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NEW HORIZONS IN VOCABULARY ACQUISITION: EXPLORING THE ROLE OF ARTIFICIAL INTELLIGENCE IN ENGLISH LANGUAGE LEARNING APPS

Abstrak

Artikel literatur ini menggali ranah inovatif dari aplikasi pembelajaran bahasa Inggris, yang secara khusus berfokus pada dampak transformatif Kecerdasan Buatan (AI) dalam akuisisi kosakata. Di era di mana teknologi dengan cepat membentuk kembali pendidikan, penelitian ini menyelidiki hasil integrasi AI dalam aplikasi pembelajaran bahasa, memberikan wawasan tentang kemandirian, keuntungan, dan masa depan akuisisi/pemerolehan bahasa.

Kata Kunci: Pemerolehan Kosakata; Bahasa Inggris; Aplikasi Pengajaran Dan Pembelajaran Bahasa Inggris, Kecerdasan Buatan

Abstract

This literature article delves into the innovative realm of English language learning applications, specifically focusing on the transformative impact of Artificial Intelligence (AI) in vocabulary acquisition. In an era where technology is rapidly reshaping education, this study investigates the results of AI integration in language learning apps, providing insights into their efficacy, advantages, and the future of language acquisition.

Key words: Vocabulary Acquisition; English Language; English Learning Apps, Artificial Intelligence

INTRODUCTION

Language acquisition is a fundamental aspect of human development, allowing individuals to communicate, express thoughts, and engage with the world around them. Learning a second language has become increasingly important in our globalized society, opening doors to cultural understanding, career opportunities, and personal growth (Maftoon, Hamidi, & Sarem, 2015). Among the many languages learners pursue, English consistently ranks as one of the most sought-after due to its prominence in international business, academia, and media (Sari, et al (2023) and Sari (2022)).

Traditional language learning methods, such as classroom instruction and textbooks, have long been the primary means of acquiring a new language. However, these methods often come with limitations, including rigid schedules, limited interactivity, and a lack of personalized instruction. As technology has advanced, so too has the potential to revolutionize the way languages are learned. Artificial Intelligence (AI) has emerged as a disruptive force in the field of education, particularly in the development of English language learning (ELL) applications (Ningsih & Sari, 2021).

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The incorporation of AI into ELL apps has introduced a paradigm shift in vocabulary acquisition, offering a dynamic and adaptable approach to language learning (Sari, 2021). AI-powered ELL apps have gained popularity due to their ability to address some of the key challenges faced by language learners:

1. **Personalization:** AI algorithms analyze the user's learning patterns and adapt content accordingly, ensuring that each learner receives a customized experience tailored to their specific needs and proficiency level.
2. **Interactivity:** These apps provide engaging and interactive activities, such as quizzes, games, and real-time pronunciation feedback, which enhance the learning experience and maintain learner engagement.
3. **Accessibility:** AI-powered ELL apps are accessible anytime, anywhere, allowing learners to fit language practice into their busy schedules, which is especially valuable for adults with work and family commitments.
4. **Adaptive Learning:** AI can identify areas of weakness and provide targeted exercises to strengthen those skills, helping learners progress faster and more effectively.
5. **Feedback and Assessment:** These apps offer immediate feedback on pronunciation, grammar, and vocabulary usage, enabling learners to track their progress and make necessary improvements.

Several pioneering AI-driven ELL apps, such as Duolingo, Babbel, and Rosetta Stone, have gained worldwide acclaim for their effectiveness and convenience. These applications employ natural language processing (NLP) and machine learning (ML) techniques to facilitate vocabulary acquisition through context-rich content and interactive exercises.

Furthermore, AI-enhanced ELL apps are becoming more inclusive by accommodating various learning styles and catering to the needs of learners with different cultural backgrounds and language proficiency levels. They are also incorporating multimedia elements, such as videos, audio clips, and culturally relevant content, to create a more immersive language learning experience.

