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EXPLORING THEORETICAL PERSPECTIVES ON THE USE OF CHATBOTS AND AI IN LANGUAGE LEARNING IN THE POST-PANDEMIC ERA

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Abstract
This research examines the use of chatbots and AI in language learning in the post-pandemic era from a theoretical perspective. The research looks into how different theoretical perspectives can inform our understanding of using chatbots and AI in language learning in the post-pandemic era. The research addresses the gap in the literature on the theoretical underpinnings of the use of these technologies in language learning, intending to understand chatbots and AI usage in language learning in the post-pandemic era from different theoretical perspectives. The research includes a literature review and theoretical analysis to understand better the use of chatbots and AI in language learning in the post-pandemic era. The main findings of this research are that different theoretical perspectives can provide insight into the use of chatbots and AI in language learning in the post-pandemic era. It highlights the need for further research to explore the ethical and societal implications of using chatbots and AI in language learning in the post-pandemic era. The significance of this research is that it provides a theoretical framework for understanding the use of chatbots and AI in language learning in the post-pandemic era.

Keywords: Chatbots, AI, Language Learning, Post-Pandemic Education

Introduction
The COVID-19 pandemic has shifted towards remote and online learning, leading to a heightened interest in using chatbots and artificial intelligence (AI) in language education (Agarwal et al., 2022). These technologies offer the potential for personalized, interactive, and engaging language learning experiences and access to authentic language and cultural contexts.

However, the implementation of chatbots and AI in language education raises critical ethical and societal considerations, such as privacy, bias, and the role of technology in education (Akgun & Greenhow, 2021). In light of these concerns, examining the theoretical perspectives on using chatbots and AI in language education in the post-pandemic era is crucial.

To address this gap in knowledge, a literature review and theoretical analysis are conducted to gain a deeper understanding of the use of chatbots and AI in language education in the post-pandemic era (Lim et al., 2022). The research findings indicate that different theoretical perspectives can provide valuable insights into using chatbots and AI in language education. The significance of this study lies in its ability to provide a theoretical framework for comprehending the use of chatbots and AI in language education in the post-pandemic era. It also underscores the

need for further investigation into the ethical and societal implications of utilizing these technologies in language education (Woo et al., 2021).

In conclusion, chatbots and AI usage in language education offers numerous benefits but also raises important ethical and societal questions that must be thoroughly explored. This research provides a theoretical framework for understanding the use of these technologies in language education and highlights the importance of further research into their ethical and societal implications.

Purpose of the Study

This research study aims to delve into the theoretical perspectives surrounding using chatbots and AI in language learning in the aftermath of the COVID-19 pandemic. The aim is to build a theoretical framework to comprehend the use of these technologies in language education and to emphasize the need for further research in this field.

The utilization of chatbots and AI in language learning presents numerous advantages yet also raises critical ethical and societal concerns that require examination. The lack of a comprehensive understanding of the theoretical basis of chatbots and AI in language education demands further research efforts to deepen our comprehension of their use in the post-pandemic era (Mai, 2022). This research has the potential to offer valuable insights into the use of chatbots and AI in language education and to contribute to the creation of a theoretical framework for comprehending their role in the post-pandemic era.

Thus, researchers must continue to study the effects and potential of chatbots and AI in language learning (van Dis et al., 2023). This research can progress language education and guide optimal methods for using these technologies in the classroom by conceptualizing a framework for their application in the post-pandemic era. To sum up, a thorough examination of the theoretical views concerning the use of chatbots and AI in language learning after the pandemic is critical for understanding their function in teaching. This research can contribute to advancing language education and guide ideal approaches for utilizing these technologies to amplify language learning experiences.

Research Question

The inquiry that drives this study is: How can diverse theoretical perspectives enlighten our comprehension of the utilization of chatbots and AI in language learning in the aftermath of the COVID-19 pandemic?

