

USING CRITICAL THINKING TO IMPROVE SPEAKING SKILL THROUGH MOSHI ARTIFICIAL INTELLIGENCE

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Abstract

The use of artificial intelligence (AI) applications in the digital era is believed to facilitate students in mastering speaking skills. This study aims to investigate how the Moshi application enhances students' speaking abilities and critical thinking skills, thereby improving their learning participation and responses toward the use of AI in education. Employing classroom action research, the study followed four stages: planning, acting, observing, and reflecting. The research was conducted in two cycles involving 39 students. Data were collected through observations, tests, and interviews. The findings indicate that the use of the AI-based Moshi application significantly improved students' speaking performance, as reflected in the increased scores from Cycle 1 to Cycle 2. Moreover, students demonstrated better ability to construct structured arguments, support opinions with relevant evidence, and communicate with greater confidence after using Moshi. The integration of AI fostered a more interactive and personalized learning environment, which contributed to the development of essential 21st-century competencies. Overall, the results suggest that implementing Moshi AI in the classroom can substantially enhance students' speaking and critical thinking skills. Furthermore, the use of AI by teachers represents a promising and effective alternative instructional medium for improving the quality of language teaching and learning.

Kata kunci: Critical Thinking, Moshi Artificial Intelligence, Speaking Skills

1 INTRODUCTION

In today's rapidly evolving digital era, the integration of artificial intelligence (AI) into education has become a critical issue, particularly in improving students' communication and cognitive competencies. One of the fundamental 21st-century skills that students must acquire is critical thinking. According to Facione (2015), critical thinking involves analyzing, evaluating, and constructing arguments based on logical and reliable evidence. This aligns with Ennis (2018), who argues that critical thinking must be taught contextually and integrated into learning.

Considering the demands of today's curriculum and the global education trend, it is necessary to adopt innovative tools that enhance these essential skills. AI-based applications such as Moshi offer interactive simulations that provide real-time feedback and can potentially improve students' critical thinking and speaking abilities. The researcher identified several problems are Students have limited critical thinking abilities, especially in formulating logical arguments and expressing ideas clearly, the dominant use of teacher-centered methods fails to encourage active student engagement in analyzing and evaluating information and technology most particularly AI is underutilized in classroom instruction, despite its potential to enhance learning outcomes. The numerous studies have explored the

development of critical thinking and speaking skills in educational contexts, particularly through the integration of technology and innovative learning strategies, students who frequently engage with artificial intelligence platforms show a significant improvement in their critical thinking abilities (Tampubolon, et al., 2024). Explore the creative potential of AI in language learning including speaking. They concluded that AI-based tools, such as chatbots and voice assistants, offer opportunities for students to practice real-time speaking in a low- pressure environment, which contributes to greater fluency and confidence (Kurniawan,.Tambunan,. Sasama, 2024). (Parwoto et al, 2024) investigated the use of project-based learning combined with AI support and revealed its effectiveness in encouraging students to assess problems from multiple perspectives, thus fostering critical analysis and decision-making skill. (Aulia, I., Indriyani, S., Dewi, N. R, 2024) conducted research using a Problem-Based Learning model supported by Augmented Reality (AR). Their findings showed a notable increase in students' ability to articulate ideas and engage in structured oral communication. The AR component enhanced motivation and provided immersive experiences that encouraged students to speak more confidently.

Based on other research that has explored AI's role in education generally or in improving thinking skills separately, this study uniquely examines the dual development of speaking and thinking using Moshi. Therefore, this research addresses the gap by providing evidence-based insights into the use of AI to solve classroom challenges in critical speaking performance.

Augmented Reality (AR) has emerged in our educational paradigm as a new tool to accelerate change in the teaching and learning process(Saidin et al., 2024). Nowadays education has undergone a transformation in the learning methods it has carried out so far, from face-to-face to virtual face-to-face or better known as distance learning(Badriyah et al., 2023). The study conducted by (Chaidir et al., 2024) revealed that the use of Augmented Reality (AR) media in English language learning is effective in enhancing students' speaking skills by creating a more interactive, engaging, and meaningful learning process. Augmented reality merges digital imagery into real-world spaces and in real time (Ahmad, 2017). One of the most significant barriers to English learning for students is a lack of practice environments.

