

Integration of Chatbot AI in English Language Learning: Its Impact on Learning Motivation and Grammar Skills of SMP 1 Muara Bungo Students

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ABSTRACT

The integration of Artificial Intelligence (AI) chatbots in English Language Teaching (ELT) has significantly influenced grammar instruction by providing interactive, adaptive, and personalized learning experiences. This study aims to describe the English teacher's insight into the use of AI chatbots and examine its impact on students' motivation, grammar skills, and perception in grammar learning. This study employed a descriptive qualitative research design. The participants consisted of one English teacher and 50 students at SMP Negeri 1 Muara Bungo who had experience using AI chatbots in grammar learning. Data were collected through interviews, questionnaires, and documentation. The data were analyzed using the interactive model of Miles, Huberman, and Saldaña (2014), including data condensation, data display, and conclusion drawing and verification. The findings revealed that the teacher had a positive and supportive insight into the use of AI chatbots as instructional tools. The teacher recognized that AI chatbots provided immediate feedback, facilitated independent learning, and enhanced students' engagement. Furthermore, the use of AI chatbots increased students' motivation, improved their grammar skills, and created positive perceptions toward grammar learning. Students reported that AI chatbots made grammar learning more interesting, accessible, and easier to understand. The study concludes that teacher insight plays a critical role in the successful integration of AI chatbots in grammar instruction. AI chatbots can serve as effective instructional tools to improve grammar learning outcomes, increase student motivation, and promote positive learning experiences.

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1. INTRODUCTION

English plays a crucial role as an international language used in communication, education, science, technology, and various professional fields worldwide. In the educational context, English Language Teaching (ELT) aims to develop students' communicative competence, which includes grammatical competence, sociolinguistic competence, discourse competence, and strategic

competence (Richards, 2006). Among these components, grammatical competence is fundamental because it provides the structural framework necessary for meaningful communication. Without adequate grammar knowledge, students may struggle to express ideas clearly and accurately.

Grammar instruction remains one of the most challenging aspects of English language learning. Many students perceive grammar as difficult, complex, and abstract. Traditional grammar teaching methods often focus on memorization of rules rather than meaningful use, which can reduce students' motivation and engagement in learning. As a result, students may experience difficulties in understanding grammatical concepts and applying them in real communication.

The advancement of technology has introduced innovative approaches to language teaching and learning. One of the most significant developments is the emergence of Artificial Intelligence (AI) in education. AI chatbots are computer programs designed to simulate human conversation using natural language processing and machine learning technologies (Fryer & Nakao, 2021). In language learning, AI chatbots can provide interactive learning experiences, immediate feedback, and personalized instruction, which can enhance students' understanding of grammar.

AI chatbots offer several advantages in grammar learning. They provide instant correction, explanation, and practice opportunities, allowing students to learn from their mistakes immediately. Additionally, AI chatbots create a low-anxiety learning environment where students feel comfortable practicing language skills without fear of making mistakes.

However, the successful implementation of AI chatbots in education depends largely on the teacher's insight. Teacher insight refers to teachers' understanding, perception, and ability to integrate technology effectively into the learning process (Shulman, 1987). Teachers play a critical role in guiding students, facilitating learning activities, and ensuring effective use of instructional technology.

Therefore, this study aims to describe the English teacher's insight into the use of AI chatbots and examine its impact on students' motivation, grammar skills, and perception in grammar learning.

2. LITERATURE REVIEW

English Language Teaching (ELT) aims to develop students' communicative competence, enabling them to use English effectively and appropriately in various contexts (Richards, 2006). Communicative competence includes grammatical competence, which refers to the ability to understand and apply grammatical rules accurately in communication. Grammar plays a fundamental role in language learning because it provides the structural foundation that supports meaningful communication (Thornbury, 1999).

Effective grammar instruction should not focus solely on memorizing rules but also on meaningful use in context. Modern ELT emphasizes communicative and student-centered approaches that encourage active participation and interaction (Harmer, 2007). The integration of technology in grammar instruction has been shown to improve engagement and facilitate deeper understanding of grammatical concepts (Chapelle, 2003).

2.1 Artificial Intelligence Chatbots in Language Learning

Artificial Intelligence (AI) chatbots are computer programs designed to simulate human conversation using natural language processing (Fryer & Nakao, 2021). In educational contexts, AI chatbots can provide immediate feedback, personalized learning experiences, and interactive practice opportunities. These features support students' autonomous learning and enhance their language development.

