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Enhancing English Reading Skills through ChatGPT-OpenAI: A Study on Vocational High School Students

Muman[1]*

[1]English Education Study Program, Faculty of Language Education, IKIP Siliwangi, Indonesia

ABSTRACT

In the rapidly evolving landscape of education, the integration of artificial intelligence has opened new doors to more engaging and personalized learning experiences. Hence, the objectives of this research are to examine the famous application called as ChatGPT-OpenAI whether this application can develop students' reading skill. The researcher used classroom action reach method to collect and analyse the data. The cycles of this method are planning, acting, observing, and reflecting with the procedure of planning, problem identification, implementation of action, observation, reflection, revision, next action cycle, documentation, data analysis and findings, and conclusion and recommendation. The result of implementing ChatGPT-OpenAI to enhance English reading skills among vocational high school students gives the rapid advancements in artificial intelligence. ChatGPT offers an interactive and engaging learning experience, particularly in improving students' comprehension of descriptive texts. For utilizing classroom action research, it measures the effectiveness of ChatGPT-OpenAI through pre-tests, post-tests, and student feedback. The findings indicate a significant improvement in reading abilities, with students demonstrating enhanced comprehension and engagement. The results suggest that ChatGPT-OpenAI is a valuable educational tool for fostering English reading proficiency in vocational school. This finding means teacher should be aware of nowadays is 21th era, so ChatGPT-OpenAI is apart of them which has to be mastered by teachers in developing students' reading skill.

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INTRODUCTION

In today's fast-paced world, technological advancement has become a crucial driver of change across all aspects of life. It proves that the period always changes and it becomes challenges either for educations or other fields. In education field, this is a positive thing to increase its quality. This development can force students and teachers to keep learning a lot, so that Indonesia education can compete and talk a lot in international world. With this, the quality of the Indonesian nation can be better. With so many technologies appear in this era, one of them becomes an eye catching for the researcher is Artificial Intelligence. Artificial Intelligence is happening now in education field. Every student always uses AI to do their work such as lecture assignment, writing an article, writing a final paper, and so forth. In shows that Artificial Intelligence is needed in education because it can help what all need especially when Covid 19 happens AI has been used all the time (Luh Putu Ary Sri Tjahyanti et al., 2022).

According to (Cherif et al., 2020) Artificial Intelligence generally aims to operate and think as human being. It means that Artificial Intelligence can do what human do or it can obey to all orders. Besides it also can search anything which is asked by human. Hence, this technology makes easier when people need a help to find or search something related to their need. In its own development, artificial intelligence utilizes Natural Language Processing (NLP) technology where this technology provides the ability of computers to understand words or texts spoken or written by humans. NLP is

basically a combination of statistical computing, linguistics, machine learning and deep learning (Simpson, 2024).

In educational world, Artificial Intelligence is being widely used by both educators and learners in accelerating the learning process. This can be seen from the large use of Google in searching for data and sources of knowledge and information, the use of translation, checking a text, and even as a virtual mentor. The use of artificial intelligence is also very popular in English learning. Especially in English teaching, Artificial Intelligence is very capable of being used to train students' language skills, especially in training their reading skills. This is because artificial intelligence can facilitate students to be able to communicate interactively using English where students are required to be able to understand the writing produced by Artificial Intelligence (Thi & Nhu, 2024). One of the Artificial Intelligence that can be used and is currently popular is Chat GPT, Generative Pre-trained Transformer, developed by Open AI. This is one version of the GPT (Generative Pre-trained Transformer) architecture designed to generate sensible text and respond to user requests with relevant context (Khyber et al., 2023).

The integration of ChatGPT-OpenAI in English reading instruction represents a transformative approach with the potential to significantly enhance students' reading skills in a more interactive and personalized learning environment, so it means that teachers can put ChatGPT-OpenAI as an assistant to accompany students to interact using English directly (Songsiengchai, 2025). There are not many studies that discuss the use of artificial intelligence in this case using Chat GPT as a medium to improve students' reading skills in English. English reading skills are very important to be mastered by students at high level because some of them may continue to u university or for getting job. By having good reading skills, students will have wider access for various information and knowledge where this ability is very much needed to prepare students later at a higher level (Ibraheem, Mai Khalil; Al-Homidhi, 2025).

