THE POWER OF CHATBOTS IN ENGLISH LANGUAGE LEARNING: A NEW AGE OF LEARNING

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Abstract: *Chatbots are software systems that utilize natural language processing as a new form of artificial intelligence to assist humans with a variety of tasks. This study explores the effectiveness of chatbots in English language learning and examines the viewpoints of undergraduate students. The study's goal is to better understand the benefits and drawbacks of employing chatbots in language learning, as well as to examine students' opinions of their efficacy. The research employed a qualitative descriptive methodology, gathering data through questionnaires from 1 to 30 undergraduate students and conducting interviews with 3 students. The findings and discussion underscore chatbots' potential to provide speedy, tailored assistance in English language acquisition. While the report emphasizes their ease of use and accessibility, it also notes constraints such as possible errors and platform limits. Overall, chatbots have the potential to improve accessibility and provide individualized help in language instruction.*

Keywords*: chatbot, English language learning, AI, digital literacy*

INTRODUCTION

The arrival of the twenty-first century heralded a flood of technical developments that have revolutionized the way we live. The realm of technology has introduced numerous innovative ways to enhance our learning experience. Quick technical progress has improved accessibility to schooling and improved language learning outcomes. From cassette tapes to CDs, DVDs, MP3/4s, and VoIP phones, technology has made learning a second language or a foreign language easier for those who do so. One of the most widely utilized technologies to support learning is artificial intelligence (AI), and as it develops, classroom practices will inevitably change. The application of artificial intelligence (AI) in education has grown to be among the most widespread. It's possible that artificial intelligence will change how we learn English. AI-powered solutions, such as interactive learning environments and individualized learning pathways, can enhance student learning in many ways.

Artificial intelligence (AI) software programs known as chat bots employ natural language processing to help people with a variety of tasks. These programs use text-based conversation systems to mimic human-to-human contact, frequently over the internet. They provide tailored and interactive communication by interpreting and reacting to user input. Chatbots have been used for a variety of tasks, including customer service, technical support, education, and training. They are also employed in marketing.

Chat bots are software programs that employ artificial intelligence (AI) to comprehend human requests and answer in natural language. They are sometimes referred to as dialog agents, virtual assistants, automated chat bots, or conversational agents. Originally, they were designed to make it easier for companies and clients to communicate via text or voice user interfaces, which helped the former better understand and cater to the latter. Chatbots provide a quick and easy way to conduct mundane tasks such as answering questions, delivering customer care, and completing transactions. They can detect particular terms, interpret intents using context and machine learning, and provide individualized replies. Chatter bot, smart bot, educabot, quizbot, digital assistant, personal assistant, virtual tutor, and conversational agent are all chatbot-related ideas.

Chat bots may be used in a variety of educational settings, such as boosting learning experiences through real-time involvement, strengthening peer communication skills, and increasing learning efficiency. They deliver dynamic information and expertise via easy interfaces and may even function as personal consultation tools. Chat bots' participatory learning approach and lack of time or location limits make their use increasingly enticing as mobile technology progresses. Chat bots may be used to teach language acquisition, particularly English, making them a powerful educational tool. Chatbots have been implemented into language learning as a component of ICALL (Intelligent Computer-Assisted Language Learning). Chatbots, according to Fryer and Carpenter, may be used for self-practice through informal discussion, although they are more effective for experienced pupils. They may give real, natural input to EFL students through textual and aural modalities, making them useful language learning aids.

Chatbots have been evaluated for possible benefits in language acquisition, such as reduced language anxiety, limitless repetition chances, and multimodal capabilities. They also provide learners with the ability to communicate with an English speaker at any moment, allowing for greater practice and immersion. Furthermore, chatbots give quick feedback on language usage, assisting in error detection and repair. Overall, chatbots provide several benefits for language learning.