Examining the use of chatbots and AI in language learning through multiple theoretical lenses can provide a more comprehensive understanding of these technologies in the post-pandemic era (Megahed et al., 2022). By exploring different perspectives, researchers can gain a deeper appreciation of the potential benefits and challenges of using chatbots and AI in language education. This can inform the development of a theoretical framework for comprehending their role in language learning and inform best practices for their utilization in the classroom.

Literature Review

A. Benefits of Using Chatbots and AI in Language Learning

1. Personalization

Chatbots and Artificial Intelligence (AI) in language education could offer learners custom learning experiences based on their individual needs, learning styles, and capabilities (X. Chen et

al., 2023). For example, chatbots can provide immediate feedback on language proficiency and help learners identify areas they need to develop. AI can also adjust the content and difficulty of language tasks to suit each learner's individual needs. This helps create a more effective and enjoyable language learning experience as learners engage in activities tailored to their abilities.

Using chatbots and AI in language learning can provide learners with personalized language learning experiences that cater to each learner's individual needs, learning styles, and abilities (Bhutoria, 2022). By providing learners with personalized feedback and support and by adapting the content and difficulty level of language tasks and activities to the individual learner, chatbots and AI can lead to a more effective and enjoyable language learning experience.

2. Interactivity

The utilization of chatbots and AI in language learning has the potential to provide learners with interactive language learning experiences. Interactive language learning experiences are those that engage learners in meaningful and engaging activities that promote language acquisition. For instance, chatbots can be utilized to facilitate conversations and discussions with native speakers (Huang et al., 2022). Chatbots can be programmed to engage learners in real-time conversations and discussions, providing them with opportunities to practice their language skills and to interact with native speakers in a safe and supportive environment.

AI can also provide learners with interactive language games and activities. By utilizing AI to create engaging and interactive language games and activities, learners can develop their language skills in a fun and engaging way. This can help to increase engagement and motivation for language learning, as learners are challenged and entertained in a way that promotes language acquisition (Boudadi & Gutiérrez-Colón, 2020).

The utilization of chatbots and AI in language learning has the potential to provide learners with interactive language learning experiences that engage them in meaningful and engaging activities that promote language acquisition. By facilitating conversations and discussions with native speakers and by providing learners with interactive language games and activities, chatbots and AI can lead to increased engagement and motivation for language learning (Jeon, 2021).

3. Access to Authentic Language and Cultural Contexts

The utilization of chatbots and AI in language learning has the potential to provide learners with access to authentic language and cultural contexts. Authentic language and cultural contexts are genuine, relevant, and meaningful to the learner, promoting language acquisition (Parmaxi & Demetriou, 2020). For instance, chatbots can be programmed to simulate conversations with native speakers. By engaging learners in simulated conversations with native speakers, chatbots can provide learners with exposure to authentic language and cultural contexts (El Shazly, 2021). This can help learners to develop their language skills and to gain a deeper understanding of the target language and culture.

AI can also be used to provide learners with virtual immersion experiences (Divekar* et al., 2021). By utilizing AI to create immersive virtual environments, learners can be transported to authentic language and cultural contexts, allowing them to practice their language skills and interact with native speakers in a safe and supportive environment.

The utilization of chatbots and AI in language learning can provide learners with access to authentic language and cultural contexts that are genuine, relevant, and meaningful to the learner, promoting language acquisition. By simulating conversations with native speakers and by

providing learners with virtual immersion experiences, chatbots and AI can increase learners' exposure to authentic language and cultural contexts (de la Vall & Araya, 2023).

4. Efficiency and Scalability

Chatbots and AI offer an exciting potential to make language learning more efficient and scalable by allowing a wider range of learners to benefit from the same quality of learning experience. By leveraging technology to deliver language learning experiences, chatbots and AI can make language learning more widely accessible and ultimately increase its reach (Alam, 2021).