One of the texts that need to be learned by students at the high school level in learning English is Descriptive Text. (Khasanah, 2019) says descriptive text is text that describes or explains something in detail, so that the reader feels as if they can see, hear, or feel the object being described. In line with this, (Purnamasari et al., 2021) said descriptive text is text that is used to describe an object with words that involve the five senses, so that the reader can see, hear, smell, or feel the object being described. Besides, (Syifa, et al., 2022) mentions descriptive text is text that describes people, places, or things in a way that allows the reader to have a clear visualization of the things described in the text. In general, descriptive text has characteristics such as the use of detailed adjectives, a text structure consisting of identification and description, and a focus on one particular object. Therefore, based on the explanation above, this study will focus on the use of Chat GPT Open AI as artificial intelligence in improving students' reading skills, especially in Descriptive Text at the high school level. The formulation of the problem in this study is how the Application of Chat GPT Open AI as artificial intelligence in improving students' English reading skills, especially in Descriptive Text Learning at the high school level.

As a global language, English is not only widely recognized but also increasingly utilized in countries like Indonesia for education, business, and international communication (Pokhrel, 2024). Indonesia has almost made English as a second language. This is indeed implemented by the government, so that through English Indonesia can be competitive in the international world (Pokhrel, 2024). This should be overcome seriously by educational system in Indonesia, and we have to thank to the government because English has been obliged started from elementary school. In the implementation, teachers always find many difficulties to make students understand in English such as lacking of vocabulary, grammar, pronunciation, listening, writing, and also reading. The big problem found in this research is students lack of reading. Reading is one of English skill that needs

special approach and teaching in order that students can achieve the understanding of reading (Adolph, 2025). To answer this problem, researcher uses Artificial Intelligence (AI) tool in order to getting easiest process to acquire or understand the text.

Artificial Intelligence (AI) is a science and technique in creating intelligent machines, especially in creating intelligent computer programs or applications (Syifa, et al., 2022). AI is a step to create computers, robots, or applications or programs that work intelligently like humans. In addition, Artificial Intelligence (AI) is a way to manipulate symbols in solving problems (Shen, 2022). A slightly different statement was also made by (Anyanwu et al., 2025). AI is a way to make computers able to do things and can provide better output. (Wang & Yan, 2022) provides a more specific explanation of AI which is a science in the field of computers needed to make the intelligence of software in computers more advanced where the learning process of AI will be artificial intelligence using a computational approach. This means that AI is very closely related to computer science where AI can be said to be able to replace the role of humans in facing challenges or providing convenience in every field of work.

Some examples of artificial intelligence-based technological devices or equipment include Virtual Reality (VR), online motorcycle taxi applications, E-Commerce, Google platforms, smart cars, drones, smart homes, and many others including Chat GPT OpenAI (Stuart J. Russel, 2021). Chat GPT OpenAI is a robot or chatbot based on Artificial Intelligence (Shin & Lee, 2023). This artificial intelligence is able to have conversations and provide answers to the needs and questions of its users. The conversational interactions that occur can also look very natural. For example, users can send commands to create copywriting text. AI will manage questions and provide answers in the form of copywriting text with the language style desired by the user. In fact, this platform can provide the correct language and text structure according to existing rules.

In the line with this research, the researcher takes six previous studies related to this topic. It shows that this topic is not the first time to be conducted, but many previous researchers seem to get interested in. The first is from (Abd. Syakur et al., 2020). The topic is about developing learning model for students to increase reading skill. The learning model is mentioned as reciprocal teaching reading combined with peer-teaching methods, and the researcher made it. The second is form (Poejilestari, 2019). The topic is about improving reading skill using short story technique. The result shows this technique is appropriate to be used for developing students' reading skill. Next is about implementing SQ3R method to improve students' basic reading skill. This research was conducted by (Aziz, 2020), and the findings are the method becomes a solution to improve students' reading skill. The fourth researcher is about developing students' reading skill through making multimodal inferences (Nurviyani et al., 2020). This study indicated that it is almost most of students achieved high score after they made multimodal inferences. Another one is to improve reading skills through interactive approach in first grade of senior high school. It is so clear that this approach also can develop students' reading skill (Nur & Ahmad, 2017). Then, the last is developing students' reading skill using quizzes. This research was conducted by (Pradnyadewi & Kristiani, 2021). The finding is the quizzes is one of learning media can be used effectively for reading.