Chatbots can provide individualized language learning, focusing on grammar and vocabulary tailored to individual needs. They can assist individuals struggling with language by offering edits or alternative ways to express challenging sentences. However, chatbots may lack human intellect and global knowledge, limiting their ability to engage in debates on current events. Additionally, they may struggle with misspellings or complex

information, preferring simple, grammatically correct sentences. As a result, chatbots may not offer the same level of sophisticated language practice as human interaction, as they may not respond effectively to unexpected or innovative language use. This limitation in handling specific forms of linguistic input could potentially lead to frustration or dissatisfaction among language learners.

Several prior studies have been conducted on the subject over the years. In 2023, Ilieva et al. researched the Effects of Generative Chatbots in Higher Education, highlighting limitations such as a small sample size from Plovdiv University and insufficient exploration of the student performance-generative AI relationship. Future plans include expanding participants and comparative analysis. In 2022, Essel et al. studied the influence of a virtual teaching assistant (chatbot) on students' learning in Ghanaian higher education, finding that students engaging with the chatbot outperformed those interacting with the course teacher academically. Additionally, Dokukinaa and Gumanovab (2022) explored the emergence of chatbots as new personal helpers in foreign language learning, indicating that chatbots contribute to creating a new instructional setting for EFL learners. Building on this prior research, the current study aims to investigate the impact of chatbots on English language learning and explore the perspectives of students in higher education regarding chatbots in language learning.

The research title "The Power of Chatbots in English Language Learning: A New Age of Learning" was carefully chosen to emphasize the transformative impact of chatbots in the field of English language education. The term "power" in the title underscores the significant influence that chatbots can have on enhancing the learning process, suggesting their potential to revolutionize language acquisition experiences. By using the phrase "A New Age of Learning," the title conveys a sense of innovation and modernity, indicating that the study explores cutting-edge approaches to language education through the integration of chatbot technology. This language positions chatbots as pivotal tools ushering in a fresh era in education, characterized by advanced technological solutions and novel learning methodologies. The title's clarity and specificity in focusing on chatbots within the context of English language learning provides a concise summary of the research's core subject matter, setting clear expectations for readers regarding the study's scope and objectives. Furthermore, by framing chatbots as powerful agents driving a new wave of learning, the title aims to engage readers, spark curiosity, and highlight the potential of chatbots to reshape and optimize language learning practices for the future. The title successfully conveys the significant role chatbots can play in transforming language education, positioning them as innovative tools for enhancing learning experiences.

METHOD

Researchers employ qualitative descriptive research methods in their work. According to Sandelowski "Descriptive Qualitative Research: An Acceptable Design," descriptive qualitative research is distinguished by its

emphasis on presenting a complete narrative of unique events experienced by individuals or groups of persons in daily words. It is regarded as a beneficial method since it requires less interpretative material than other qualitative approaches and does not necessitate data that is conceptual or extremely abstract, as is the case with other qualitative designs. Therefore the researchers uses Interviews and Questionnaires in this study. An interview is a method of data collection commonly used in qualitative research, including descriptive qualitative studies. It involves a structured, open-ended conversation between the researcher and the participant(s) to gather information about their experiences, perspectives, and insights related to the research topic. Meanwhile a questionnaire is a type of research instrument that is used to collect information from an individual or a group of individuals. Questionnaires can be administered in a variety of ways, including on paper, online, or in person. In this research, the researcher gathering the data from Undergraduate students at Sultan Maulana Hasanuddin State Islamic University, Banten. Researchers randomly selected 30 UIN SMH Banten students for questionnaires and 3 students for interview.

To study the effectiveness of chatbot technology in English language learning, a sufficient number of participants, ideally 30 individuals, is needed. This allows for a representative sample that can be generalized to a larger population and allows for power analysis to determine the minimum number of participants needed. In this study, UIN students were chosen as respondents due to their potential representation of the targeted population. This approach ensures that the results can be generalized to other similar populations, making it a scientifically valid approach. The use of 30 UIN students as respondents ensures a representative sample size, allowing for statistically significant and reliable inferences about the research findings. Data analysis in this research used theory from Miles and Huberman, which consisted of three processes. The first step was data reduction, which entailed gathering all pertinent data and information that was helpful for researchers. The researcher then undertook data display, which entailed exporting the data in the form of a narrative summary. In the final stage, conclusions were drawn. The process of gathering data was done via interviews and questionnaires. In addition for questionnaires will be analyze with Scala Likert.

