

# The Correlation between English Speaking Skill and Self-Confidence among Eleventh Grade Students at SMA Negeri 1 Alasa

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## ABSTRACT

This study aimed to determine whether there is a significant correlation between English speaking skill and self-confidence among eleventh grade students at SMA Negeri 1 Alasa. This research employed a quantitative method with a correlational design. The sample consisted of 35 students from class XI Ki Hadjar Dewantara. Data were collected through a speaking test to measure students' English speaking skill and a Likert-scale questionnaire to assess self-confidence. The data were analyzed using parametric statistical tests, including the normality test, Pearson Product-Moment correlation, and simple linear regression with SPSS version 25. All research instruments were tested for validity and reliability prior to data collection. The results revealed that the correlation coefficient was  $r = 0.022$  with a significance value of 0.901 ( $p > 0.05$ ), indicating that there is no significant correlation between English speaking skill and self-confidence. These findings suggest that speaking skill and self-confidence are independent aspects and should be developed separately. The results are expected to provide useful insights for teachers and future researchers in designing effective English learning strategies.

## I. Introduction

English is essential in many aspects of our lives in this modern day. English is used in practically every sphere of human life, including politics, social interactions, international relations, and education. Students must learn six language skills, namely writing, speaking, listening, reading, viewing, and presenting in order to be able to communicate in English and keep up with modernization. Speaking is one of the primary English language abilities.

According to Morozova in Sumardi et al. [1], speaking is a fundamental language skill essential for understanding object syntax. Students will start talking more and more when they learn to speak appropriately, and this helps them improve their communication skills. Speaking is the ability to create sounds or words in order to communicate, express, and convey feelings, ideas, and thoughts. It is an important language skill because it allows people to communicate and express themselves effectively. According to Laoli [2], speaking is a process of conveying ideas from the speaker to the listener. The speaker is classified as a communicator, whereas the listener is a communicant. Oral communication requires accurate and proper delivery to be understood by the listener. To summarize, speaking is an essential part of learning a language, particularly for people intending to learn English as a second language.

In learning to speak English, students are influenced by both linguistic and psychological factors. Linguistically, effective speaking requires mastery of pronunciation, grammar, vocabulary, and fluency [14]. In addition, the assessment of speaking performance should be guided by clear and structured criteria to ensure fairness and consistency in scoring [15]. Psychologically, previous studies have reported that self-confidence plays a significant role in encouraging students to participate actively and perform better in speaking activities [7]-[13]. These findings indicate that

speaking skill is not only a matter of language competence but also closely related to students' internal factors.

Several previous studies have investigated the relationship between self-confidence and English speaking skill and reported a positive correlation between the two variables. However, the findings of these studies may vary depending on the educational context, student characteristics, and learning environment. Moreover, limited research has examined this relationship in the context of the Kurikulum Merdeka and specifically among senior high school students at SMA Negeri 1 Alasa. Therefore, this study attempts to fill this gap by examining whether there is a significant correlation between self-confidence and English speaking skill in this particular setting.

However, there is a significant gap between the expectations outlined in the Learning Objective (LO) of the Kurikulum Merdeka and the speaking skill of the students at SMA Negeri 1 Alasa eleventh graders, according to the researcher's findings from internship 1. Even while the LO places a strong emphasis on helping grade eleven students improve their vocabulary, grammar, pronunciation, fluency, and comprehension, many still struggled to meet these objectives. Several challenges contribute to this gap, namely students found it difficult to pronounce words accurately, which affects the overall clarity of their speech; constructing grammatically correct sentences was still a difficulty for many students; limited vocabulary further complicates their ability to express themselves clearly in English; and students had difficulty speaking fluently and naturally. These issues collectively created barriers in improving English skills and are the focus of this research.

Therefore, the main problem is the lack of self-confidence among students, which directly affects their performance. According to Lauster in Fadhilah [3], self-confidence is characterized as an individual's positive outlook that enables him or her to form a positive opinion of himself or herself and the surrounding circumstances. Students who lack self-confidence may experience anxiety, insecurity, and doubt. Therefore, students must be confident in themselves, especially when speaking English. Based on the concept of self-confidence explained above, the researcher believes that self-confidence is crucial in assisting students in developing their English speaking abilities.