The integration of chatbots and AI offers a ground-breaking opportunity to improve the reach of language learning, particularly for people in remote or underserved areas restricted by factors such as geographical position, resources, and infrastructure. Using technology to deliver language learning experiences, chatbots and AI can expand the range and availability of language learning while making it more effective and adaptable (Huang et al., 2022). This can potentially increase the likelihood for learners in secluded or resource-poor locations to develop their language abilities.

B. Limitations of Using Chatbots and AI in Language Learning

1. Lack of Human Interaction

In language acquisition, interpersonal communication is a vital factor for augmenting language proficiency and for the success of the overall language learning process (Mercer & Dörnyei, 2020). Nonetheless, conversational agents and Artificial Intelligence are not able to equate the level of interpersonal communication and response that a human instructor can provide.

While utilizing chatbots and Artificial Intelligence (AI) may prove advantageous in providing conversational assistance and feedback, they are unable to provide the emotional and interpersonal context that comes with human interactions. This can impede the efficacy of chatbots and AI in language acquisition, as learners may not receive the same degree of aid, motivation, and tailored feedback from these programs compared to an instructor.

Additionally, the absence of human communication can hamper the credibility of language acquisition encounters (Yeh & Swinehart, 2022). Interaction with humans allows learners to hone language abilities in real-world circumstances and receive feedback on their language usage. Conversely, chatbots and AI may only offer limited and artificial language learning experiences, which may not accurately reflect real-world language applications.

In summary, the deficiency of human communication is a major hindrance of chatbots and Artificial Intelligence (AI) in language acquisition. While chatbots and AI can be utilized to promote language learning, they cannot substitute for the emotional and social context inherent in human communication. They could also inhibit the efficacy and credibility of language learning experiences.

2. Bias

The introduction of bias in chatbots and AI poses a substantial risk for language learners, since such bias may be expressed in various forms and may have substantial implications. These range from spreading offensive or inaccurate language or cultural information to perpetuating dangerous stereotypes. The potential for bias in chatbots and AI should be carefully examined and tested before implementation, particularly since language learning is highly social and cultural (Benbya et al., 2020). If biased information is distributed through chatbots and AI, it can cause

learners to form negative perceptions on other cultures, thus hindering the aims of language education.

To prevent this, researchers and developers must take precautionary measures such as selecting appropriate data sources, designing algorithms with care, and testing the product extensively. The avoidance of bias in chatbots and AI is an essential aspect of language learning; it can help learners develop intercultural competence and mitigate any detrimental impact on society as a whole.

3. Privacy concerns

Concerns surrounding privacy are a critical issue in using chatbots and AI in language learning (Hasal et al., 2021). The collection and storage of large amounts of personal data on learners by these technologies raise serious questions about protecting such information. Misuse or compromise of this data could have severe consequences, making privacy a crucial consideration in implementing chatbots and AI in language education (Hasal et al., 2021).

This highlights the need for responsible and ethical use of chatbots and AI in language learning, and for developing effective measures to protect learner privacy. This requires an understanding of the potential risks and consequences associated with using these technologies and a commitment to developing best practices for their utilization in language education (Yang et al., 2021).

It is imperative to elevate transparency and accountability regarding the utilization of chatbots and AI in language learning, to enable learners to make informed choices about their use of these technologies while maintaining their assurance in the privacy and security measures taken. This may be achieved by formulating comprehensive and understandable privacy policies and instituting reliable security measures to protect learner data (Wu et al., 2021).

Ultimately, privacy issues are essential to take into account when utilizing chatbots and AI for language learning. To ensure the successful implementation of these technologies in language education, developers and users must commit to responsible and ethical use and the protection of learner privacy.

4. Ethical and societal implications

Incorporating chatbots and AI into language learning prompts critical ethical and societal considerations (Y. Chen et al., 2023). For instance, deploying these technologies could result in the displacement of human language instructors, with potential adverse consequences for both language teachers and learners. The ethical and societal implications of chatbots and AI usage in language learning require thorough examination and deliberation.

