



Original Article

The Role of Artificial Intelligence Technology in Improving English Writing Skills of Language Education Students

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Abstract:

This study aims to determine the role of artificial intelligence technology in improving English writing skills of language education students. The population in this study were 280. The sample consisted of 30 taken by random sampling. The data collection technique used a Likert scale questionnaire. Data analysis techniques with Analysis techniques with simple correlation tests, simple regression tests, determinant coefficient tests, and t tests. The result of the study is terdapat pengaruh teknologi kecerdasan buatan terhadap kemampuan menulis mahasiswa Pendidikan bahasa Inggris.

Keywords: Artificial Intelligence Technology and English Writing Skills.

Introduction

English is an international language used by almost everyone in the world for business, economics, education, politics, and culture. English is used by various communities worldwide for a variety of purposes, making its role in a country crucial. Therefore, learning English is crucial for students majoring in English Education.

There are four English language skills: writing, speaking, listening, and reading. One of the skills English language students must possess is writing. Students who lack writing skills will have difficulty conveying their ideas to the public or to others. Therefore, English writing skills are crucial for students as they seek to develop their English language skills in the workplace.

One variable influencing English writing skills is artificial intelligence technology. According to Basuki (2023:45), artificial intelligence technology can influence English writing skills. Furthermore, Rudi (2024:32) states that English writing skills are influenced by artificial intelligence technology.



<https://jurnal.usk.ac.id/riwayat>

Based on the research results above, it was found that the artificial intelligence technology variable involves advances in artificial intelligence technology to assist students in learning and their ability to use various types of artificial intelligence to create English texts.

The problem is that many students lack good writing skills because they are still reluctant to learn grammar, which prevents them from producing good English texts. English language education students' English writing skills are affected by their reluctance to use artificial intelligence technology, thus weakening their English writing skills. According to Andi (2023:34), English writing skills are influenced not only by grammar but also by the ability to use artificial intelligence technology applications.

Students' ability to utilize various types of artificial intelligence (AI) to enhance their writing skills is a crucial factor in developing their English language skills, particularly their ability to write English texts. Students can use AI applications to learn English grammar and writing skills, thereby improving their English writing skills.

Based on the aforementioned research problem, the researcher is interested in examining the role of artificial intelligence technology in improving the English writing skills of language education students.

Methods

The research method is quantitative with a survey. The population is all students majoring in English Education, totaling 150 students and the sample is students majoring in English Education, totaling 30 samples. The data collection technique uses a questionnaire with a Likert scale. The researcher created a Google form to distribute the questionnaire so that it will make it easier for students to fill out the research questionnaire. The analysis technique uses correlation tests, regression tests, determinant coefficient tests and t-tests.

Results

Respondent Characteristics

The researchers present the results of the respondent characteristics analysis in this study as follows:

Table 1. Respondent Characteristics Data Based on Gender

No	Gender	Number	Percentage
1	Male	15	50 %
2	Female	15	50%
Total		30	100%

Based on the data above, the respondents who were female numbered 15 or 80% and the respondents who were male numbered 15 or 50%.

Table 2. Respondent Characteristics Data Based on Age

No	Age	Number	Percentage
1	17 Years	20	66,66%

2	18 Years	5	16,66%
3	19 Years	5	16,68%
Total		30	100

Based on the data above, respondents aged 17 years were 20 or 66.66%, 18 years were 5 or 16.66%, and 19 years were 5 or 16.68%.

Data Description

The researcher presents the results of the descriptive analysis of the data in this study as follows:

Table 3. Data Description

Statistics		X	Y
N	Valid	30	30
	Missing	0	0
Mean		62.43	52.00
Median		62.00	50.00
Mode		34 ^a	36 ^a
Std. Deviation		23.245	16.103
Variance		540.323	259.310
Range		73	56
Minimum		25	28
Maximum		98	84

a. Multiple modes exist. The smallest value is shown

Based on the data above, the artificial intelligence technology variable has an average of 62.43, median of 62.00, mode of 34, standard deviation of 23.245, variance of 540.323, range of 73, smallest value of 25, and largest value of 98. Next, the writing ability variable has an average of 52, median of 50.00, mode of 36, standard deviation of 16.103, variance of 259.310, range of 56, smallest value of 28, and largest value of 84.