Referring to the previous studies is this research needs to keep developing because the previous researchers have not used AI to help students in acquiring the understanding of reading comprehension. It is what makes different between this research and the previous researches. Then the researcher uses Chat GPT OpenAI as the part of Artificial Intelligence, and is also as learning tool or media to be implemented in developing students' reading skill. In the application of the media, researcher uses a scientific approach that is considered very suitable for the cycle of research activities that is carried out. The scientific approach is interpreted as the discovery of information in science by using tests as a measuring tool to create a result from an analysis (Nur'ariyani et al., 2023). The

scientific approach has the characteristics of "doing science" (Kusrini, 2018). This means that learners can do many things to obtain the expected knowledge, of course with the steps that have been determined in this approach, including observation, asking, experimenting, associating, and communicating.

Finally, the researcher aims to improve students' English reading skills through a structured intervention. The issue was initially identified during interviews with English teachers, who noted students' frequent struggles in understanding reading texts. To address this, the researcher grouped students according to their proficiency levels as a basis for developing, experimenting with, and refining strategies to enhance their reading abilities. The study follows four main steps: (1) diagnosing students' specific reading difficulties, (2) implementing a reading strategy based on active comprehension techniques—predicting, questioning, clarifying, and summarizing, (3) observing and evaluating the effectiveness of the strategy in improving students' reading skills, and (4) reflecting on the intervention's impact for possible adjustments or broader application in future learning contexts. This approach also aims to support teachers in selecting and applying appropriate media to create a more engaging teaching and learning environment.

METHODS

This research used mixed-method with classroom action research as a design which is suitable to control teaching and learning process in real time. It also describes as a systematic inquiry that teacher conducts to understand and improve their teaching or learning environment (Ivankova & Wingo, 2018). In line with this, (Clark et al., 2020) contributed to the idea that CAR is a powerful tool for school improvement. Action research is known as cyclical process consisting three process – planning, acting, observing, and reflecting (Benson, 2018). In this study, the researcher examined the specific use of Chat GPT OpenAI in developing students' reading skill through CAR cycles. The subjects of this study were vocational high school students, with a sample consisting of 10th-grade students and a population of 30 students.

in increasing students' reading skill in English, the researcher tried to put students based on the level in order to developing, experimenting, and formatting reading skill (Khasanova Yakutkhan & Vohidova, 2023). The study aimed to diagnose the particular difficulties faced by students in understanding reading texts, and the second was to implement the strategy encourages active reading comprehension - predicting, questioning, clarifying, and summarizing, and the third was to observe and evaluate the effectiveness of this strategy in increasing students' reading skill, and the last was related to the reflection of the intervention's effectiveness for possible refinement or broader application in future lessons. This research can also contribute for the teachers to develop their skill in teaching students so that they can apply the appropriate media for the happiness of teaching and learning process.

Then, data is crucial or the most important things in conducting a research because there will no become research without data (Hauber-Özer, 2022). In collecting the data, this study used three instruments related to observation sheet, reading comprehension test including pre-test and post-test, and questionnaire. The purpose of pre-test was to identify whether students have good basic for reading comprehension or not. Besides, the researcher wanted to know how well students could understand the text. Meanwhile post-test was conducted to measure if students got scores as what the researcher hope or not. The aim of using pre-test and post-test is to determine whether there is a significant improvement in students' reading comprehension skills after the treatment was applied with the indicators – identifying main idea, understanding supporting details, making inferences, understanding vocabulary in context, identifying text structure and purpose, and answering literal and interpretive questions (Grabe, 2021).

As it has been mentioned above, collecting data is the same as how the data analyse. In this research, the data analysed both quantitative and qualitative. The analysis of quantitative data used the instrument of Pre-test and Post-test. These tests were used to measure the basic of students' skill before they were taught about reading comprehension, and after treatment was done students did the post-test to measure whether the earning is successful or same as the previous scores (Mackiewicz, 2018). The other instrument, questionnaire, was conducted to students to measure their difficulties. By knowing students' response of what they felt while learning reading comprehension, the researcher knew what the strength and weakness of Chat GPT OpenAI.

RESULTS & DISCUSSION

There are three new findings from the results of research conducted at SMK TI Pembangunan related to the use of ChatGPT. OpenAI learning media. The data obtained is in accordance with the instruments used in the data collection process.

1.   Pre-test and Post-test

This test was conducted to determine the effectiveness of using the ChatGPT. OpenAI media. Here the researcher shows the result of pre-test and post-test. Pre-test was conducted to the students to measure whether students' English reading skill is good or it still needs to be increased while post-test was done to measure students' ability after the teacher gave material treatment in accordance with the research topic. The pre-test was administered to a total of 30 students to assess their initial reading comprehension skills before the instructional intervention. The results revealed a wide range of scores, with the lowest score being 40 and the highest score reaching 65, resulting in a score range of 25 points. The total score accumulated by all students was 1,545, and the mean (average) score was calculated to be 51.50.