Regarding the above phenomenon, this research was conducted entitled "The Correlation between English Speaking Skill and Self-Confidence among Eleventh Grade Students at SMA Negeri 1 Alasa".

## II. Method

This research is quantitative research that uses a correlational research design. According to Gay et al. [4, p. 7], quantitative research involves gathering and evaluating numerical data in order to characterize, clarify, forecast, or manage relevant phenomena. A quantitative approach comprises systematic techniques for examining the relationships between variables in addition to numerical data.

Correlational research, as described by Gay et al. [4, p. 204], describes an existing condition, which is why it is occasionally seen as a form of descriptive study. Nevertheless, the state it depicts differs from what is generally noted in observational or survey research. In correlational research, information is gathered to ascertain whether and to what extent two or more measurable variables are related. Finding the links between variables (a relationship study) or using these associations to generate predictions (a prediction study) are two possible goals of correlational research. The purpose of this study is to investigate the connection between eleventh-grade students' self-confidence and their ability to speak English.

For this research, the selected cluster was class XI Ki Hadjar Dewantara, which is part of the population of eleventh-grade students. Using cluster sampling allowed the researcher to focus on a specific group within a manageable subset, making the data collection more practical and efficient. However, since the sample consisted of only one class ( $n = 35$ ), the findings of this study are limited to this particular group and should be interpreted within the context of SMA Negeri 1 Alasa. Therefore, the results may not be generalized to all eleventh-grade students.

The data collection techniques in this research consisted of two major instruments, namely a speaking test and a self-confidence questionnaire. The speaking test was conducted individually, in which students were asked to perform a short oral task based on a given topic related to their daily

lives. Each student was given approximately 3–5 minutes to prepare and 3–5 minutes to present their speech. The test was conducted in the classroom during regular learning hours. Students' speaking performance was assessed using a scoring rubric covering five aspects: pronunciation, grammar, vocabulary, fluency, and comprehension. Each aspect was rated on a scale of 1 to 5, and the total score represented the students' English speaking skill. The questionnaire was used to measure students' self-confidence in speaking English. The development of the self-confidence questionnaire followed established principles of questionnaire design to ensure clarity, relevance, and reliability of the items. Proper construction of questionnaire instruments is essential to obtain valid and measurable responses from participants [16], [17].

The data analysis was conducted in several steps:

#### A. Validity and Reliability Test

According to Gay et al. [4, p. 177], validity and reliability tests are conducted to ensure that research instruments demonstrate appropriate and consistent measures. The content validity of the speaking test was evaluated by one expert. However, the use of a single validator may limit the strength of the content validity, and this condition is acknowledged as a limitation of the study.

#### B. Descriptive Statistics

Descriptive statistics are used to summarize data in an organized manner by describing the characteristics of variables in a sample or population. Descriptive statistics were used to measure the central tendency (mean, median, mode) and standard deviation.

#### C. Normality Test

The Shapiro–Wilk test, which is considered more suitable for small sample sizes, especially when the number of respondents is less than 50, was used in this research to examine normality. Both the self-confidence questionnaire scores and the English speaking skill scores were subjected to this test. The significance value (Sig.) was compared to the 0.05 cutoff point to interpret the results. The data are considered normally distributed and meet the prerequisite for conducting parametric tests such as the Pearson Product-Moment Correlation if the significance value is higher than 0.05.

#### D. Correlation Analysis

To analyze the relationship between students' self-confidence and their English-speaking skills, correlation analysis was conducted using the Pearson Product-Moment Correlation. This statistical method helps determine the strength and direction of the linear relationship between two variables. By calculating the correlation coefficient, it is possible to assess whether higher self-confidence is associated with better English-speaking skills or vice versa. If the relationship between the variables is statistically significant, the significance level (p-value) obtained from the SPSS output and the interpretation of the correlation coefficient (r-value) are taken into consideration. If the p-value is less than 0.05, the correlation is considered statistically significant.

#### E. Simple Linear Regression Analysis

In correlational research, linear regression is an analytical method used to assess the relationship between an independent variable and a dependent variable. Linear regression not only identifies the direction of the relationship but also determines the extent to which changes in the independent variable affect the dependent variable.

