

Implementation of ChatGPT on English Class Essay Writing Skills in University Students

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ABSTRACT

ChatGPT was widely discussed in the news when it first appeared. In several aspects, this technology is considered to have a large negative impact and has the potential to minimize human narrative abilities. The positive impact that leads to collaboration between human thought and technology, especially in the case of ChatGPT, is that humans and technology can collaborate and create more innovative impacts. This research was created to answer the need for technological developments by using Artificial Intelligence in learning, especially essay writing skills for students through the application of ChatGPT. The subjects of this research were 13 fourth semester students of the English Language Education Study Program at Muhammadiyah University of Parepare. The researcher used quantitative descriptive methods to compare the students' results before and after the essay writing learning treatment by giving a pre-test and post-test. After being given treatment, students' achievement in writing increased during the post-test. It is 2 students (15%) were in the excellent category, 11 students (85%) were classified as good, then none of them were classified as fair, and poor also has zero. This shows that their attention to improving their writing has occurred. The research concluded that the application of ChatGPT to essay writing skills in English classes for higher students is applicable and brings significant benefits.

ARTICLE HISTORY

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KEYWORDS

Artificial Intelligence; ChatGPT Implementation; Essay Writing.

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1. Introduction

The world of education is required to build better student skills in line with the needs of the 21st century. This ability represents the talent of an individual who has the capacity for critical thinking and problem solving, creativity and innovation, in addition to proficiency in communication and collaborative skills (Eko, 2019). One promising technology is ChatGPT. ChatGPT is an Artificial Intelligence technology that can help humans interact through robot conversations or text-based chatbots. This machine has the ability to use natural language processing (NLP) technology that can answer human questions in the form of text (called prompts) typed in the application (Setiawan & Luthfiyani, 2023).

One of the abilities that can be built in collaborative learning activities with technology when learning English is an important skill that students must master is writing. Writing skills are a series of skills learned in English Education, namely Reading, Writing, Listening and Speaking. Like speaking ability, writing ability also relies on active language and is a productive skill (Lubis, 2019; Rahman et al., 2019; Sahib et al., 2021). It can be seen that the better the students' ability to write paragraphs and essays, the better their ability to write other forms of writing, for example scientific writing in the form of scientific essays such as argumentative essays, academic writing, or other types of texts in English (Abbas & Herdi, 2021; Rahman & Weda, 2018).

Various cases of students' difficulties in composing writing, one of which is in class practice, students often complain that writing assignments are very difficult. Writing turns out to be a scourge for students (Asih Wigati, 2014). However, not all students have the ability, especially in the field of writing good and effective essays. A variety of factors can contribute to writing experience problems, such as limited vocabulary knowledge, grammar problems, and an inability to connect ideas and concepts effectively. So to overcome this problem, several solutions have been proposed, one of which is by integrating technology into English language learning. The emergence of ChatGPT-based chatbots has had a positive impact in helping human activities, such as solving a problem, helping to formulate thoughts quickly, and other conveniences offered by ChatGPT (Maulana et al., 2023). In its development, there are features that support it and have the potential to be a solution to overcome the difficulties described previously.

From previous studies, there has been no research that focuses on the implementation of ChatGPT in learning to write essays in class using learning resources in the form of artificial intelligence technology in the educational sphere, especially for students learning to write English essays. Therefore, this research was conducted because there is still no research that examines this problem.

2. Methodology

The subject of this research is the Faculty of Teacher Training and Education, Muhammadiyah University of Parepare, especially the English Language Education Study Program, selecting fourth semester students. The transition period is from 20 August 2023 to 4 September 2023. With a total of 13 participants, 3 male participants and 10 female participants. Because there was one class, the entire sample was taken to conduct this research. Apart from quantity, research participants were also taken from the same class considering that the level of learning received was at the same level so that the information obtained from observations was a little more specific and also made it easier for researchers to compile the essence of the research results obtained. By having such a number of samples, it can make it easier to obtain information from the English language learning received. The research method used is a quantitative descriptive research. Data collection was carried out by observation, using questionnaires and documentation. Likewise, uses SPSS Software with version 22 to saw Mean Score, T-Test Value and significant test for scoring and analyzing data. Essay writing uses a rubric developed by (Jacobs, 1981), which has five important components consisting of content, organization, vocabulary, language use, and mechanics. These five things are described as follows:

2.1. Content

Content is the essence of writing. Includes the process of planning, writing, and editing to ensure that the text is clear and understandable. Planning involves selecting topics, gathering information, and designing the message to be conveyed.

2.2. Organization

Organization refers to the way writers structure their ideas. It belongs to the chronological arrangement, which means structuring information in a logical order or sequence. A good structure helps the reader to follow the writer's train of thought smoothly.