Recent studies have shown that AI chatbots can improve students' grammar skills by providing instant correction, explanation, and repetitive practice opportunities (Kim et al., 2019). Additionally, AI chatbots create a low-anxiety learning environment, allowing students to practice without fear of judgment, which is beneficial for language acquisition.

2.2 Teacher Insight in Using AI Chatbots

Teacher insight refers to teachers' understanding, perception, and ability to effectively integrate technology into the learning process (Shulman, 1987). Teachers play a critical role in determining how technology, including AI chatbots, is used in instruction. Their insight influences instructional strategies, student engagement, and learning outcomes.

Teachers who have positive insight into AI chatbots tend to use them effectively as instructional tools, facilitating interactive learning and supporting students' grammar development. Conversely, limited teacher understanding may reduce the effectiveness of technology integration (Ertmer & Ottenbreit-Leftwich, 2010).

2.3 Students' Motivation in Learning Grammar

Motivation is a key factor influencing language learning success. It refers to students' willingness, interest, and effort to learn a language (Dörnyei, 2001). Technology-enhanced learning environments, including AI chatbots, have been shown to increase students' motivation by making learning more engaging, interactive, and enjoyable (Hapsari, 2024).

AI chatbots provide immediate responses, personalized interaction, and flexible learning opportunities, which help maintain students' interest and encourage continuous learning. As a result, students become more motivated to practice grammar independently.

2.4 Students' Perception of AI Chatbots in Grammar Learning

Students' perception refers to their beliefs, attitudes, and opinions about the use of AI chatbots in learning. Positive perception can enhance engagement, motivation, and learning effectiveness (Davis, 1989). When students perceive AI chatbots as useful and easy to use, they are more likely to accept and utilize them in learning activities.

Previous studies indicate that students generally have positive perceptions of AI chatbots because they provide instant feedback, accessibility, and interactive learning experiences (Fryer & Carpenter, 2006). These advantages make AI chatbots effective tools for supporting grammar learning.

2.5 Conceptual Framework

This study focuses on the English teacher's insight into the use of AI chatbots and its relationship with students' motivation, grammar skills, and perception in grammar learning. Teacher insight serves as the central factor influencing how AI chatbots are implemented in instructional practices. Effective use of AI chatbots can enhance students' motivation, improve grammar skills, and create positive learning perceptions.

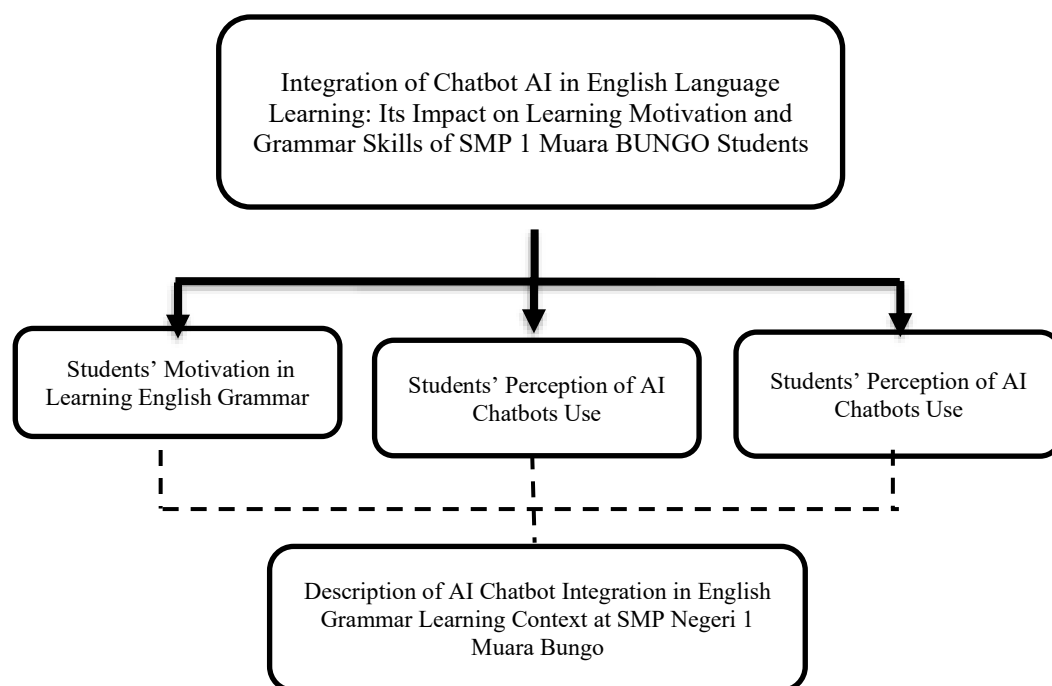


Figure 1. Theoretical Framework

3. METHOD

3.1 Research Design

This study employed a descriptive qualitative research design. Descriptive qualitative research aims to describe, interpret, and understand phenomena in their natural context without manipulating variables (Creswell, 2014). This design was appropriate because the purpose of this study was to describe the English teacher's insight into the use of AI chatbots and examine its impact on students' motivation, grammar skills, and perception in grammar learning.