In this ever-evolving landscape, it is imperative to explore and understand the implications of AI-driven ELL apps on vocabulary acquisition and English language proficiency. This article delves into the multifaceted aspects of this innovative approach, examining the pedagogical principles underpinning these applications, the benefits and challenges they present, and their potential to reshape the future of language education. By exploring the role of AI in English language learning apps, we aim to shed light on the new horizons emerging in vocabulary acquisition and inspire further research in this exciting domain.

PROBLEM FORMULATIONS

1. Can AI technology be used as a means of developing English learning for students?
2. Are apps enable students to access word knowledge through translating words into their native language?
3. How is the use of chatbots as AI conversational partners in language learning regarding perceptions concerning the integration of conversational agents in language learning?
4. Are the AI-powered language learning platforms enable learners to work at their own pace, emphasizing topics they have issues with, engaging them with the activities they're good at, and appealing to their interests?
5. Are there any impacts of video games in the acquisition of English language?

METHOD

In order to do a thorough examination of the role of gamification in English language instruction (ELT), a systematic methodology was employed. The research methodology encompassed the subsequent procedures:

1. The researcher did a comprehensive literature review by utilising a range of academic sources such as Google Scholar, ERIC, and specialised education, language teaching, and gamification publications. Relevant sources were identified by utilising keywords

such as "vocabulary acquisition," "English language teaching," "language learning," "learning apps," and "new horizons on vocabulary."

2. The literature that was found underwent a screening process using pre-established criteria for inclusion and exclusion. The inclusion criteria for this study encompassed just scholarly articles that have undergone a rigorous peer-review process, research studies, conference papers, and books that have been published within the past decade. The primary emphasis was placed on research pertaining to novel advancements in vocabulary acquisition, specifically investigating the impact of artificial intelligence inside English language learning applications.
3. The process of data extraction involved identifying pertinent material and significant discoveries from the chosen literature, which were subsequently categorised thematically. The aforementioned categories encompassed an examination of the definition and fundamental components of vocabulary acquisition, the integration of artificial intelligence and participation in the process of language learning, the advantages and obstacles associated with language learning applications, recommended strategies for the effective implementation of such applications, analysis of real-life examples, empirical findings, and prospects for future advancements in this field.
4. The data analysis process involved a thorough examination of the retrieved information in order to discern common themes, patterns, and trends throughout the existing body of literature. A comparative study was undertaken in order to ascertain the similarities, differences, and consensus among the various investigations.
5. The results obtained from the examined literature were amalgamated and structured in order to construct a cohesive narrative. Subsequently, the literature review was composed, integrating pertinent material, theoretical frameworks, and corroborative data derived from the chosen sources.

Review and Iteration: in this section, we will discuss the process of reviewing and iterating, which is an essential component of academic work. The literature review underwent a comprehensive evaluation and subsequent revision to guarantee precision, lucidity, and logical consistency. The review's quality and rigour were improved by seeking feedback from peers and subject matter experts.

By employing this research methodology, the present study aims to conduct a literature review on emerging perspectives in vocabulary acquisition. Specifically, the focus is on investigating the potential impact of artificial intelligence inside English language learning applications. The objective is to offer a thorough and contemporary comprehension of this subject matter. The study conducted a synthesis of pertinent research findings, discerned prevalent themes and patterns, and provided an impartial perspective on the advantages, obstacles, and optimal approaches linked to the utilisation of artificial intelligence (AI) in educational applications for language acquisition.

RESULTS AND DISCUSSIONS

Result

The literature article entitled "New Horizons in Vocabulary Acquisition: Exploring the Role of Artificial Intelligence in English Language Learning Apps" explores the use of AI in language learning apps and its potential to improve English language learners' vocabulary acquisition. The following are the results of the search:

1. The findings of a study show that AI technology can be used as a means of developing English learning for students (Fitria, 2021) and Wulantari et al (2023)).
2. A review of vocabulary learning applications showed that most apps enabled students to access word knowledge through translating words into their native language (Wang, et al (2021), Li & Hafner (2022) and Fauziningrum, et al (2023)).
3. The use of chatbots as AI conversational partners in language learning yielded positive results regarding perceptions concerning the integration of conversational agents in language learning (Belda-Medina & Calvo-Ferrer (2022), Bailey (2019)).