2.3. Vocabulary

Vocabulary is about the choice of words used in writing. This includes not only the right words to communicate ideas but also how they can affect the tone and style of writing. The right choice of words can enrich the writing and make it more interesting for readers.

2.4. Language use

Language use focuses on the correct use of grammatical rules and sentence structure. It includes the correct use of verbs, nouns, pronouns, and agreements between language elements. Grammatical errors can obscure the message you want to convey or can reduce the credibility of the writing.

2.5. Mechanics

It deals with technical aspects such as capitalization, punctuation, and correct spelling. This includes capitalization in appropriate places, proper placement of punctuation marks to separate sentences and phrases, and accurate spelling. Mechanical errors can distract readers and reduce the professional impression of writing.

3. Result and Discussion

This study aims to determine the implementation of ChatGPT in English essay writing skills in university students and find out the effectiveness of its use for students. Students are asked to write a scientific essay based on the instructions contained in the writing test sheet. The results of observations and the work process of Pre-Test and Post-Test students are described as follows:

3.1. Pre-Test

The researcher will give a pre-test. This test aims to find out and check previous knowledge or writing skills before providing learning media. Pre-test questions, students are asked to write an essay with the topic "The Impact of Technology on Society". The author provides instructions for students.

Table 1. Writing Essay Pre-test Analysis Results

No	Students	Content	Organization	Vocabulary	Language Use	Mechanics	TOTAL
1	NF	25	17	16	10	3	71
2	HRN	17	17	14	10	2	60
3	ARD	21	15	13	15	3	67
4	RIFQ	16	10	10	15	3	54
5	JMR	20	13	10	20	3	66
6	GDV	17	10	13	15	4	59
7	JNFEB	17	9	14	20	2	62
8	WLDR	21	13	17	10	3	64
9	NRLS	22	13	10	20	3	68
10	NDHR	25	13	10	10	2	60
11	ALPB	20	10	18	10	3	61
12	ANF	21	10	18	20	3	72
13	MMN	28	20	20	10	4	82
Total		270	170	183	185	38	846
Average		20,8	13,1	14,1	14,2	2,9	65,1

source: processed by researchers

From the table above, it is obtained that the competence of students in content with an average of 20.8 with the lowest is 16 and the highest score is 20. In organizations, the average score is 13.1 with the highest score being 20 and the lowest being 9. In the Vocabulary section, the average is 14.1 with the highest score being 20 and the lowest is 10. Next, In the Language Use section, an average of 14.2 was obtained, with the lowest score being 10 and the highest 20. Next, In Mechanics, an average of 2.9 was obtained, with the lowest score of 2 and the highest was 4. The overall average score is 65.1, where the highest score is 82 and the lowest is 54.

3.2. Post-Test

In this treatment, researchers measured students' writing skills after getting treatment by applying ChatGPT approach to the classroom for post-test. Text essay material with the topic "The Role of Artificial Intelligence in Shaping the Future."

Table 2. Pos-test Analysis Results

No	Students	Content	Organization	Vocabulary	Language use	Mechanics	TOTAL
1	NF	26	14	17	18	3	78
2	HRN	26	14	17	18	4	79
3	ARD	25	18	17	22	3	85
4	RIFQ	25	10	13	22	3	73
5	JMR	29	17	13	21	3	83
6	GDV	26	14	17	17	4	78
7	JNFEB	27	18	17	17	3	82

8	WLDR	25	14	17	20	3	79
9	NRLS	25	18	13	18	4	78
10	ANDHR	27	20	17	21	2	87
11	ALPB	25	14	13	21	3	76
12	ANF	29	14	17	21	3	84
13	MMN	29	20	17	21	4	91
Total		344	205	205	257	42	1053
Average		26,5	15,8	15,8	19,8	3,2	81,0

source: Processed by Researchers

From the table above, it is obtained that the competence of students in content with an average of 26.5 with the highest score is 29 and the lowest is 25. In organizations, the average score is 15.8 with the highest score being 20 and the lowest being 10. Next, In the Vocabulary section, the average is 15.8 with the highest score being 17 and the lowest is 13. Next, In the Language Use section, an average of 19.8 was obtained with the lowest score being 17 and the highest being 22. After that, In Mechanics, an average of 3.2 is obtained with the highest is 4 and the lowest score is 2. The overall average score on the post-test is 81.0 where the highest score is 91 and the lowest is 73.

3.3. Analysis Pre-Test and Post-Test

This section provides an overview data analysis of respondents' pre-test and post-test results, statistical test results and respondent survey results.