RESULTS
Interviews

The benefits and drawbacks of employing chatbots in English language learning

The study presents the result of interviews regarding of Chat bots for English language learning with three participants of undergraduate students In English Major UIN Banten.

Table 1. P1 Result of Students' Experience of using Chatbots for English Language Learning

No	Questions	Answers
1	Can you describe your experience in using chatbots for English language learning?	I usually use chat bots to ask questions and look up vocabulary such as translating into English. Using chat bots is faster because you can ask questions using non-standard language or everyday conversation.
2	What are the primary advantages and disadvantages of pupils utilizing Chat bots for English studying?	I think chat bots can make it easier for me, I don't need to read pages of journals or books because I can directly ask chat bots. the answers given are also easier to understand than from Google. As for the challenges, I think chat bots sometimes have knowledge limits, for example if I ask a question but it turns out that chat bots don't have the answer
3	How do chatbots compare to traditional English learning methods, such as textbooks and classrooms?	I am more comfortable learning from chat bots than from books or traditional ones, because chat bots have an easier language, the material is faster to find and keeps updating.
4	Can you give some examples of chatbot platforms or tools used for English language learning for students?	What I use is only Gpt Chat
5	What types of tasks can a chatbot be used to assist in English learning tasks?	I don't use it for typing or writing assignments but I only use it to increase my understanding of the material provided without having to read a lot of references or google.
6	How might chatbots help learners who are suffering with specific language skills like vocabulary or grammar?	Yes, because I think chat bots are like teachers but can be used flexibly anytime and anywhere. I can ask about vocabulary and grammar such as asking for understanding of tenses and example sentences.
7	How might chatbots be utilized to assist the requirements of students studying English as a second language and who may have linguistic barriers?	Chat bots can help students who are learning by providing personal learning experience with personalized exercises and activities
8	Can a chatbot be used to provide real-time assistance to students who are having difficulty with specific language concepts?	Yes, because we don't have to wait for a long time but only a few seconds, although sometimes it depends on our internet speed too.
9	Can chatbots be utilized to satisfy the requirements of timid or introverted students who are hesitant to raise inquiries in a group setting?	Of course because I think chat bots make us not need to ask other people or teachers, so it's perfect for shy and introverted people.
10	Can a chatbot be used to provide support for students who may have issues with time management, and who may	Yes, it can, because sometimes when I am doing a presentation, for example, then there are questions that I don't understand but must be answered right away so I use chat bots to

	struggle to complete assignments on time?	answer them. For written assignments I don't use it, because Chat Gpt can only provide a few words.

Table 2. P2 Result of Students' Experience of using Chatbots for English Language Learning

No	Questions	Answers
1	Can you describe your experience in using chatbots for English language learning?	I know chatbots like that originally from social media and it's easy to use. Sometimes if there is an assignment that requires critical thinking or is difficult then I will use chat bots like gpt chat. Then the chatbot is very helpful even though it is often less accurate too.
2	What are the primary advantages and disadvantages of pupils utilizing Chat bots for English studying?	The advantage is that I can quickly get answers to questions or assignments. The disadvantage is that I think he is less accurate like when I, for example, ask multiple choice English questions. It turned out that the answer was not correct when I checked it again.
3	How do chatbots compare to traditional English learning methods, such as textbooks and classrooms?	I prefer chatbots, because if from a book I have to read from the beginning and can't immediately find what we want to find, so it saves time too.
4	Can you give some examples of chatbot platforms or tools used for English language learning for students?	So far, I've only used three, namely Chat gpt, Cici and Questions AI.
5	What types of tasks can a chatbot be used to assist in English learning tasks?	Usually like multiple choice, essays and stringing the right words.
6	How might chatbots help learners who are suffering with specific language skills like vocabulary or grammar?	I don't think it's worth it to learn grammar. If it's vocabulary, it can be like a dictionary, asking what the meaning and meaning of a word is.
7	How might chatbots be utilized to assist the requirements of students studying English as a second language and who may have linguistic barriers?	In my opinion, it is better for people who have difficulty learning languages to use Youtube and Tiktok rather than chat bots, because sometimes they are less accurate so they have to be double-checked.
8	Can a chatbot be used to provide real-time assistance to students who are having difficulty with specific language concepts?	If you're struggling with word processing or critical thinking tasks and you need to be quick, it's good to use chatbots because they can provide detailed answers to the point in real time.
9	Can chatbots be utilized to satisfy the requirements of timid or introverted students who are hesitant to raise inquiries in a group setting?	You can really, because chatbots are more personal so people won't know and notice. I also sometimes prefer to ask chatbots when I have trouble stringing words together.
10	Can a chatbot be used to provide support for students who may have issues with time management, and who may struggle to complete assignments on time?	Yes, because chatbots automatically provide answers related to the questions or tasks we ask. So, it can be done in a short time. In addition, chatbots are willing to answer our questions at any time.