#### F. Hypothesis Testing

According to Creswell and Creswell [5, p. 109], a hypothesis is a prediction of an event or a relationship between two variables. Based on this prediction, the researcher can determine the direction and focus of the study as well as formulate the data analysis. By establishing a significance threshold, such as  $p < 0.05$ , the researcher sets a criterion for statistical significance that may reduce the risk of drawing incorrect conclusions. Hypothesis testing aims to determine whether there is sufficient evidence from a sample to reject the null hypothesis, which typically states that there is no effect or relationship between variables.

In determining the hypothesis decision using the t-test statistic, the result of t-count is compared with t-table based on the following criteria:

If  $t\text{-count} > t\text{-table}$ ,  $H_0$  is rejected and  $H_1$  is accepted (there is a correlation).

If  $t\text{-count} < t\text{-table}$ ,  $H_0$  is accepted and  $H_1$  is rejected (no correlation).

### G. Software Tools

The statistical analysis was carried out using SPSS version 25 and Microsoft Excel to calculate the correlational coefficients and conduct hypothesis testing. These tools enabled efficient data processing and accurate computation of the relationship between students' self-confidence and English speaking skill.

## III. Result and Discussion

### A. Result

This research was conducted to examine the correlation between English speaking skill and self-confidence among eleventh-grade students. Several analyses were performed, starting with instrument validity and reliability testing, followed by descriptive statistics, normality testing, correlation analysis, simple linear regression analysis, and hypothesis testing. The following sections present the results in detail.

Table 1. Validation test results on variable X

No	Indicator	Clarity	Relevance	Measurability	Suitability	Average
1	Fluency	4	3	4	4	3.75
2	Pronunciation	4	3	4	4	3.75
3	Grammar	4	4	4	4	4.00
4	Vocabulary	4	3	4	4	3.75
5	Comprehension	4	4	4	4	4.00
<b>Average</b>						<b>3.85</b>

Based on the results of the validity test conducted using SPSS version 25, the speaking test instrument (Variable X) was declared valid. Content validity was assessed by one expert validator who evaluated five indicators: fluency, pronunciation, grammar, vocabulary, and comprehension. Each indicator was assessed based on four criteria—clarity, relevance, measurability, and suitability—using a 4-point Likert scale. All indicators obtained average scores between 3.75 and 4.00, with an overall mean score of 3.85. Since this average is above the minimum threshold of 3.5 as suggested by Sugiyono [6], the instrument was confirmed to be valid and suitable for measuring students' English speaking skills.

Table 2. Validation test results on variable Y

Item	T count	T table	Note
Y1	0.390	0.325	Valid
Y2	0.357	0.325	Valid
Y3	0.453	0.325	Valid
Y4	0.509	0.325	Valid
Y5	0.378	0.325	Valid
Y6	0.429	0.325	Valid
Y7	0.410	0.325	Valid
Y8	0.356	0.325	Valid
Y9	0.438	0.325	Valid
Y10	0.438	0.325	Valid
Y11	0.400	0.325	Valid
Y12	0.345	0.325	Valid
Y13	0.470	0.325	Valid
Y14	0.343	0.325	Valid
Y15	0.388	0.325	Valid
Y16	0.446	0.325	Valid
Y17	0.361	0.325	Valid
Y18	0.417	0.325	Valid
Y19	0.335	0.325	Valid
Y20	0.334	0.325	Valid
Y21	0.397	0.325	Valid

Y22	0.409	0.325	Valid
Y23	0.360	0.325	Valid
Y24	0.332	0.325	Valid
Y25	0.414	0.325	Valid

Source: From IBM SPSS processing Statistic 25

For the self-confidence questionnaire (Variable Y), the validity test was performed by comparing the r-count values of each item to the r-table value of 0.325 at a 5% significance level. All 25 items in the questionnaire showed r-count values higher than 0.325, confirming that every item is valid and appropriate for measuring self-confidence.