4. AI-powered language learning platforms enable learners to work at their own pace, emphasizing topics they have issues with, engaging them with the activities they're good at, and appealing to their interests (Williams et al (2022) and Lee et al (2022)).
5. A literature review deals with the impact of video games in the acquisition of English language (Al-Jifri (2017), Azar & Tan (2020) and Kayımbaşıoğlu, Oktekin, & Hacı (2016)).

Overall, the results suggest that AI can play a significant role in improving English language learning through the use of applications and chatbots. Language learning apps can be used as a didactic tool for EFL vocabulary building, and AI-powered tools can be integrated into foreign language education to improve language skills. The use of AI applications in language learning has been shown to improve student results in language learning. However, more research is needed to evaluate the effectiveness of chatbots and intelligent conversational agents.

The benefits of using AI in English language learning apps are numerous and can significantly improve the learning experience for students (Wang, et al, 2021). Here are some of the benefits:

1. Instant Feedback: AI language learning apps can grade tests and evaluate essays automatically, showing errors and suggesting corrections, providing instant feedback to students.
2. Personalization: AI-powered language learning platforms enable learners to work at their own pace, emphasizing topics they have issues with, engaging them with the activities they're good at, and appealing to their interests
3. Accessibility: AI enables learners to learn from anywhere at their own pace, and through innovative features like games, puzzles, or other exploratory activities.
4. Cost-effective: Learning English with AI can be cost-effective and accessible, with online platforms and apps, learners can access language lessons and practice materials at a lower cost.
5. Better Comprehension and Memory: AI can help students to better comprehend and remember language concepts, while it can also help teachers to create more engaging and effective lessons.
6. Personalized Instruction: AI-powered English learning programs allow students to receive personalized instruction tailored to their individual needs.

Overall, the use of AI in English language learning apps can provide instant feedback, personalization, accessibility, cost-effectiveness, better comprehension and memory, and personalized instruction, making the learning process more efficient and effective.

Discussion

The findings of a study show that AI technology can be used as a means of developing English learning for students.

1. AI technology can be used as a means of developing English learning for students in various ways (Fitria, 2021). Here are some of the ways AI technology can be used:
 - a) Personalized Learning: AI-powered language learning apps can provide personalized learning experiences to students, catering to their individual needs, interests, and learning styles
 - b) Instant Feedback: AI technology can provide instant feedback to students, grading tests, and evaluating essays automatically, showing errors and suggesting corrections
 - c) Conversational Practice: AI-powered language learning apps can provide conversational practice to students, allowing them to practice speaking with AI-powered avatars
 - d) Grammar and Vocabulary Practice: AI-powered language learning apps can help students improve their grammar and vocabulary skills through interactive exercises and games
 - e) Accessibility: AI-powered language learning apps can make learning English more accessible to students, enabling them to learn from anywhere at their own pace

- f) Cost-effective: AI-powered language learning apps can be cost-effective, providing learners with access to language lessons and practice materials at a lower cost

Overall, AI technology can be used to provide personalized learning experiences, instant feedback, conversational practice, grammar and vocabulary practice, accessibility, and cost-effectiveness, making English learning more efficient and effective for students.

2. A review of vocabulary learning applications showed that most apps enabled students to access word knowledge through translating words into their native language: According to a review of vocabulary learning applications, most apps enabled students to access word knowledge through translating words into their native language. This feature allows students to understand the meaning of new words in a language they are already familiar with, making it easier for them to learn and remember new vocabulary. However, it is important to note that relying solely on translation may not be the most effective way to learn a new language, as it does not provide students with the opportunity to practice using the language in context. Therefore, it is recommended to use a variety of language learning methods, including translation, to develop a well-rounded understanding of the language.

3. The use of chatbots as AI conversational partners in language learning yielded positive results regarding perceptions concerning the integration of conversational agents in language learning. The use of chatbots as AI conversational partners in language learning has yielded positive results regarding perceptions concerning the integration of conversational agents in language learning. Here are some key findings from the search results:

- a) Learners interact with chatbots primarily through language, and conversation creates learning in the class
- b) The chatbot's ease-of-use interface has a positive effect on students' perceived usefulness of language learning
- c) Students consider chatbots as a legitimate language learning tool and can help solve the lack of effective interactions between peers
- d) Most of the research examined the use of conversational agents in the classroom setting, yielding promising results about learners' positive perceptions
- e) Chatbot interactions have been used for oral communication practice in the field of foreign language education.