Table 3. P3 Result of Students' Experience of using Chatbots for English Language Learning

No	Questions	Answers
1	Can you describe your experience in using chatbots for English language learning?	There are a lot of chat bots now, I usually use chat bots to look for vocabulary and the meaning of that vocabulary, as well as to help with campus assignments such as reviewing articles and so on. There is a chatbot that can be used to review articles, later we can ask the chat bot what the conclusion of the article.
2	What are the primary advantages and disadvantages of pupils utilizing Chat bots for English studying?	There are many advantages to using a chatbot, namely that it can be used anytime and anywhere, then we can ask the chatbot anything, but sometimes chatbots also have weaknesses, for example, the chatbot that I usually use to review journals can only review 2 a day. Sometimes the assignment is more than 2 articles and you have to upgrade to premium, while students' pockets are not sufficient.
3	How do chatbots compare to traditional English learning methods, such as textbooks and classrooms?	Nowadays, it is better to use chatbots for classroom learning compared to traditional teaching because it is easier to use independently, can be understood by yourself, and sometimes the methods used by teachers in class are boring, and sometimes students don't understand what the lecturer is explaining.
4	Can you give some examples of chatbot platforms or tools used for English language learning for students?	Usually I use GPT chat, PDF chat, or Pop AI, Perplexity. So, this platform provides more detailed sources.
5	What types of tasks can a chatbot be used to assist in English learning tasks?	I usually use chatbots to do assignments such as for paper assignments, it's easier to use chatbots to find explanations or definitions of material. That's the answer right away.
6	How might chatbots help learners who are suffering with specific language skills like vocabulary or grammar?	In my opinion, there are now many types of chatbots, so look for chatbots that focus more on vocabulary or grammar, besides that you can use English language learning applications that focus more on grammar or vocabulary besides chatbots.
7	How might chatbots be utilized to assist the requirements of students studying English as a second language and who may have linguistic barriers?	Chatbots can be used to search for anything, so if the learner is still a beginner it is very possible to learn a language for learners where English is a second language.
8	Can a chatbot be used to provide real-time assistance to students who are having difficulty with specific language concepts?	Chat bots can help students who have language difficulties in real time, because when we ask anything, the chatbot immediately provides an answer in a matter of seconds. And it doesn't require a large quota.
9	Can chatbots be utilized to satisfy the requirements of timid or introverted students who are hesitant to raise inquiries in a group setting?	Chat bots can be used for introverted students who are embarrassed to ask questions in class.
10	Can a chatbot be used to provide support for students who may have issues with time management, and who may struggle to complete assignments on time?	Chatbots can help students who have difficulty managing their time because chatbots can help speed up completing assignments when they are due.

Questionnaires

Students' perception of possibility of using chatbots into language training

The report offers the findings of a survey that it conducted with thirty undergraduate students at UIN Banten about the usage of chatbots in English language instruction. The participants were requested to express how much they agreed or disagreed with a range of statements on the use of chatbots in language learning.