The reliability test was then carried out to determine the consistency of the instruments. For the speaking test rubric (Variable X), reliability was measured using the Intraclass Correlation Coefficient (ICC). The result showed an ICC value of 0.855, which indicates excellent reliability and strong agreement between the two raters.

Table 3. Reliability test results on variable X

	<b>Intraclass Correlation Coefficient</b>				
	Intraclass Correlation <sup>b</sup>	95% Confidence Interval		F Test with True Value 0	df1
		Lower Bound	Upper Bound		
Single Measures	.747 <sup>a</sup>	.554	.864	6.899	34
Average Measures	.855 <sup>c</sup>	.713	.927	6.899	34

Source: From IBM SPSS processing Statistic 25

Meanwhile, the self-confidence questionnaire (Variable Y) was tested for reliability using Cronbachs Alpha. The obtained alpha value was 0.783, indicating acceptable reliability. This suggests that the questionnaire consistently measures students self-confidence.

Table 4. Reliability test results on variable Y

<b>Cronbach's Alpha</b>	<b>No of items</b>
.783	25

Source: From IBM SPSS processing Statistic 25

The descriptive statistics were used to describe the central tendency and the spread of scores from both variables, English speaking skill and self-confidence. The analysis includes values such as mean, median, mode, and standard deviation. The data was processed using SPSS version 25 and is summarized as follows:

Table 5. Descriptive Statistic Result

	<b>English Speaking Skill</b>	<b>Self- Confidence</b>
N	Valid	35
	Missing	0
Mean	81.14	86.43
Median	84	88
Mode	88	88
Std. Deviation	7.101	5.842

Source: From IBM SPSS processing Statistic 25

Table above shows the descriptive statistics results for both variables. The mean score for English speaking skill was 81.14, with a median of 84 and mode of 88. The standard deviation was 7.101, which indicates the variation of speaking skill scores among students. Meanwhile, the self-confidence variable had a higher mean score of 86.43, with both the median and mode at 88. The standard deviation for self-confidence was 5.842, showing a slightly smaller spread compared to the speaking scores. These results indicate that, on average, students had fairly good performance in both English speaking and self-confidence, with self-confidence scores slightly higher and more consistent among the group.

Table 6. Result of Normality Testing

Tests of Normality			
	Shapiro-Wilk		
	Statistic	df	Sig.
Unstandardized Residual	.948	35	.097

Source: From IBM SPSS processing Statistic 25

For the unstandardized residuals, the Shapiro-Wilk statistic was 0.948 with a significance value (Sig.) of 0.097. Since the significance value is greater than 0.05, it can be concluded that the data are normally distributed and suitable for further parametric testing. This indicates that the assumption of normality has been fulfilled for this research.

After testing normality, the next step was to analyze whether there was a correlation between students' English speaking skill and their self-confidence. The Pearson Product-Moment Correlation was used to see both the strength and direction of the relationship between these two variables. The analysis was conducted using SPSS version 25, and the results are shown below.

Table 7. Correlation Coefficient

Correlations			
		English Speaking Skill	Self-Confidence
English Speaking Skill	Pearson Correlation	1	.022
	Sig. (2-tailed)		.901
	N	35	35
Self-confidence	Pearson Correlation	.022	1
	Sig. (2-tailed)	.901	
	N	35	35

Source: From IBM SPSS processing Statistic 25

Table above displays the Pearson correlation results between English speaking skill and self-confidence. The correlation coefficient (r) was 0.022 with a significance value (Sig.) of 0.901. This significance value is far above the threshold of 0.05, indicating that the correlation is not statistically significant. Although the coefficient is positive, the value is very small, suggesting practically no relationship between the two variables.

To help interpret how strong or weak this correlation is, the classification by Bank et al. (2020) was used, as shown below.

Table 8. Interpretation of the correlation coefficient

Correlation Coefficient Interval	Range of Relationship
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

Source: According to Bank et al. (2020)

Table 4.14 shows the interpretation guide for correlation coefficients. A coefficient between 0.00 and 0.199 is categorized as Very Low. Since the result of 0.022 falls into this range, it confirms that the correlation between English speaking skill and self-confidence is very low and practically insignificant. Thus, this research concludes that students English speaking skills are not related to their self-confidence, and both aspects should be developed independently.