The speedy proliferation of technology necessitates a deliberate examination of its ethical and social repercussions. In language learning, using chatbots and AI raises questions regarding the association between technology and education and the part of human language educators. It is fundamental to comprehend the ramifications of these technologies on language education, as well as to reflect on the ethical implications of their utilization (Kim et al., 2019).

A moral appraisal of the utilization of chatbots and AI in language learning must consider the effects on language instructors and students. Language teaching is a significant part of human progress and cultural transmission, and the implementation of chatbots and AI in this field should not be done to the detriment of the human element (Alam, 2021). The ethical and social results of

chatbots and AI in language learning must be completely examined to guarantee that these advances are utilized dependably and morally.

In conclusion, using chatbots and AI in language learning invokes relevant ethical and social deliberations, it is essential to comprehend the effects of these technologies on language teaching. Further research and investigation is essential to ensure that chatbots and AI are used responsibly and ethically, considering the impact on language teachers and learners.

Research Methodology

This study investigates the application of chatbots and AI in language learning in the post-pandemic era through the theoretical frameworks of constructivism, sociocultural theory, task-based language teaching, and computational linguistics. Constructivism's focus on active learning and social interactions is pertinent to understanding the potential of chatbots and AI as a facilitator (Villegas-Ch et al., 2020). Sociocultural theory's emphasis on cultural and social factors can elucidate how chatbots and AI may be effective in different contexts (Al-Hoorie et al., 2021). Task-based language teaching's use of authentic tasks and meaningful communication can inform the design of such systems to engage learners. Finally, computational linguistics' intersection of language and technology can provide insights into programming for effective support for language learning (Chinkina et al., 2020). By examining these perspectives, this study hopes to contribute to a well-rounded comprehension of chatbots' and AI's capacity to augment language learning in the post-pandemic era.

Discussion

1. Definition of Constructivism

Constructivism, as a theoretical framework, posits that the learner is a fundamental factor in developing their comprehension of the world (Morris, 2019). This viewpoint accentuates the significance of active participation by the learner during their learning experience, seeing it as an opportunity to generate meaning from life experience.

According to constructivism, the individual is viewed as a proactive agent in the construction of their own knowledge and comprehension. This deviates from traditional perspectives of learning that conceptualize it as a docile activity in which facts are simply transmitted to the learner. Regarding language acquisition, the constructivist view suggests that individuals should be proactively involved in their language study and that technologies, like chatbots and artificial intelligence, should be utilized to facilitate this procedure.

2. Implications of Constructivism for Chatbots and AI in Language Learning

Advocates of constructivism stress the learner's crucial role in constructing their understanding of the world. This perspective views language learning as an active process, with learners creating meaning from experiences. In the context of language learning with chatbots and AI, the constructivist approach posits that these technologies should support the active engagement of learners. By providing opportunities for interaction, collaboration, and problem-solving, chatbots and AI can facilitate the creation of knowledge and understanding, promoting an active language learning process (Chang et al., 2022).

3. Examples of Constructivist Chatbots and AI in Language Learning

Constructivist chatbots in language learning are designed to engage learners in actively constructing knowledge and understanding. An example of this approach is a language tutoring chatbot that offers personalized feedback and support based on learners' responses (Smutny & Schreiberova, 2020). This chatbot can facilitate the learner's active role in their language learning process by providing opportunities for interaction and collaboration. Another example of a constructivist chatbot in language learning is a language learning game that leverages AI to adapt the content and difficulty level of the game to the individual learner. By providing an engaging and personalized learning experience, this type of chatbot can support learners in actively constructing their own understanding of language and culture.

C. Sociocultural Theory

1. Definition of Sociocultural Theory

The sociocultural theory recognizes language learning as a complex and dynamic process shaped by the interplay of cultural and social factors. This perspective highlights the need for learners to be immersed in authentic language and cultural contexts to learn a new language effectively. In light of this, the sociocultural theory implies that chatbots and AI in language learning should facilitate interaction and collaboration between learners and native speakers (Jeon, 2021). This can enhance the learner's exposure to authentic language and cultural experiences, aiding their language development.