Table 4. Result of Students' Perception of using chatbots for English Language Learning

No	Statements	Strongly agree	Agree	Disagree	Strongly disagree
		4	**3**	**2**	**1**
1	Chatbots are a useful tool for ESL/EFL students because they provide 24/7 access to language learning resources	6	24	0	0
2	Chatbots can help students improve their English skills by providing hands-on practice with real-world language use.	1	24	5	0
3	Chatbots are effective for helping students develop a natural feel for the English language through conversation and communication.	2	20	8	0
4	Chatbots provide a fun and engaging way for students to interact with English in a way that simulates real-life language use.	2	26	2	0
5	Chatbots offer a way for students to improve their English skills in a way that is flexible and tailored to their individual learning needs.	6	23	1	0
6	Chatbots are a cost-effective way to provide language learning resources to students, as they can be accessed from anywhere with an internet connection.	10	20	0	0
7	Chatbots can help students learn to use language effectively and efficiently, in a way that is similar to the way real language users interact.	5	23	2	0
8	Chatbots can serve as a source of constant and immediate feedback, so students can receive personalized corrections and guidance in real time.	4	26	0	0

9	Chatbots can serve as a way for students to overcome language barriers by providing a non-threatening environment for practice and development.	2	24	4	0
10	Chatbots can provide a way for students to access language learning resources and materials in a way that is convenient and tailored to their individual needs.	5	24	1	0
	Total	43	234	23	0

In the data analysis process, the formula TxPn is utilized to calculate the total score based on the Likert scale responses provided by the participants. The total number of respondents who selected each Likert score option is multiplied by the respective score number, and the results from all responses are summed up to obtain a total score of 920. Before proceeding with the final assessment, it is essential to determine the interval or distance range for interpreting the scores. The interval (I) is calculated by dividing 100 by the number of Likert scores, which in this case is 4, resulting in an interval of 25. This interval represents the range from 0% to 100% and is crucial for interpreting the assessment results based on the Likert scale responses provided by the participants. By following this method, researchers can analyze and interpret the data effectively to draw meaningful conclusions regarding the participants' perspectives and experience on chatbots for English language learning.

The following are the score interpretation criteria based on the interval:

numbers 0% – 24,99%	Strongly disagree
numbers 25% – 49,99%	Disagree
numbers 50% – 74,99%	Agree
numbers 75% – 100%	Strongly agree

Interpretation of Calculation Score

In the process of interpreting the calculation scores based on the Likert scale responses, the highest score (Y) and lowest score (X) for the assessment item are determined using specific formulas. The highest score for the "Strongly Agree" category is calculated by multiplying the highest Likert score (4) by the number of respondents (30), resulting in a value of 120. Similarly, the lowest score for the "Strongly Disagree" category is obtained by multiplying the lowest Likert score (1) by the number of respondents (30), yielding a value of 30. Subsequently, the highest and lowest scores from the questionnaire results are determined by multiplying the number of respondents (30), the number of Likert options (10), and the respective Likert scores (4 for highest and 1 for lowest). The highest score (Y) is calculated as 30 x 10 x 4, resulting in 1200, while the lowest score (X) is determined as 30 x 10 x 1, equaling 300.

To finalize the interpretation of the scores, the total score obtained from the Likert scale responses (920) is divided by the highest score (Y) and

multiplied by 100. In this case, the calculation results in a percentage of 76.6%, falling within the "Strongly Agree" category. This final settlement provides a clear and quantifiable assessment of the participants' overall agreement with the statements related to chatbots for English language learning, indicating a strong level of agreement among the respondents based on the calculated score interpretation.

DISCUSSION

The study on "The Power of Chatbots in English Language Learning: A New Age of Learning" provides valuable insights into the potential impact of chatbots on language education, particularly in the context of English language learning. The discussions stemming from the results of the study shed light on several key aspects that are crucial for understanding the implications of integrating chatbots into language learning environments.

