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TÁC ĐỘNG CỦA CÔNG NGHỆ TRÍ TUỆ NHÂN TẠO ĐỐI VỚI VIỆC HỌC TIẾNG ANH CỦA SINH VIÊN ĐẠI HỌC

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TỪ KHÓA

Trí tuệ nhân tạo;
Học tiếng Anh;
Sinh viên Ngôn ngữ Anh;
Khả năng tiếp cận công nghệ;
Học tập tích hợp công nghệ.

TÓM TẮT

Nghiên cứu này tập trung phân tích những thách thức mà sinh viên Trường Đại học Quang Trung gặp phải trong quá trình ứng dụng trí tuệ nhân tạo (AI) vào việc học tiếng Anh — một chủ đề còn khá mới mẻ trong bối cảnh giáo dục đại học tại Việt Nam. Bằng cách kết hợp khảo sát định lượng và phỏng vấn định tính, nghiên cứu không chỉ xác định các rào cản như hạn chế kỹ năng công nghệ, thiếu tài nguyên phù hợp, và tâm lý e dè với công nghệ, mà còn khám phá những góc nhìn sâu sắc từ trải nghiệm thực tế của người học. Khác với các nghiên cứu trước chủ yếu tập trung vào hiệu quả của AI trong học tập, nghiên cứu này làm nổi bật góc độ tiếp cận và khả năng thích ứng của sinh viên với công nghệ, từ đó đưa ra các giải pháp cải thiện toàn diện từ phía người học, nhà trường và chính sách đào tạo. Kết quả nghiên cứu góp phần lấp đầy khoảng trống học thuật hiện có, đồng thời cung cấp các khuyến nghị thiết thực giúp các cơ sở giáo dục xây dựng chiến lược tích hợp AI hiệu quả và bền vững trong dạy và học ngoại ngữ.

THE IMPACT OF ARTIFICIAL INTELLIGENCE ON ENGLISH VOCABULARY LEARNING AMONG UNIVERSITY STUDENTS

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ABSTRACT

This study analyzes the challenges faced by students at Quang Trung University in applying artificial intelligence (AI) to English language learning—an emerging topic within the context of higher education in Vietnam. By combining quantitative surveys and qualitative interviews, the research not only identifies key barriers such as limited technological skills, lack of suitable resources, and hesitation toward new technologies, but also uncovers deeper insights from students' real-world experiences. Unlike previous studies that primarily focus on the effectiveness of AI in learning outcomes, this research emphasizes accessibility and adaptability from the learners' perspective. It proposes comprehensive solutions involving learners, institutional infrastructure, and policy development. The findings contribute to filling an existing gap in the literature and offer practical recommendations for educational institutions aiming to implement AI-based strategies effectively and sustainably in foreign language teaching and learning.

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1. Introduction

In today's interconnected world, English has solidified its status as a global lingua franca, essential not only for international communication but also for academic success, professional development, and cross-cultural collaboration. Within the context of Vietnam's ongoing efforts to internationalize higher education, English language proficiency has become a strategic priority. For students majoring in English at institutions such as Quang Trung University, mastering the language is both an academic goal and a gateway to enhanced employability in a competitive global job market.

Concurrently, the emergence of artificial intelligence (AI) has catalyzed a significant shift in educational paradigms. In language education, AI offers more than just innovative tools; it enables intelligent tutoring systems, personalized feedback, real-time language interaction, and data-driven insights into learner progress. These capabilities not only support individualized learning paths but also contribute to greater learner autonomy and engagement—particularly relevant for vocabulary acquisition, listening comprehension, and speaking fluency.

Recent developments have seen the growing adoption of AI-powered platforms such as chatbots, speech recognition engines, gamified vocabulary apps, and adaptive learning management systems (LMS). These tools can tailor content delivery to learners' proficiency levels, track learning patterns, and provide instant corrective feedback—functions that traditional classroom instruction may struggle to fulfill effectively at scale.

However, while the theoretical potential of AI in English language learning is widely acknowledged, its practical implementation—especially in under-resourced or semi-urban educational contexts like Quang Trung University—remains underexplored. Despite national policy shifts encouraging digital transformation in education, many students still face challenges such as:

- Limited digital literacy or exposure to AI-related tools
- Insufficient institutional infrastructure and internet accessibility
- Lack of guidance from instructors untrained in AI integration
- Psychological resistance stemming from unfamiliarity or low confidence with technology.

These issues pose critical barriers to the successful integration of AI, not only undermining learning efficiency but also demotivating students who might otherwise benefit from technology-enhanced instruction. Moreover, few existing studies in Vietnam have investigated these barriers from the learner's perspective, especially in the specific context of English majors, where academic demands and expectations for communicative competence are particularly high.

This study aims to address that gap by conducting an empirical investigation into the challenges faced by English language students at Quang Trung University in utilizing AI for language learning. By employing a mixed-methods design—combining quantitative surveys with qualitative interviews—the research seeks to uncover both structural and perceptual obstacles, as well as to propose actionable strategies for more effective AI integration. Ultimately, the findings will contribute to a deeper understanding of how to bridge the gap between technological potential and pedagogical reality in tertiary English education.