Qualitative descriptive research focuses on providing a comprehensive summary of events and experiences as reported by participants (Miles, Huberman, & Saldaña, 2014). This design allows the researcher to explore participants' perspectives, experiences, and interpretations in depth. In this study, the descriptive qualitative approach enabled the researcher to analyze the teacher's insight and students' responses toward the use of AI chatbots in grammar learning.

3.2 Research Setting

This study was conducted at SMP Negeri 1 Muara Bungo, Jambi, Indonesia. This school was selected because it had implemented AI chatbots as part of English grammar instruction. The integration of AI chatbots provided an appropriate context to investigate the teacher's insight and students' responses toward the use of AI technology in grammar learning.

The research was conducted during the academic year 2025/2026. The AI chatbot was used as a supporting learning tool in grammar instruction, allowing students to interact with the chatbot to practice grammar exercises, receive feedback, and improve their grammatical understanding

3.3 Research Participants

The participants of this study consisted of one English teacher and 50 students of SMP Negeri 1 Muara Bungo. The participants were selected using purposive sampling. Purposive sampling is a non-probability sampling technique used to select participants based on specific criteria relevant to the research objectives (Creswell, 2014). The criteria for selecting participants were:

1. The English teacher who had experience using AI chatbots in grammar instruction
2. Students who had used AI chatbots in learning English grammar
3. Students who were actively involved in grammar learning activities using AI chatbots

The English teacher was selected because the teacher had direct experience integrating AI chatbots into classroom instruction. The students were selected because they had direct experience interacting with AI chatbots during grammar learning.

3.4 Research Instruments

This study used three research instruments: interview, questionnaire, and documentation.

3.4.1 Interview

The interview was conducted with the English teacher to explore the teacher's insight into the use of AI chatbots in grammar learning. The interview used a semi-structured interview format. Semi-structured interviews allow researchers to explore participants' experiences and perspectives in depth while maintaining flexibility (Creswell, 2014). The interview focused on the following aspects:

1. Teacher's understanding of AI chatbots
2. Teacher's perception of AI chatbot effectiveness
3. Teacher's experience using AI chatbots
4. Teacher's observation of students' motivation
5. Teacher's observation of students' grammar improvement

The interview was conducted face-to-face and recorded to ensure accuracy.

3.4.2 Questionnaire

The questionnaire was distributed to 50 students to collect data on students' motivation, grammar skills, and perception toward AI chatbot use. The questionnaire used a closed-ended, five-point Likert scale, widely used to measure attitudes, perceptions, and motivation (Likert, 1932).

The questionnaire consisted of three main indicators:

1. Student motivation
2. Grammar learning improvement
3. Student perception toward AI chatbot use

The questionnaire was distributed after students had experience using AI chatbots in grammar learning.

3.5 Data Collection Procedures

The data collection process was conducted in several steps:

Step 1: Interview

The researcher conducted an interview with the English teacher to explore the teacher's insight and experience using AI chatbots.

Step 2: Questionnaire Distribution

The questionnaire was distributed to students who had used AI chatbots in grammar learning. Students completed the questionnaire based on their learning experience.

Step 3: Documentation Collection

The researcher collected relevant documents related to AI chatbot use in grammar learning.

3.6 Data Analysis

The data in this study were analyzed using descriptive analysis to provide a clear description of students' perceptions, motivation, grammar skills, and the teacher's insight regarding the use of AI chatbots in English grammar learning at SMP Negeri 1 Muara Bungo. The data were obtained from questionnaires and in-depth interviews.

3.6.1 Questionnaire Data Analysis

The questionnaire data were analyzed using descriptive statistics. Each item used a five-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5). The students' responses were calculated to obtain the mean scores and percentages for each item and indicator. The results were interpreted descriptively to identify trends and patterns in students' perceptions, motivation, and grammar learning experiences with AI chatbots.