One of the key findings of the study is the emphasis on the convenience and accessibility of chatbots in providing real-time assistance to students encountering difficulties with specific language concepts. Participants highlighted the ability of chatbots to offer detailed answers promptly, making them a valuable resource for students struggling with word processing, critical thinking tasks, and time management. This underscores the potential of chatbots to address individual learning needs and provide immediate support, aligning with the notion of personalized learning experiences. Chatbots provide real-time aid to students struggling with language concepts by offering extensive answers and guidance for activities such as word processing, critical thinking, and time management. They address individual learning needs by giving rapid feedback and assistance, improving the learning process, and aligning with future potential. The study carried out by (Kohnke, 2023) Chatbots provide real-time assistance to students, enhancing their language learning experience. They offer detailed answers, aiding in word processing, critical thinking, and time management, thereby catering to individual learning needs and enhancing efficiency.

Moreover, the study explores the potential of chatbots to cater to the requirements of timid or introverted students who may be hesitant to raise inquiries in a group setting. Participants expressed that chatbots can offer a more personal learning experience, allowing students to seek assistance without feeling self-conscious or pressured. This aspect highlights the role of chatbots in creating a comfortable and non-intimidating learning environment, potentially benefiting students with diverse learning preferences and needs. It was because Chatbots can provide a flexible and accessible learning environment that meets the needs of each individual student, without the anxiety of asking for help from a teacher or peer. This personalized approach can help reduce the perception of competition among students and create a more positive learning environment, which can benefit students with diverse learning preferences and needs. In addition (Yang et al., 2022) mentioned that Chatbots provide a personalized, non-intimidating learning experience for shy or introverted

students, offering immediate feedback and guidance to help them overcome language barriers and improve speaking skills.

Additionally, the study delves into the advantages and disadvantages of pupils utilizing chatbots for English studying. While chatbots offer the advantage of anytime, anywhere access to language learning resources, participants also noted limitations such as knowledge constraints and platform restrictions. These discussions underscore the need for ongoing development and refinement of chatbot capabilities to fully meet the evolving demands of language learners. Furthermore, the study compares chatbots to traditional English learning methods, such as textbooks and classrooms. Participants expressed a preference for chatbots due to their flexibility, independence, and ability to facilitate self-directed learning. However, it was emphasized that chatbots should be viewed as a supplement rather than a total substitute for traditional learning techniques, highlighting the potential for chatbots to enhance the overall learning experience. Therefore, (Haristiani, 2019) said that Chatbots provide students with convenient language learning resources, but they have limitations like limited knowledge and platform restrictions. This can limit the depth and breadth of language learning experiences.

In conclusion, the discussions arising from the study's results underscore the potential of chatbots to revolutionize English language learning by providing individualized, real-time support and addressing students' diverse learning needs. While acknowledging limitations such as potential inaccuracies and platform restrictions, the study ultimately paints a picture of chatbots as a powerful tool in the new age of language learning, offering exciting opportunities for enhanced accessibility, personalized learning experiences, and support for students with diverse learning needs. The study's findings provide a comprehensive understanding of the implications of integrating chatbots into language learning environments and highlight the need for further research and development in this area to fully harness the potential of chatbots in English language learning.

CONCLUSION

Based on the results of this study, it is evident that chatbots have the potential to revolutionize English language learning by offering personalized, real-time support to students. The integration of chatbots into language learning environments provides opportunities for enhanced accessibility, individualized learning experiences, and tailored assistance for students with diverse learning needs. While limitations such as occasional inaccuracies and constraints in handling complex tasks were noted, the overall consensus points towards chatbots as a valuable tool in the new age of language learning.

The findings emphasize the convenience and accessibility of chatbots in providing immediate assistance to students facing challenges with specific language concepts. Participants highlighted the ability of chatbots to offer detailed responses promptly, making them a valuable resource for students grappling with various language tasks. This underscores the potential of chatbots to address individual learning needs

and provide personalized support, aligning with the concept of personalized learning experiences.

In other word, the amalgamation of chatbots with traditional learning methods and continuous advancements in chatbot capabilities are crucial for optimizing learning outcomes in English language learning. The study's comprehensive insights underscore the significance of further research and development in this area to fully harness the potential of chatbots in enhancing language learning experiences. By leveraging the strengths of chatbots and addressing their limitations, educators and researchers can pave the way for a more effective and engaging approach to English language learning in the digital era.

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