Additionally, in the (EFL) classroom, emotions such as speaking anxiety and language enjoyment may influence students' performance. It is well established that students' achievement is harmed by foreign language anxiety. Artificial Intelligence (AI) advancements present an opportunity to solve this issue (Hapsari & Wu, 2022). Education 4.0 has emerged as a response to the Industrial Revolution 4.0, focusing on integrating technology into learning to support digital transformation and enhancing 21st-century skills, such as critical thinking, creative thinking, communication, and collaboration. While technology provides convenience, it also challenges students to develop these essential skills (Habibah et al., 2025). Artificial intelligence can improve students' critical thinking (Kononova, 2025) and then new learning alternatives are created to encourage students' active behaviour and participation. Students can thus feel motivated and actively engaged in the learning process (Chaparro-Banegas et al., 2024)

AI-Facilitated Critical Thinking in Project-Based Learning (Kimmel, 2024). AI-based tools are now being integrated as active tools for delivering courses, managing tasks, and offering feedback to students. Although there are many benefits of the use of AI in education, it also has an abundance of drawbacks that need to be solved to ensure its appropriate application. According to AI's most valuable assets in education, it opens up personalized learning opportunities. Since there are several students in a class, the AI-driven platforms will be able to assess the learning patterns of each student to design each learning plan. Internet integrated artificial intelligence (AI) is now deeply rooted in all fields, and it impacts almost every sector, including education. Educational systems incorporation with AI is beneficial in regard to coming up with new ways of improving students, faculties, and administrative processes. Ai usage in education abilities collaboration, communication, critical thinking, and creativity (Hasan et al., 2024).

2 RESEARCH METHODS

This study aims to improve students' critical thinking and speaking skills through the use of Moshi, an AI-based application, among eleventh-grade students at Tulus Bhakti High School. This research was carried out in 2 cycles. The study applies Classroom Action Research (CAR) using the Kemmis & McTaggart model. It follows a qualitative approach to observe real classroom conditions through planning, acting, observing, and reflecting (Arikunto, 2021).

This study involved 39 students in the eleventh grade from a private senior high school in Bekasi, West Java, Indonesia. The researcher used observation, tests, and interviews to collect data. The observation was carried out in two cycles, with an initial observation conducted to assess students' critical thinking and speaking skills. Post-tests were administered at the end of each cycle, while interviews were conducted after the completion of the learning cycle, with students grouped according to their abilities (low, medium, high). The method used in this study is a qualitative method. Qualitative research methods are research methods that can be used to research natural conditions or conditions of objects, where researchers are key instruments, data collection techniques that can be carried out by triangulation (combination), data analysis is inductive and qualitative research results emphasize meaning and generalization (Sugiyono, 2022).

The implementation of this research is in the form of a cycle. This cycle is planned twice, until the desired goal in terms of KKM is achieved. The implementation of the research begins with conducting an initial study as a pre-action step that aims to find out the problems in the school before the research cycle is carried out. In each cycle, several processes are carried out, namely an assessment consisting of four stages, namely planning (plan), implementation of actions (action), observation (observation), and reflection (reflective) based on the reflection, problems arise that need attention until in turn it is necessary to carry out repeated cycles until a problem can be considered resolved.

3 RESULT AND DISCUSSION

The research was conducted at Tulus Bhakti High School, Bekasi City. The school is located at Jalan Swatantra 2 No. 7, Jatiasih District, Bekasi City. The research was conducted in class XI IPS 1 with 39 students.

3.1 Result

Conditions before the classroom action research was conducted. Based on the interview and observation table conducted at SMA Tulus Bhakti Bekasi City in the 2024/2025 academic year in class XI IPS 1, the number of students was 39. The learning outcomes of the main material of Procedure Text students were still low. This can be seen in the daily student tests that have been carried out by colleagues, some students' scores are still low below the Minimum Completion Criteria (KKM) which is ≥ 75 .

3.1.1 Frequency Distribution of English Grades in the Pre-Cycle Stage

Table 1 Frequency Distribution of English Grades in the Pre-Cycle Stage			
No	Interval	Frequency	Percentage (%)
1	91-100	0	0%
2	81-90	1	3%
3	71-80	8	21%
4	61-70	22	56%
5	50-60	8	21%

Jumlah	39	100%
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Based on table 1, it can be described the results of the conditions before the action of class XI IPS 1 on the main material of Procedure Text obtained 8 students in the interval 50-60 (21%), 22 students in the interval 61-70 (56%), 8 students in the interval 71- 80 21% and student in the interval 81-90 (3%), with the highest value is 80 dan lower 50.

3.1.2 Frequency Distribution Results of Post-test Results

The implementation stage of cycle I was carried out in 3 meetings. The 1st meeting was on Wednesday, January 15, 2025, the 2nd meeting was on Wednesday, January 22, 2025 and the 3rd meeting was on Wednesday, January 29, 2025. Each meeting had a time allocation of 2 x 45 minutes with the main material of Procedure Text.

The learning outcomes that have been analyzed in cycle I show less than satisfactory results because there are still some students who have not achieved the KKM that has been determined from the main material of Procedure Text. The learning outcomes from the Post- test questions that have been worked on by class XI IPS 1 students on the main material of Procedure Text can be seen in the table presented below:

Table 2 Frequency Distribution Results of Post-test Results of Grade XI IPS 1 Students SMA Tulus Bhakti Bekasi City Cycle I			
No	Interval	Frequency	Percentage (%)
1	91-100	0	0%
2	81-90	1	3%
3	71-80	22	56%
4	61-70	8	21%
5	50-60	8	21%
Jumlah		39	100%

Based on table 4.3, it can be explained that the post-test student learning outcomes on the main material of Procedure Text were obtained by 8 students in the 50-60 interval (21%), 8 students in the 61-70 interval (21%), 22 students in the 71-80 interval (56%), and 1 student in the 71-80 interval (3%). With the highest score of 85. While the lowest score is 60.