Data Requirements Test

Normality Test

The researchers present the results of the data normality test in this study as follows:

Table 4. Data Normality Test Results

One-Sample Kolmogorov-Smirnov Test			
		X	Y
N		30	30
Normal Parameters ^{a,b}	Mean	62.43	52.00

	Std. Deviation	23.245	16.103
Most Extreme Differences	Absolute	.160	.124
	Positive	.160	.124
	Negative	-.154	-.073
Test Statistic		.160	.124
Asymp. Sig. (2-tailed)		.058 ^c	.200 ^{c,d}
a. Test distribution is Normal.			
b. Calculated from data.			
c. Lilliefors Significance Correction.			
d. This is a lower bound of the true significance.			

Based on the data above, all significant values are smaller than 0.05, so it can be concluded that all research variable data are not normal.

Linearity Test

Linearity Test of the Effect of Variable X on Y

The researcher presents the results of the Linearity Test of the Effect of Variable X1 on Y in this study as follows:

Table 5. Linearity Test Results of the Effect of Variable X on Y

ANOVA Table							
			Sum of Squares	df	Mean Square	F	Sig.
Y * X	Between Groups	(Combined)	6712.000	25	268.480	1.329	.434
		Linearity	3799.557	1	3799.557	18.810	.012
		Deviation from Linearity	2912.443	24	121.352	.601	.809
	Within Groups		808.000	4	202.000		
	Total		7520.000	29			

Based on the data above, all significant Deviation from Linearity values are greater than 0.05, namely 0.809. Therefore, it can be concluded that the effect of Variable X on Y is linear.

Simple Correlation Test

The researchers present the results of the correlation test between Variables X and Y in this study as follows:

Table 6. Results of the Correlation Test Between Variable X and Y

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.711 ^a	.505	.488	11.527
a. Predictors: (Constant), X				

Based on the data above, the correlation value between artificial intelligence technology and writing ability is 0.711, which means it is positive and quite high.

Determinant Coefficient Test

The researcher presents the results of the Determinant Coefficient test of the influence of Variable X on Y in this study as follows:

Table 7. Results of the Determinant Coefficient Test of the Influence of Variable X on Y

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.711 ^a	.505	.488	11.527
a. Predictors: (Constant), X				

Based on the data above, the value of the Determinant Coefficient of the influence of artificial intelligence technology on writing ability is 50.5% and the remaining 49.5% comes from variables not studied.

Simple Regression Test

The researchers present the results of the regression test of the effect of variable X on Y in this study as follows:

Table 8. Results of the Regression Test of the Effect of Variable X on Y

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	21.256	6.122		3.472	.002
	X	.492	.092	.711	5.347	.000
a. Dependent Variable: Y						

Based on the data above, the multiple regression equation is $Y = 21.256 + 0.492X$. This means that every one-unit increase in variable X will increase variable Y by 0.492.

T Test

The researchers present the results of the T-test in this study as follows:

Table 9. T-Test Results

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	21.256	6.122		3.472	.002
	X	.492	.092	.711	5.347	.000

a. Dependent Variable: Y

Based on the data above, the results of the T test produced a significant value of $0.000 < 0.05$, so it is stated that there is an influence of artificial intelligence technology on the writing abilities of English Education students.

Discussion

The Effect of Artificial Intelligence Technology on the Writing Skills of English Language Education Students

The t-test yielded a significant value of $0.000 < 0.05$, indicating that artificial intelligence technology has an effect on the writing skills of English Language Education students. This aligns with Ratu's (2023:54) theory, which states that artificial intelligence technology has an effect on writing skills. Students who frequently use artificial intelligence technology to learn English will have better English writing skills.

Conclusion

The conclusion of this study is that artificial intelligence technology has an effect on the writing skills of English Language Education students.

Suggestion

The researcher recommends that students learn to use artificial intelligence technology to improve their English writing skills.

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