Table 3. Pre-test and Post-test Classification

No	Classification	Score	Pretest		Posttest	
			F	%	F	%
1	Excellent	86-100	-	-	2	15%
2	Good	71-85	2	15%	11	85%
3	Fair	56-70	10	77%	-	-
4	Poor	41-55	1	8%	-	-
Total			13	100 %	13	100 %

From the table above it shows that the pre-test for the experimental class, no student (0%) is classified as excellent, there are 2 students (15%) are classified as good, 10 students (77%) are classified as fair, and 1 student (8%) is classified as poor. After the treatment, the post-test results where 2 students (15%) were in the excellent category, and 11 students (85%) were classified as good, then none of them were classified as fair and poor is zero.

Table 4. Paired sample Statistic

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Posttest	81,00	13	4,916	1,363
	Pretest	65,08	13	7,193	1,995

This Paired Samples Statistics table shows the descriptive value of each variable in a paired sample. The initial test with an average value (mean) of 65.08 of 13 students. The distribution of data (Std. Deviation) obtained is 7,193 with a standard error of 1.995, while the Final Test has an average score (mean) of 81.00 for 13 students. The distribution of

data (Std. Deviation) obtained is 4,916 with a standard error of 1,363. This indicates that the post-test has higher data than the pre-test.

Table 5. Paired Sample Correlation (Pre-test) and (Post-test) Results

		Paired Samples Correlations		
		N	Correlation	Sig.
Pair 1	Posttest & Pretest	13	,657	,015

To determine if the average difference between pre-test and post-test classes is statistically significant at a significant level of 0.05. So, looking at the data using the correlation test is necessary. After processing, it produces paired sample correlation test results that show 0.657. p-values of $0.015 < 0.05$, so the conclusion is that there is a significant difference.

Table 6. Paired sample statistic pre-test and post-test results

		Paired Samples Test					t	df	Sig. (2-tailed)
		Paired Differences							
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Posttest - Pretest	15,923	5,423	1,504	12,646	19,200	10,586	12	,000

In the Significant Test, the difference with SPSS 22 was obtained as Mean = 15.923, showing the difference between the pre-test results and post-test results, t-count results = 10.586 df=12 and p-value = $0.000 < 0.05$, which means there is a significant difference between before and after treatment, namely the Implementation of ChatGPT on English Class Essay Writing Skills.

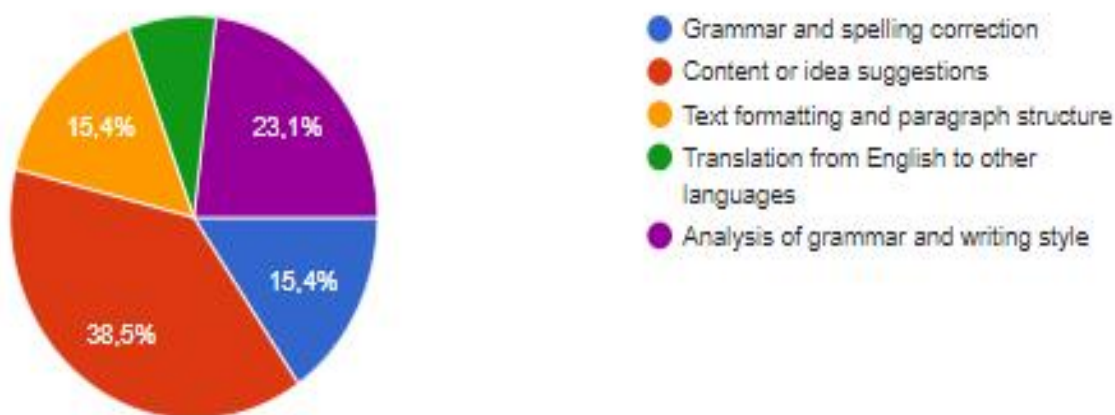


Figure 1. Most frequently, in the process of writing English essays by using ChatGPT

Based on the picture above, several options for student opinions when using ChatGPT to develop and measure their writing with the following descriptions, starting from most options: 38.5% of students use it for Content or idea suggestion, 23.1% analysis of grammar and writing style, 15.4% related to text formatting and paragraph structure, 15.4% use for grammar and spelling correction, and 7.7% is used for translation from English to another language.