Table 9. Simple Linear Regression Analysis

Coefficients					
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		

1	(Constant)	84.968	11.663		7.286	.000
	ESS	.018	.143	.022	.126	.901

Source: From IBM SPSS processing Statistic 25

Based on the table above, the simple linear regression equation is formulated as follows:

$$Y=a+bX$$

From the results, the constant value (a) is 84.968, and the regression coefficient (b) for English speaking skill is 0.018. Thus, the regression equation is written as:

$$Y = 84.968 + 0.018X$$

This equation suggests that with every increase in English speaking ability, self-confidence is expected to rise by a corresponding amount based on the regression coefficient. However, the significance value (Sig.) obtained is 0.901, which is much higher than the threshold of 0.05, indicating that the relationship between English Speaking Skill and Self-confidence is not significant.

**Table 10** hypothesis testing

		Coefficients			T	Sig.
Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta		
1	(Constant)	84.968	11.663		7.286	.000
	ESS	.018	.143	.022	.126	.901

Source: From IBM SPSS processing Statistic 25

Table above shows the coefficients used for hypothesis testing. The constant value is 84.968, and the regression coefficient (B) for English speaking skill is 0.018 with a standard error of 0.143. The t-value obtained was 0.126, with a significance level (Sig.) of 0.901. Since this significance value is much higher than 0.05, it means the result is not statistically significant. Thus, the null hypothesis (H0), stating that there is no correlation between English speaking skill and self-confidence, is accepted. Meanwhile, the alternative hypothesis (H1), which predicts a correlation, is rejected.

Based on the results of the statistical analysis, it was found that there was no significant correlation between students' self-confidence and their English speaking skill. The Pearson correlation test showed a significance value greater than 0.05, indicating that the relationship between the two variables was not statistically significant. This finding suggests that students' level of self-confidence was not associated with their speaking performance in this study.

### B. Discussion

According to the study's findings, eleventh-grade students' self-confidence and their ability to speak English do not significantly correlate. With a significance value of 0.901 and a Pearson correlation coefficient of 0.022, the results are significantly above the necessary cutoff of 0.05. Similarly, the low t-value and non-significant significance level of the simple linear regression analysis demonstrated that self-confidence is not substantially predicted by English speaking ability.

This result does not completely contradict earlier research, even if the current study did not find any significant association. A number of studies found a positive association between speaking performance and self-confidence [7]–[13], the degree of this relationship differed depending on the student population and the situation.

Differences in research setting, language proficiency level, classroom environment, and individual personality traits may influence the relationship between psychological and linguistic variables. Therefore, the absence of a significant correlation in this study suggests that speaking skill development may involve multiple interacting factors rather than relying solely on self-confidence.

These findings suggest that students with strong English speaking skills are not necessarily confident when performing in public settings. Conversely, students who appear confident do not always demonstrate strong linguistic competence. This result aligns with classroom observations conducted during the research. Some students who possessed good vocabulary and grammatical knowledge still experienced anxiety or hesitation when speaking in front of others. Meanwhile, several students who appeared confident continued to face difficulties in pronunciation, grammar, and vocabulary usage.

The link between psychological and linguistic characteristics may be influenced by variations in the classroom environment, individual personality traits, language competence level, and study setting. Therefore, rather than depending only on self-confidence, the lack of a significant correlation in this study implies that speaking skill growth may involve a number of interacting factors.

These results imply that even students who speak English well may lack confidence while speaking in front of an audience. On the other hand, students who seem self-assured may not always exhibit high levels of language proficiency. This outcome is consistent with the research's observations of classrooms. Even with strong vocabulary and grammatical skills, several students still felt nervous or hesitant while speaking in front of others. In the meantime, a number of pupils who seemed self-assured still struggled with word usage, grammar, and pronunciation.