2. Research Content

2.1. AI Applications That Significantly Enhance the English Learning Process

2.1.1. Language Learning Applications

Duolingo: Uses AI to personalize lessons and recommend exercises based on the learner's proficiency level and progress.

Babbel: Provides context- and culture-based lessons, utilizing AI to optimize vocabulary and grammar acquisition.

Rosetta Stone: Applies speech recognition technology to improve pronunciation and offer real-time feedback.

2.1.2. Grammar Analysis and Error Correction

Grammarly: Employs AI to detect and correct grammar, spelling, and writing style errors. It also offers suggestions to enhance sentence structure and word choice.

2.1.3. Pronunciation Practice

ELSA Speak: Utilizes AI to analyze and improve learners' pronunciation, delivering detailed feedback and specific suggestions for correcting individual phonemes.

Google Assistant, **Siri**, and **Alexa**: These tools can be used to practice listening and speaking skills through interactive conversations and voice-based questions.

2.1.4. Translation Software

Google Translate: Uses AI to translate text, speech, and images from one language to another. It helps learners understand context and vocabulary usage in real-life situations.

2.1.5. Personalized Learning Content

Coursera and **Udemy**: These online learning platforms use AI to recommend courses and materials that match the learner's interests and needs.

ReadTheory and **Newsela**: AI is used to deliver reading passages and comprehension tests tailored to each learner's level, thereby enhancing reading skills through engaging and appropriate content.

2.1.6. Exercise and Test Creation

Quill: Utilizes AI to generate grammar and writing exercises aimed at improving students' writing skills, providing personalized and detailed feedback.

Thanks to AI, English learning has become more accessible and efficient, offering a personalized and optimized learning experience for each individual.

2.2. The Current Situation of AI Integration in English Language Teaching and Learning at Quang Trung University

To gain an in-depth understanding of how artificial intelligence (AI) is currently being applied in English language learning at Quang Trung University, a comprehensive investigation was conducted. The research employed a mixed-methods approach, combining quantitative surveys of students and instructors with in-depth interviews with university administrators. The results revealed a multi-faceted reality involving perceptions, levels of usage, infrastructure, and institutional support for the integration of AI in English language education.

2.2.1. Student Survey Findings

Awareness and Usage of AI Tools:

Most students demonstrated basic awareness of AI applications in language learning. However, only around 30% reported regularly using tools such as Duolingo, Grammarly, or Google Translate to support their English studies. This indicates that while AI is no longer a foreign concept, its application remains sporadic, unsystematic, and largely dependent on individual initiative.

Perceived Learning Effectiveness:

Students who had experience using AI tools generally reported positive outcomes, particularly in improving listening, pronunciation, and vocabulary acquisition. Nevertheless, a significant number of students struggled to maximize the potential of these applications due to a lack of structured guidance, limited digital literacy, and low confidence in navigating technology-based learning environments.

2.2.2. Instructor Survey Findings

Perceptions and Technical Competence:

Approximately 50% of instructors indicated prior exposure to or use of AI-assisted teaching tools in the context of English language education. However, only a small proportion actively integrated these technologies into their teaching practices. This reflects a discrepancy between general awareness and practical implementation.

Teaching Methodology:

The majority of instructors continued to rely heavily on traditional, teacher-centered methods, with minimal incorporation of AI-based activities or platforms. Around 40% expressed a need for formal training to enhance their digital competence and pedagogical skills in using AI tools effectively in classroom instruction.

2.2.3. Infrastructure and Learning Resources

Technological Facilities:

Although the university is equipped with computer labs and basic teaching infrastructure, 70% of both students and instructors reported that current facilities are outdated and insufficient to support AI-integrated English learning. The lack of specialized software and smart learning environments continues to pose a significant barrier.

Learning Materials and Digital Content:

Existing English learning materials were found to be limited in variety and largely disconnected from AI-powered systems. As a result, students often had to seek external online resources to supplement their studies, indicating gaps in the university's internal digital resource ecosystem.

2.2.4. Institutional Support

Policies and Support Programs:

While the university has initiated some general policies and programs related to AI in education and research, these efforts remain broad in scope and lack specific application in language learning. About 60% of surveyed participants called for more targeted support, including scholarships, short courses, and thematic workshops on AI integration in language teaching.

Mentorship and Academic Guidance:

The current mentorship system is still underdeveloped. Students often face challenges in identifying knowledgeable mentors who can guide them in using AI tools effectively for English learning. This results in fragmented, unstructured self-study efforts with minimal strategic direction or academic support.

In summary, both students and instructors at Quang Trung University recognize the potential of AI to transform English language learning. However, a range of persistent challenges—spanning technical, pedagogical, and institutional dimensions—have hindered its effective implementation. Without a strategic, well-supported approach, efforts to modernize language instruction through AI may continue to face resistance or yield only marginal impact. This underscores the need for comprehensive capacity-building initiatives and targeted investments in infrastructure, training, and resource development.