Discussion

The implementation and observation stages of cycle II were carried out at each meeting. Each cycle consisted of 3 meetings, namely the 1st meeting on Wednesday, February 5, 2025, the 2nd meeting on Wednesday, February 12, 2025 and the 3rd meeting on Wednesday, February 19, 2025. Each meeting has a time allocation of 2 x 45 minutes with the main material of Procedure Text.

The learning outcomes that have been analyzed by the researcher show very satisfying results in this second cycle because all students of class XI IPS 1 have achieved the specified KKM. The learning outcomes from the Post-test questions that have been worked on by students of class XI IPS 1 on the main material of Procedure Text can be seen in the table presented below:

Table 3. Frequency Distribution Results of Post-test Results of Grade XI IPS 1 Students SMA Tulus Bhakti Bekasi City Cycle II

N o	Interval	Frequency	Percentage
1	91-100	0	0%
2	81-90	4	10%
3	71-80	35	90%
4	61-70	0	0%
5	51-60	0	0%
6	Jumlah	39	100%

Based on table 3, it can be described that the post-test results of class XI IPS 1 students on the main material of Procedure Text obtained 35 students in the interval 71- 80 (90%), and 4 students in the interval 81-90 (10%). With the highest value being 85. While the lowest value is 75.

3.2 Table

The learning outcomes of class XI IPS 1 students of SMA Tulus Bhakti Kota Bekasi using artificial intelligence "Moshi" seen from the initial conditions before the action, cycle I and cycle II appear to have experienced unstable changes. The learning outcomes in the initial conditions showed that out of 39 students, 6 students had achieved the KKM, while 33 students had not achieved the KKM. After the cycle I was carried out, the students' learning outcomes increased by 16 students who had not achieved the KKM, and only 23 students who had achieved the KKM. This happened when cycle I learning activities were not well understood by students, most of them talked to their friends or focused their attention on what they brought. Furthermore, the learning outcomes in cycle II experienced significant changes in the main material of Procedure Text, previously in cycle I it was less successful, in cycle 2 now 39 students have achieved the KKM. The following are the learning outcomes of students on the main material of Procedure Text in the initial conditions, cycle I, and cycle II which are presented in table 4:

Table 4. Comparison of Summary of Learning Outcome Completion of the Main Material of Procedure Text Initial Conditions, Post-test Cycle I and Post-test Cycle II

N o	Mark	Initial F	Conditions %	Cycle I F	%	Cycle II F	%
1	Completed	6	15%	23	59%	39	100%
2	Not yet finished	23	59%	16	41%	0	0%
Amount		39	100%	39	100%	39	100%

Based on table 4, the comparison of the recapitulation of the completion of the main material of Procedure Text learning outcomes can be seen that there is an increase and decrease in the number of students who have completed from 39 students, as evidenced by the initial conditions there are still many students who have not achieved completion after the action cycle I the number of students who have not achieved completion increases as seen from the post-test results. In the initial conditions that have not reached the KKM 23 students, after cycle I those who have not reached the KKM decreased to 16 students. With problems like this, researchers are motivated to improve student learning outcomes to improve further. In cycle II there was a significant increase from the post-test results, it can be seen that there are no students who have not reached the KKM, all 39 students have reached the KKM. This proves that learning when carried out with an interesting approach can improve students' learning understanding.

3.3 Figure



Figure 1. Recapitulation Diagram of Learning Outcome Completion for the main material Procedure Text Initial Conditions, Post-test Cycle I and Post-test Cycle II

4 CONCLUSION

Based on the results of observations and actions taken in class XI IPS 1 SMA Tulus Bhakti Kota Bekasi, it was found that the application of artificial intelligence "Moshi" was significantly able to improve student learning outcomes, especially in critical thinking skills and speaking skills on the main material of Procedure Text. Previously, conventional learning resulted in low student understanding and learning outcomes below the KKM. However, after the implementation of "Moshi", there was an increase in learning completeness from 15% in the initial condition to 59% in cycle 1, and reached 100% in cycle 2. In addition to improving learning outcomes, students' attitudes towards learning also improved; they became more active, creative, and able to work together. This shows that the use of "Moshi" is not only effective in improving understanding of the material, but also in fostering 21st century skills such as critical thinking, collaboration, and creativity. Thus, the use of artificial intelligence "Moshi" has proven successful and relevant to be applied in learning Procedure Text in class Eleventh IPS 1 and the researcher succeeded in exceeding the lower limit of the percentage of student learning completeness, which was 100%.

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