### References

- [1] A. P. Sumardi, S. Dollah, and S. Farahdiba, "The correlation between self-confidence and speaking ability of tenth-grade students of SMAN 3 Enrekang," *Journal of Excellence in English Language Education*, vol. 1, no. 4, pp. 361–369, 2022. <https://doi.org/10.26858/joele.v1i4,%20October.37955>
- [2] A. Laoli, "Improving English speaking skills through debate methods in junior high school students," *Edukatif: Jurnal Ilmu Pendidikan*, vol. 3, no. 6, pp. 5240–5246, 2021. <https://doi.org/10.31004/edukatif.v3i6.1706>
- [3] F. Fadhillah, "Exploring students' strategies in increasing self-confidence in speaking," *Journal of English Language Teaching Studies*, vol. 5, no. 1, pp. 45–55, 2023.
- [4] L. R. Gay, G. E. Mills, and P. Airasian, *Educational Research: Competencies for Analysis and Applications*, 12th ed. Pearson, 2020.
- [5] J. W. Creswell and J. D. Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 5th ed. Sage Publications, 2020.
- [6] Sugiyono, *Metode penelitian kuantitatif, kualitatif, dan R&D*. Alfabeta, 2020.
- [7] R. M. Audina, A. Hasanah, and D. Desvitasari, "The correlation between self-confidence of undergraduate EFL students and their speaking achievement," *JADILA: Journal of Development and Innovation in Language and Literature Education*, vol. 1, no. 4, pp. 518–533, 2021. DOI: [10.52690/jadila.v1i4.161](https://doi.org/10.52690/jadila.v1i4.161)
- [8] A. F. Baktillah, L. J. Putera, and L. Muhaimi, "Students' self-confidence in their English-speaking fluency: A case study at SMP IT Generasi Muslim Cendikia," *Journal of Language Teaching Research*, vol. 9, no. 2, pp. 1–10, 2024.
- [9] I. R. Mega and D. Sugiarto, "Speaking skill in correlation with English learning habits and self-confidence of vocational high school students," *Journal of Foreign Language Teaching and Learning*, vol. 5, no. 2, pp. 120–135, 2020. <https://doi.org/10.18196/ftl.5253>

- [10] E. P. Rumapea and Wennyta, "The correlation between self-confidence and speaking ability of second semester students of English Education Study Program at Batanghari University," *JELT: Journal of English Language Teaching*, vol. 4, no. 2, pp. 104–111, 2020. <http://dx.doi.org/10.33087/jelt.v4i2.59>
- [11] R. S. Sari and M. P. Dewi, "The correlation between students' self-confidence and their speaking skill at the twelfth grade of SMA N 2 Bukittinggi," *ELTALL: English Language Teaching, Applied Linguistics and Literature*, vol. 2, no. 2, pp. 56–65, 2021. <https://doi.org/10.21154/eltall.v2i2.3208>
- [12] G. Tridinanti, "The correlation between speaking anxiety, self-confidence, and speaking achievement of EFL students," *International Journal of Education and Literacy Studies*, vol. 6, no. 4, pp. 35–43, 2020. DOI: [10.7575/aiac.ijels.v.6n.4p.35](https://doi.org/10.7575/aiac.ijels.v.6n.4p.35)
- [13] J. Utari, B. Ulfah, and D. Surayatika, "The correlation between self-confidence and speaking ability of university students," *Jurnal Ilmiah Multidisiplin*, vol. 1, no. 12, pp. 425–451, 2022. <https://doi.org/10.56799/jim.v1i12.1063>
- [14] L. M. Leong and S. M. Ahmadi, "An analysis of factors influencing learners' English speaking skill," *International Journal of Research in English Education*, vol. 2, no. 1, pp. 34–41, 2022. DOI: [10.18869/acadpub.ijree.2.1.34](https://doi.org/10.18869/acadpub.ijree.2.1.34)
- [15] V. Ulker, "The design and use of speaking assessment rubrics," *Journal of Education and Practice*, vol. 15, no. 2, pp. 135–141, 2024.
- [16] H. Taherdoost, "Designing a questionnaire for a research paper: A comprehensive guide to design and develop an effective questionnaire," *Asian Journal of Managerial Science*, vol. 11, no. 1, pp. 8–16, 2022. <https://doi.org/10.51983/ajms-2022.11.1.3087>
- [17] S. Roopa and M. S. Rani, "Questionnaire designing for a survey," *Journal of Indian Orthodontic Society*, vol. 46, Suppl. 1, pp. 27–37, 2022.