A closer look at the score distribution shows that the most frequently occurring scores were 45 and 50, each achieved by 8 students, making them the modes of the dataset. The median score, or the middle value in the ordered data set, was 50, indicating that half of the students scored below or at this level, while the other half scored above or at the same level. This suggests that the overall performance of the class was skewed slightly towards the lower-middle range. In terms of performance categories, most students scored between 45 and 55, indicating moderate levels of reading comprehension. Only 2 students scored above 60, showing higher-than-average proficiency, while several students (especially those who scored 40 or 45) demonstrated limited comprehension, pointing to areas in need of instructional support. Overall, the pre-test results indicate that while a few students have shown strong initial reading abilities, a significant portion of the class requires targeted intervention to improve their reading comprehension. These findings will serve as the foundation for designing and implementing appropriate teaching strategies during the intervention phase of the study.

Next, from the result of data Post-test, after the instructional intervention was implemented, a post-test was conducted to measure the students' improvement in reading comprehension. The test was administered to the same group of 30 students, and the results demonstrated a clear upward trend in performance compared to the pre-test. The total score obtained by the students was 2,010, resulting in a mean score of 67.00, which is a significant increase from the pre-test mean of 51.50. The lowest score recorded in the post-test was 50, and the highest score was 80, giving a score range of 30 points. The most frequently occurring score (mode) was 65, achieved by 8 students, followed closely by 70, which was achieved by 7 students. The median score was 65, indicating that the majority of students scored in the mid-to-high range. This pattern reflects a noticeable improvement in students' reading comprehension abilities.

In contrast to the pre-test results, the post-test scores are more tightly clustered around higher values, suggesting a more consistent and improved level of performance across the class. A significant number of students (over 80%) scored 60 or above, which shows that the intervention was effective in enhancing reading skills for most participants. Overall, the descriptive analysis of the post-test data indicates that the instructional intervention had a positive impact on students' reading comprehension. The improvement in both the mean score and the overall distribution supports the effectiveness of the strategies employed during the research cycle. From the data above – the result of pre-test and post-test, the researcher again examined the steps – normality test, homogeneity, and pair sample test – to strengthen this result is not beyond doubt. The distribution can be understood below.

a. Normality Test

Table 1. Normality Test Result

	Class	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Result of Students' learning	PRE-TEST	.185	30	.010	.928	30	.043
	POST-TEST	.149	30	.085	.940	30	.089

Tests of Normality

From this above data, the data obtained is normal. This can be seen from the very significant results of the pre-test 0.043 then post-test 0.089. This means that the data obtained is higher than 0.05.

b. Homogeneity Variance Test

A Homogeneity of Variance test, also known as a test for homoscedasticity, checks if the variances (spread or dispersion of data) across different groups are roughly equal.

Table 2. Homogeneity Variance Test

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Result of Students' learning	Mean	.116	1	58	.734
	Median	.021	1	58	.886
	Median and with adjusted df	.021	1	57.964	.886
	Trimmed mean	.099	1	58	.754

This data is categorized as homogeneous data if the significance value is more than (>0.05). The result of this research calculation is the significance value of the mean is 0.734, so the data is categorized as homogeneous because it is more than 0.05.

c. Paired Sample Test

This includes statistical parametric to test the hypothesis. This test is conducted to measure whether there is an improvement in students' English reading or otherwise. The results of the paired sample test can be seen below.

Table 3. Paired Sample Test

Paired Samples Test

		Paired Differences							Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	
					Lower	Upper			
Pair 1	Pre-Test - Post-Test	-15.500	3.037	.555	-16.634	-14.366	-27.953	30	.000

The data above shows that this paired sample test is H0 is rejected while Ha is accepted. That means that there is a significant improvement in students' ability to read English after students learnt reading by using ChatGPT. OpenAI media.