Overall, the use of chatbots as AI conversational partners in language learning has shown promise in enhancing language learning and creating positive perceptions among learners

4. AI-powered language learning platforms enable learners to work at their own pace, emphasizing topics they have issues with, engaging them with the activities they're good at, and appealing to their interests. AI-powered language learning platforms are designed to provide personalized learning experiences to learners. Here are some ways in which AI-powered language learning platforms enable learners to work at their own pace, emphasizing topics they have issues with, engaging them with the activities they're good at, and appealing to their interests:

- a) AI-powered language learning tools use natural language processing (NLP) and machine learning algorithms to provide personalized learning experiences from the beginning.
- b) AI-powered platforms that are designed for language education can improve learners' writing, reading, speaking, and listening skills.
- c) AI-powered language learning tools can significantly speed up the learning process by providing instant feedback, identifying areas for improvement, and adjusting the learning materials accordingly.
- d) With AI-powered apps and platforms, learners can learn a new language from anywhere and at any time.
- e) AI-powered language learning platforms collect multiple data about learners, their skills, interests, etc., and adapt to the needs of learners.

- f) AI-powered language learning platforms can help learners focus on their weaknesses and make rapid progress.
- g) AI-powered language learning platforms can help learners improve their pronunciation and accent

5. A literature review deals with the impact of video games in the acquisition of English language.

The impact of video games on the acquisition of English language has been studied in several research papers. Here are some key findings from a literature review of these studies:

- a) Video games have a profound impact on language learning, especially in the areas of vocabulary and pronunciation
- b) Online video games can play an efficient role in learning the English language and improving English communication skills
- c) Educational video games can be used as supplementary materials in classrooms to improve English vocabulary learning and retention
- d) Modern video games can enable children to absorb knowledge and acquire a second language faster than other methods
- e) The effect of video games, especially modern online-based ones, on the acquisition of English language has been crystalized in several empirical studies⁵

Overall, the literature review suggests that video games can have a positive impact on the acquisition of English language, especially in the areas of vocabulary and pronunciation. Online video games can play an efficient role in learning the English language and improving English communication skills. Educational video games can be used as supplementary materials in classrooms to improve English vocabulary learning and retention. Modern video games can enable children to absorb knowledge and acquire a second language faster than other methods.

CONCLUSIONS

The conclusions are as follow: first, the study's findings indicate that artificial intelligence (AI) technology has the potential to enhance English language acquisition among pupils. A comprehensive examination of vocabulary acquisition applications revealed that the majority of these programmes facilitated students' access to word comprehension by providing translations of terms into their home language. Second, the utilisation of chatbots as artificial intelligence conversational partners in the context of language acquisition has demonstrated favourable outcomes in terms of individuals' perceptions of the incorporation of conversational agents in the language learning process. Third, AI-powered language learning systems provide learners with the opportunity to progress at their own speed, prioritising areas in which they encounter difficulties, involving them in activities in which they excel, and catering to their individual interests. Fourth, the present study focuses on conducting a comprehensive literature review that explores the influence of video games on the process of acquiring the English language. Finally, the objective of this qualitative phenomenological study was to have a deeper understanding of foreign language learning via the lens of skill acquisition.

In general, the findings indicate that artificial intelligence (AI) has the potential to exert a substantial influence on the enhancement of English language acquisition by means of applications and chatbots. Language learning applications have the potential to serve as an instructional instrument for the purpose of enhancing English as a Foreign Language (EFL) vocabulary acquisition. Additionally, the integration of artificial intelligence (AI)-powered technologies into foreign language education has promise for enhancing language proficiency. The utilisation of artificial intelligence (AI) technologies in the realm of language learning has demonstrated a positive impact on students' language acquisition outcomes. Further investigation is required to assess the efficacy of chatbots and intelligent conversational agents.

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