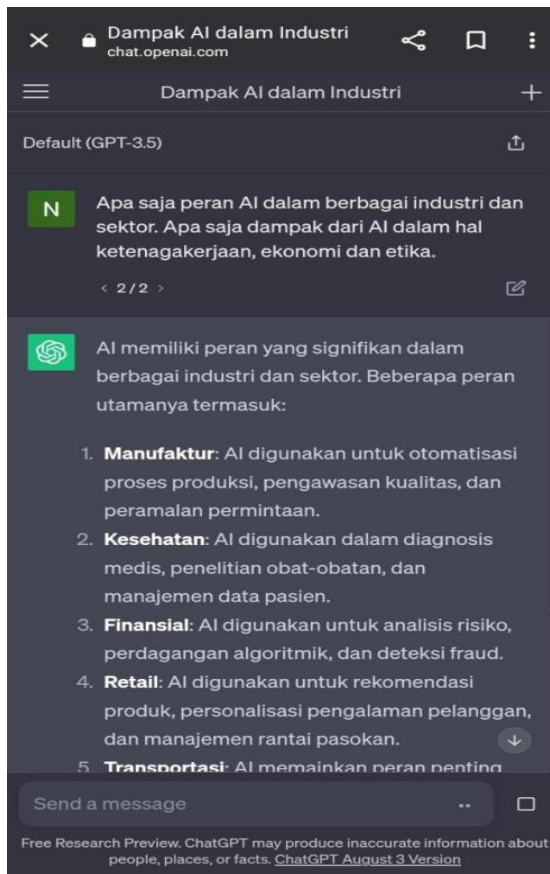


Figure 2. Participants held discussions related to the development of writing content ideas

Sumber: Screenshot from Participants

In the pictures above, participants search for ideas or ideas related to material for essay making. Students ask through a prompt or type commands, and then ChatGPT starts giving answers and recommendations. The application of ChatGPT as one of the roles that support today's learning technology, with the question and answer feature as an interactive conversational discussion, makes the learning atmosphere interesting and not boring for students.

3.4. Discussions

An essay is a paper that deals with a specific subject. The substance not only provides information about the topic but also presents opinions and facts about the author's ideas. When describing every content of the paper, focus on the author's comprehension or knowledge, giving examples and descriptions between the knowledge and experience provided and the evidence included.

The study from (Imaniah, 2022) said that in the nature of academic life, Writing skills are the most essential part for students, considering writing abilities require students to have the capability to think and advance content in academic writing.

Another researcher (Fatimah, 2018) stated that in relation to writing, students must confirm the importance of essay elements and academic work, change writing in their own language, elaborate, and produce complete academic writing. Therefore, efforts to improve students' essay writing skills need to shift away from focusing on those separate skills and the relationship between students' understanding of content and their ability to write that content. (Campbell et al., 1998)

According to previous researcher (Quintero, 2018) found that writing essays is a fundamental activity for the development of written communication at the university level. However, the teaching and learning process must be planned because this type of writing is also one of the most difficult skills and writing creatively but also has the greatest opportunity to explain the author's point of view. So that makes essay writing skills important because they can be used for various purposes, such as expressing opinions, analyzing a topic, or giving arguments.

The finding also revealed that essays characterized by flexible, original, and in-depth ideas were considered to be of higher quality and that the process of idea formation was strongly linked to language features in the essay, which had implications for writing theory and practice (Crossley et al., 2016).

Elaborating on these insights, a broader perspective on technology's role in education. Delving further into the impact of technology on education, (Sholihatin et al., 2023) said that ChatGPT technology can help the learning process and improve learning activities individually and collectively. This technology can also foster creativity, curiosity, and critical thinking among teachers and students (Afzal, 2023).

Similarly, (Firaina & Sulisworo, 2023) states that the use of ChatGPT for learning can be interesting and alternatively can be effective. However, users must also remain critical and selective while utilizing it. The findings show that ChatGPT generally motivates learners to develop reading and writing skills (Ali et al., 2023).

However, immediate steps can be taken to mitigate the effects of ChatGPT adapting to education, such as updating assessment methods and institutional policies (Lo, 2023). Implementing ChatGPT in the classroom students can improve interaction, facilitate access to educational materials, and provide a flexible and comfortable learning environment. ChatGPT is not a replacement for teachers or human learners but a powerful tool that can enhance and enrich the educational experience. By using ChatGPT can help teachers and students achieve their teaching and learning goals more effectively and efficiently.

4. Conclusion

Finally, the conclusion base on the study is that implementing ChatGPT in essay writing skills in English classes for university students can be applied and bring significant benefits. The implementation of ChatGPT improves performance in writing essays. By applying the use of ChatGPT can help students improve ability of their ideas and understand the structure and style of their essay writing. Students can be creative in improving and developing their English language skills, especially in the field of writing.

For further research, we must explore how the use of ChatGPT as one of the artificial intelligence technologies that will continue to develop in student learning activities and also the impact and learning strategies, especially essay writing related to student academic writing in accordance with academic rules and ethics in universities.

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