2.3. Solutions to Enhance the Integration of Artificial Intelligence (AI) in English Language Teaching and Learning

In light of the identified challenges, optimizing the integration of AI in English language education at Quang Trung University requires a comprehensive, systematic, and sustainable approach. The following solutions are proposed to improve the effectiveness of AI

implementation in English language teaching and learning in higher education.

2.3.1. Curriculum Innovation and Teaching Method Reform

Restructuring the curriculum towards digital integration:

The incorporation of AI tools into the English language curriculum should be carefully planned and systematically implemented. The university should develop AI-integrated course modules, where students not only acquire language skills but also become proficient in using educational technologies such as AI-powered chatbots, speech recognition software (e.g., ELSA Speak), and writing assistants like Grammarly or Quill.

Promoting blended learning models:

To maximize learner engagement with AI tools, instructors should be equipped to design hybrid learning environments that combine face-to-face instruction with AI-supported digital platforms. Activities should encourage real-world application through technology-enhanced projects, such as creating AI-assisted video presentations, maintaining reflective learning blogs, or using virtual assistants for conversation practice.

Enhancing instructors' digital competencies:

One of the key conditions for pedagogical innovation is the development of digital competence among instructors. The university should organize professional development workshops focused on educational technology, guiding teachers in digital course design, AI-based assessment, student progress monitoring, and fostering learner-centered, adaptive learning environments.

2.3. Solutions for Applying AI in English Language Teaching and Learning

To address existing challenges and optimize the use of artificial intelligence (AI) in English language learning at Quang Trung University, the following comprehensive solutions are proposed:

2.3.1. Enhancing Curricula and Teaching Methodologies

Update and Innovate English Language Curricula: Integrate AI-powered tools and applications into English language courses. Introduce students to practical tools such as chatbots, speech recognition software, and adaptive e-learning platforms to support language acquisition through real-time interaction and feedback.

Modernize Teaching Approaches: Incorporate AI-enhanced teaching methods into instructional practices. These include using AI to create interactive exercises, personalized assignments, and project-based learning activities. Additionally, train instructors in leveraging AI to improve classroom effectiveness and student engagement.

2.3.2. Improving Digital Competence for Students and Teachers

Organize Training Courses and Workshops: Provide comprehensive training and seminars on AI applications in language learning for both students and lecturers. These sessions should focus on practical skills, tool usage, and strategies for integrating AI into daily learning and teaching activities.

Develop Instructional Materials and Guidelines: Create detailed, up-to-date learning resources and instructional manuals on the use of AI tools in English learning. These materials should be regularly revised to reflect emerging technologies and best practices.

2.3.3. Enhancing Infrastructure and Learning Resources

Invest in Equipment and Software: Upgrade infrastructure to support AI-based learning, including the provision of modern computers, software, and internet connectivity. Ensure students have access to leading AI-supported language platforms and applications.

Provide Access to Online Resources: Collaborate with educational and tech organizations to offer students access to quality AI-driven online courses and learning platforms tailored to their academic needs and language goals.

2.3.4. Strengthening Institutional Support and Motivation

Establish Supportive and Incentive Programs: Create policies and programs that encourage the use of AI in English learning. These could include scholarships, awards, competitions, and initiatives focused on innovation in AI application for language education.

Develop Mentorship Programs: Implement structured mentorship initiatives in which students receive guidance from faculty members or experts in AI and language education, helping them navigate technological challenges and maximize learning outcomes.

2.3.5. Promoting Research and Collaboration

Encourage Research and Inter-Institutional Projects: Support studies and pilot programs focused on AI in language learning, fostering cooperation with domestic and international universities and research institutions to explore effective and contextually appropriate solutions.

Create an Innovation-Oriented Learning Environment: Build a dynamic, collaborative atmosphere where students are encouraged to experiment with AI tools, share experiences, and innovate in their approaches to language acquisition.

3. Conclusion

The integration of artificial intelligence (AI) into English language teaching and learning at higher education institutions—particularly at Quang Trung University—is not merely an inevitable trend but also a strategic step in the digital transformation of education. AI has opened up new possibilities for personalized learning, enhanced teaching effectiveness, and the

creation of flexible learning environments that adapt to individual learner needs. However, the practical implementation of AI also reveals numerous challenges that must be addressed in a systematic and sustainable manner.

This study highlights that both students and instructors still face barriers such as limited technological skills, insufficient access to learning resources, and inadequate institutional support. These obstacles not only affect the effective use of technology but also constrain learners' motivation and creativity.

To enable AI to truly serve as a powerful tool for improving language proficiency, a comprehensive strategy is required. This strategy should encompass curriculum innovation, digital skill development for students and instructors, investments in infrastructure and digital resources, the creation of supportive institutional policies, and the promotion of research and interdisciplinary collaboration.

Ongoing research, experimentation, and refinement of AI integration models in English language learning at Quang Trung University are essential to ensure feasibility, effectiveness, and contextual relevance within Vietnam's educational landscape. If implemented in a scientific and coordinated manner, AI has the potential to become a powerful tool for students, enabling them to develop robust language skills, strengthen their technological competencies, and prepare more effectively for success in an increasingly competitive and globalized world.

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