2. Implications of Sociocultural Theory for Chatbots and AI in Language Learning

Sociocultural theory highlights the importance of social and cultural factors in language learning (Zhang et al., 2020). To align with this perspective, chatbots and AI can serve as a means to offer learners access to authentic language and cultural contexts. These technologies can facilitate interaction and collaboration with native speakers, promoting linguistic and cultural knowledge acquisition. Furthermore, design considerations for chatbots and AI in language learning should prioritize cultivating intercultural competence in learners. This can be achieved by embedding cultural content in language tasks and activities and encouraging learners to reflect on their own cultural beliefs and attitudes compared to others.

3. Examples of Sociocultural Chatbots and AI in Language Learning

From a sociocultural perspective, chatbots and AI in language learning must provide learners with opportunities to experience authentic language and cultural contexts. One example of this is a chatbot that simulates conversations with native speakers, providing learners with access to authentic language use (Huang et al., 2022). Another example is an AI-powered virtual immersion experience, which offers learners exposure to diverse cultural contexts and experiences.

In both instances, the goal is to facilitate the development of the learner's intercultural competence and to promote their understanding of the relationship between language and culture. This is a crucial aspect of language learning from a sociocultural perspective, as it recognizes social and cultural factors' role in shaping the learner's experiences and interactions in the target language community.

D. Task-Based Language Teaching

1. Definition of Task-Based Language Teaching

Task-based language teaching emphasizes significance of tasks and activities in language acquisition. This perspective posits that language learning is optimally achieved through engagement in authentic, communicative tasks that demand language use. In task-based language teaching, the focus is on the process of performing tasks, rather than on the end product (Dewi et al., 2020). This approach allows learners to use language for real-life purposes, promoting the development of communicative competence and increasing motivation for language learning.

2. Implications of Task-Based Language Teaching for Chatbots and AI In Language Learning

Adopting a task-based language teaching perspective, the utilization of chatbots and AI in language learning should be aimed at creating engaging and authentic language tasks and activities. Learners will be given opportunities to interact and communicate in the target language, strengthening their language proficiency. This perspective highlights the significance of tasks and activities in language learning and stresses that language learning is most effective when learners engage in meaningful tasks that require the use of language for communication. From this viewpoint, chatbots and AI should facilitate such task-based language learning experiences (Sandu & Gide, 2019).

3. Examples of Task-Based Language Teaching Chatbots and AI in Language Learning

Adopting a task-based language teaching perspective implies that chatbots and AI should be utilized for offering learners engaging and authentic language tasks (Yang et al., 2021). The focus should be on providing learners with opportunities for interaction and communication in the target language. A chatbot that facilitates language exchanges with native speakers exemplifies a task-based language teaching chatbot in language learning. Another instance is an AI-powered language learning app that personalizes language tasks and activities based on the learner's proficiency level.

E. Computational Linguistic Perspective

1. Definition of Computational Linguistic Perspective

A computational linguistic perspective highlights the significance of technology in language learning. This viewpoint suggests that technology can serve as a means to grant learners access to vast amounts of language data. Through the utilization of technology, the analysis of this data can be facilitated, thereby contributing to language learning. This perspective posits that technology can play a crucial role in language learning by enabling learners to leverage the vast amounts of language data that exist. The utilization of technology for the analysis of this data can assist in the identification of patterns and trends, as well as in the development of insights and knowledge. Thus, from a computational linguistic perspective, technology can be a valuable tool in supporting language learning (Rosé et al., 2008).

2. Implications of Computational Linguistic Perspective for Chatbots and AI in Language Learning

A computational linguistic perspective on chatbots and AI in language learning emphasizes the role of technology in providing access to language data and facilitating analysis (X. Chen et al., 2023). Such utilization of these technologies is expected to support language learning by analyzing

learners' language output, providing error correction and feedback, and generating personalized language learning materials.

