothesis in this research cannot be rejected. It showed that both students' frequency use and their L2 speaking ability scores were not correlated. The null hypothesis which said, "There is no correlation between students' L1 frequency use and their L2 speaking ability scores" answered the research problem. Though, r showed very low negative correlation interpretation, but the result explained us that the L1 frequency use has negative influence on students speaking apprehension and achievement to students of Education English Program of IAIN Palangka Raya. Students with low L1 frequency use had been good in L2 speaking score, and students' in high L1 frequency use would have low L2 speaking score.

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Author's Brief CV

Novita Sari was born on November 2, 1994, in Palangka Raya, third of four children of her parents. She was joined to State Islamic Institute of Palangka Raya at Faculty of Education and Teacher Training in English Education Study Program in 2013 and graduated in 2017. As an attractive girl, she also made a lot of friends who made her life colorful and full of joy.

Hesty Widiastuty was born on September 28, 1987, in Palangkaraya, third of three children of her parents. She worked as lecturer at Faculty of Education and Teacher Training in English Education Study Program. She believes her best work is accomplished through writing and being an active citizen of her community.