3.6.2 Interview Data Analysis

The interview data from the English teacher and students were analyzed using the qualitative analysis model proposed by Miles, Huberman, and Saldaña (2014), which consists of three steps: data reduction, data display, and conclusion drawing and verification. First, the interview recordings were transcribed and relevant data were selected and organized. Second, the data were presented in descriptive form and grouped into themes such as teacher insight, student motivation, grammar learning, and student perception. Finally, conclusions were drawn and verified to ensure consistency and accuracy.

3.6.3 Integration of Data

The questionnaire and interview data were integrated to provide a comprehensive understanding of the use of AI chatbots in grammar learning. The questionnaire provided general trends of students' responses, while the interviews offered deeper insights into students' experiences and the teacher's perspective. This combined analysis helped answer the research questions and provided a clear description of the role of AI chatbots in supporting English grammar learning.

4. RESULTS AND DISCUSSION

This section presents the findings of the study based on data collected from interviews, questionnaires, and documentation. The findings focus on four main aspects: (1) the English teacher's insight into the use of AI chatbots, (2) students' motivation in grammar learning, (3) students' grammar skills improvement, and (4) students' perception toward the use of AI chatbots in grammar learning

4.1 Teacher's Insight into the Use of AI Chatbots in Grammar Learning

The interview results revealed that the English teacher had a positive insight into the use of AI chatbots in grammar instruction. The teacher demonstrated a clear understanding of the function, benefits, and potential of AI chatbots as instructional tools.

The teacher stated that AI chatbots helped students practice grammar independently and provided immediate feedback. The teacher explained that:

“AI chatbots help students learn grammar more effectively because students receive immediate correction and explanation when they make mistakes. This helps students understand grammar better.”

This finding indicates that the teacher recognized the instructional value of AI chatbots in facilitating grammar learning. Immediate feedback is one of the most important features in effective learning because it helps learners identify and correct errors quickly.

The teacher also reported that AI chatbots helped increase student participation. Students were more willing to practice grammar because they could interact with the chatbot freely without fear of making mistakes.

This finding aligns with Shulman (1987), who emphasized that teacher insight plays a crucial role in instructional effectiveness. Teachers who understand the potential of instructional technology are more likely to use it effectively to support student learning.

Furthermore, the teacher stated that AI chatbots supported student-centered learning. Students became more active and independent in learning grammar.

This finding supports Ertmer and Ottenbreit-Leftwich (2010), who stated that teachers' understanding of technology significantly influences the success of technology integration in education.

Overall, the findings indicate that the teacher had positive, supportive, and informed insight into the use of AI chatbots in grammar instruction.

4.2 Students' Motivation in Learning Grammar

The questionnaire results showed that the use of AI chatbots increased students' motivation in grammar learning. Most students reported that they felt more interested and engaged when learning grammar using AI chatbots.

Students indicated that AI chatbots made grammar learning more enjoyable and interactive. Students were more willing to participate in grammar learning activities when using AI chatbots.

Based on questionnaire responses, most students agreed with the following statements:

- AI chatbots make grammar learning more interesting
- AI chatbots increase motivation to learn grammar
- AI chatbots make learning more enjoyable
- AI chatbots encourage active participation

Students also reported that AI chatbots created a comfortable learning environment. Students felt less anxious when practicing grammar using AI chatbots compared to traditional classroom methods.

This finding is consistent with Dörnyei (2001), who stated that motivation is a key factor influencing language learning success. When students are motivated, they are more engaged and willing to learn.

AI chatbots provide interactive and responsive learning environments, which increase student engagement and motivation.

Additionally, AI chatbots allow students to learn at their own pace, which supports individual learning needs. This flexibility increases student motivation and learning autonomy. These findings indicate that AI chatbots play a significant role in increasing student motivation in grammar learning.

4.3 Improvement of Students' Grammar Skills

The findings showed that AI chatbots helped improve students' grammar skills. Students reported that AI chatbots provided immediate correction and explanation, which helped them understand grammatical concepts more clearly. Students were able to identify their mistakes and learn from them immediately. This process helped improve their grammar accuracy.

The teacher also observed that students demonstrated improvement in grammar performance after using AI chatbots. Students made fewer grammatical errors and showed better understanding of grammar rules. AI chatbots provide repetitive practice opportunities, which are essential for grammar learning. Repetition helps students internalize grammatical structures.

This finding supports Chapelle (2003), who emphasized that technology-enhanced language learning improves grammar acquisition by providing interactive practice and feedback. Furthermore, AI chatbots provide personalized feedback based on student responses. This personalized feedback helps students focus on their specific learning needs. The findings indicate that AI chatbots are effective tools for improving grammar skills.