Adopting a computational linguistic approach to language learning with chatbots and AI highlights the importance of technology in facilitating the analysis of language data and supporting the learner's language development. By leveraging technology to provide the learner with access to large amounts of language data, this perspective emphasizes the potential for chatbots and AI to enhance language learning outcomes.

3. Examples of Computational Linguistic Chatbots and AI in Language Learning

In the realm of language learning, computational linguistic chatbots and AI offer unique opportunities for learners to interact with technology. One instance is a chatbot utilizing natural language processing to assess a learner's language output and offer feedback (Kerly et al., 2007). Another embodiment is an AI-powered language learning app that leverages machine learning to create customized language learning materials tailored to the learner's proficiency and learning style.

These examples demonstrate the potential of chatbots and AI in facilitating language learning through analyzing language data and generating personalized language learning experiences. This aligns with the computational linguistic perspective that highlights the significance of technology in supporting language learning by providing access to vast amounts of language data and facilitating its analysis.

F. Comparison of Theoretical Perspectives

1. Constructivism and Sociocultural Theory

From a theoretical perspective, both constructivism and sociocultural theory hold significance in language learning. Both perspectives emphasize the need for active engagement and authentic language experiences to facilitate language acquisition. Constructivism emphasizes the learner's active role in constructing their own understanding through interaction and collaboration. Meanwhile, sociocultural theory highlights the significance of social and cultural factors that shape language learning, and the importance of providing learners with exposure to authentic language and cultural contexts.

In light of these perspectives, it becomes evident that utilizing chatbots and AI in language education must consider the importance of active engagement, authentic language experiences, and the social and cultural factors that shape language learning. By considering these theories, the utilization of chatbots and AI in language education can be optimized to provide learners with meaningful and impactful language learning experiences (X. Chen et al., 2023).

2. Constructivism and Task-Based Language Teaching

Constructivism and task-based language teaching focus on active engagement and problem-solving in language learning. Constructivism prioritizes the learner's active role in constructing their own understanding. It views learning as a process of creating meaning from experience. On the other hand, task-based language teaching prioritizes using authentic and meaningful language tasks that require communication as the means of language learning. Its focus is on the practical application of language skills through task completion.

Both perspectives are valuable in language education and offer different approaches to enhancing the language learning process. Constructivism emphasizes the learner's agency and

encourages their creativity and autonomy. Task-based language teaching, in contrast, prioritizes the development of communicative competence and the practical application of language skills in real-world situations (Ellis et al., 2019). The combination of both perspectives can offer a holistic approach to language learning, combining the benefits of both theories.

3. Constructivism and Computational Linguistic Perspective

Constructivism and computational linguistic perspective both acknowledge the role of technology in language learning (Behrens, 2021). While constructivism prioritizes the learner's active role in constructing their own understanding, the computational linguistic perspective highlights the importance of technology in offering learners access to vast amounts of language data and facilitating its analysis. These perspectives offer complementary views on the utilization of technology in language learning.

The constructivist approach to language learning emphasizes the learner's active participation and the creation of meaning from experience. On the other hand, the computational linguistic perspective underscores the capability of technology to provide learners with vast amounts of language data and facilitate its analysis, thereby supporting language learning. Together, these perspectives offer a comprehensive view of the utilization of technology in language learning, highlighting the significance of both the learner's active role and the role of technology in facilitating language learning.

Conclusion

In conclusion, this research has shown that chatbots and AI have the potential to provide learners with personalized, interactive, and engaging language learning experiences. However, using chatbots and AI in language learning also raises important ethical and societal questions. It is essential to consider these questions in the design and implementation of chatbots and AI in language learning and to ensure that they are accessible and equitable for all learners.

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This Certificate Presented to :

ANINDITA DEWANGGA PURI

As a Presenter in English National Seminar
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Pacitan, February 20, 2023

Head of English Education
Study Program

CHUSNA APRIYANTI, M.Pd. B.I.
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