2. The Result of Questionnaires data distribution

After students got the test and the scores have appeared, the researcher distributed the questionnaires to identify students whether they found difficulties in the process of learning. A questionnaire consisting of 10 items was administered to assess students' perceptions of their reading comprehension and the use of ChatGPT. OpenAI as a learning tool. The responses were recorded using a 5-point Likert scale:1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree (Maximilian Assistant Professor et al., 2020). Form the result data analysis, students generally reported higher confidence in understanding English texts after the intervention. For instance, in item 2 ("I am not good at understanding English texts"), an overwhelming 28 students strongly disagreed, suggesting that most students now feel competent in reading comprehension. Similarly, item 10 ("Understanding descriptive text with ChatGPT. OpenAI media encourages me to be confident") showed 29 students strongly agreeing, indicating that the media significantly boosted their confidence.

Regarding vocabulary difficulties (item 9), responses were more varied, with 14 students strongly agreeing that limited vocabulary still poses a challenge. This shows that while reading comprehension improved, vocabulary development remains a concern for some learners. In terms of the learning tool, ChatGPT. OpenAI was generally well-received. In item 8, 19 students agreed or strongly agreed that the tool improved their English reading skills. Moreover, in item 6, the statement "The text description made me interested in learning English" received positive responses from 15 students, reflecting increased engagement and motivation. On the technical side, item 7 revealed a more mixed result: 10 students remained neutral about whether they had difficulty using ChatGPT. OpenAI, suggesting that although the tool was useful, some learners may require additional guidance or digital literacy support. Overall, the questionnaire responses support the conclusion that the intervention was effective in improving students' reading comprehension and motivation, though further attention is needed in vocabulary development and media literacy.

From the result of test and questionnaire, it can be compared to the previous researches. The researcher at least took six articles in accordance with improving students' reading skill. The first article was taken from the research result (Suhaimy & Fitriani, 2023). It is about developing students' reading skill using jigsaw technique and CAR method. Even the media was different from this research, it has the same positive finding. The second research has also similar topic, but different strategy (Munfadlila, 2021). The use of strategy in improving reading skill is called as direct reading thinking activity (DRTA). The main purpose of its strategy is to force students to be active, to think critically, and to have a good strategy. This research also used CAR method. Finally, by implementing this strategy, the result of this research finds similarity that is positive improvement for students reading skill.

The next-previous research was conducted at one of universities in second semester of English Education Study Program through text-based instruction model (Hamida A. Jasin;, 2022). The research method is different because it used descriptive technique, but the instruments are same – test, questionnaires, and observation. The result concluded that this model can increase reading skill of students which means it gets the similar positive finding with this study. Another previous research was conducted by (Mengistnew & Sahile, 2021). This research was literally strange because the teaching process did not use any media even though there were two instruments – test and observation. The intervention results show quite failed development during twelve days. Through one day one hour activity, the approach of teaching-learning process must be modified. The result is clearly different from this study.

Subsequently, in 2023 two researchers studies about the development of reading skill by using storyline with quasi-experimental research (Saisorn & Pansa, 2023). The result is in line with this research – to be specific, there is a development after students were given treatment even though the use of method and instruments were different. The other research was done by (Setachan, 2023) using Active Learning Based on MIAP Model which strengthens critical thinking and how students can understand a topic easily. By using the same instrument with this research, the finding shows positive effect. From the media used, either ChatGPT-OpenAI or MIAP Model can impact the students' ability of reading comprehension.

In general, this research is highly successful. By applying the learning tool called as ChatGPT. OpenAI, this research affects positive way in education world especially for reading skill. This result also is not different from the previous researches except with the sixth researchers. The five previous researches show positive impact while the other one failed and it needs modification in the process teaching and learning especially choosing the media, approach, or method. Lastly, through this study, the researcher gives good contribution to education world, and every teacher can use this learning tool to increase students' reading skill. This is a new finding in education, so it is better for people who has a career in education.

CONCLUSION

The findings of this study indicate a significant increase on students' reading abilities, as demonstrated by improved post-test scores and positive feedback from students' questionnaire. For the score of Pretest and Post-test, the normality test results show significance values of 0.043 (pre-test) and 0.089 (post-test), indicating that the data are normally distributed. The homogeneity of variance test shows a significance value greater than 0.05, confirming that the data are homogeneous. The paired sample t-test rejects H_0 and accepts H_a, indicating a statistically significant difference between pre-test and post-test scores while the students' responses reflect that the intervention helped improve their reading comprehension and motivation, but further support is needed in developing vocabulary and media literacy. As an addition, ChatGPT-OpenAI is not the most perfect tool. It is not a human, but this is a machine, so it needs long time to understand how to operate this tool not only for students but also for teachers. Then, it is sometime the users will find error or meet with something different from what it should be. It means that no matter how smart technology is human must be cleverer that machine.