4.4 Students' Perception toward the Use of AI Chatbots

The questionnaire results showed that students had positive perceptions toward the use of AI chatbots in grammar learning.

Most students agreed that AI chatbots were:

- Easy to use
- Helpful in learning grammar
- Interactive and engaging
- Effective in improving grammar understanding

Students reported that AI chatbots helped them understand grammar more easily because they provided clear explanations. Students also appreciated the interactive nature of AI chatbots. The conversational interaction made learning more engaging. This finding aligns with Davis (1989), who stated that perceived usefulness and perceived ease of use influence technology acceptance.

When students perceive technology as useful and easy to use, they are more likely to accept and use it. Positive student perception contributes to effective learning outcomes.

DISCUSSION

The findings of this study demonstrate that teacher insight plays a crucial role in the successful integration of AI chatbots in grammar instruction. The teacher's positive insight contributed to effective implementation of AI chatbots. The teacher facilitated student interaction with AI chatbots and encouraged active learning. This finding supports Shulman's (1987) theory, which emphasizes the importance of teacher knowledge in instructional effectiveness.

Additionally, the use of AI chatbots significantly increased student motivation. Students were more engaged, interested, and willing to participate in grammar learning activities. This finding supports Dörnyei's (2001) theory that motivation is essential for successful language learning.

AI chatbots also improved students' grammar skills. Immediate feedback, repetitive practice, and personalized learning contributed to grammar improvement. This finding supports Chapelle (2003), who stated that technology enhances language learning effectiveness.

Furthermore, students had positive perceptions toward AI chatbots. Positive perception increases technology acceptance and learning effectiveness (Davis, 1989).

Overall, AI chatbots provide significant benefits in grammar learning, including:

- Increased student motivation
- Improved grammar skills
- Positive learning perception
- Enhanced learning engagement

4. CONCLUSION

Based on the findings and discussion, this study concludes that the integration of AI chatbots plays a significant supportive role in English grammar learning at SMP Negeri 1 Muara Bungo. The findings demonstrate that AI chatbots contribute positively to students' motivation, grammar skill development, and overall learning experience, while functioning as complementary tools within teacher-guided instruction.

First, AI chatbots were found to enhance students' motivation in learning English grammar. The teacher observed increased student participation, confidence, and engagement during grammar learning activities. The availability of chatbots enabled students to learn more independently, access explanations easily, and practice grammar without fear of making mistakes. The immediate feedback and flexible access provided by chatbots created a supportive learning environment that encouraged active engagement and strengthened students' willingness to learn. This indicates that AI chatbots support the development of autonomous and motivated learners by facilitating independent and self-paced learning.

Second, AI chatbots supported the development of students' grammar skills. The teacher reported improvements in students' understanding of grammar concepts, their ability to identify and correct grammatical errors, and their ability to construct accurate sentences. The chatbot provided clear explanations, relevant examples, and instant corrective feedback, which helped students understand grammar more effectively. In addition, the opportunity for repeated practice allowed students to reinforce their learning and improve their grammatical accuracy. In this context, AI chatbots functioned as effective supplementary learning resources that reinforced teacher instruction and supported grammar skill acquisition.

Third, students demonstrated generally positive perceptions of AI chatbot use in grammar learning. Based on questionnaire responses and qualitative interpretation, students perceived chatbots as useful, accessible, and supportive learning tools. They appreciated the ability to receive immediate feedback, practice independently, and learn at their own pace. Chatbots also made grammar learning more interactive and reduced students' anxiety when practicing grammar. However, students did not perceive chatbots as replacements for teachers. Instead, they viewed chatbots as complementary tools that enhance learning while teacher guidance remains essential for deeper explanation, clarification, and structured instruction.

Finally, the integration of AI chatbots contributes to the development of a more student-centered and technology-supported learning environment. AI chatbots enhance motivation, support grammar skill development, and improve students' learning experiences by providing interactive, flexible, and accessible learning opportunities. However, the teacher's role remains essential in

guiding, facilitating, and monitoring the learning process. The most effective implementation of AI chatbots occurs when they are integrated as supportive instructional tools that complement, rather than replace, teacher-led grammar instruction.

This study highlights the pedagogical potential of AI chatbots as effective supportive tools in English grammar learning. Their integration into ELT can promote student engagement, support grammar competence, and contribute to the development of more interactive and learner-centered instructional environments.

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