REIMAGINING ENGLISH LEARNING IN THE AI ERA: A WORLD OF POSSIBILITIES AND BARRIERS.

Alek[1], Abdul Rabbi Arrasul[2]
[1]UIN Syarif Hidayatullah Jakarta, Indonesia
Email: alek@uinjkt.ac.id
[2]Universitas Muhammadiyah Luwuk
Email: arrasulabdulrabbi@gmail.com

Abstract.
Among new possibilities and challenges that have emerged in the conditions of the AI era, the learning of English language experience significant changes that requires a reconsideration of classical approaches to teaching and learning. Nowadays, there have been developments in manners of AI technologies which create new opportunities for more functional models of personalized learning However, there are many barriers that continue to exist and block the further development of English language learners. The paradigm shifts of ELL are discussed in this paper, major gaps are identified and the latest technologies and practices in the field are also presented. In turn, the study aims at distinguishing crucial factors that contribute to the efficiency of AI supported learning paradigms encompassing adaptive learning, automatic feedback, and intelligent tutoring systems. Thus, the paper enriches the existing knowledge base with a new suggestion of an AI-enabled model of English language learning that targets the existing challenges and utilizes the possibilities of AI for improving learning conditions for all students. Through this model, educators and learners can avoid pitfalls inherent within the new age of Artificial Intelligence, thus providing a fulfilment of a teaching and learning model in the present society.

A. INTRODUCTION

English language learning in the 21st century refers to a transforming period where horizon of language education has grown through implement of AI technologies (Gayed et al., 2022). With the introduction of the AI era, the possibilities of learning are endless, encompassing numerous resource and specially tailored, highly effective learning practices. Issues of implementation caused by technological inequality, issues of adaptation which the shift impacts teaching and learning activities and issues of dependency on artificial intelligence are other problems this shift also brings (Gayed et al., 2022). This is an introduction to the subject and its importance, identification of existing research gaps within the area, overview of six recent related studies and statement of the state-of-the-art and proposed research contributions. To alleviate this problem, I believe that learning English language should be given top priority in this

present world. English today is considered the global communication language and as such English proficiency is a valuable commodity for people, companies and states. In the recent past, the world has experienced technological developments whereby its the crisis of Artificial intelligences has brought a drastic shift to the English language learning systems (Comas-Forgas et al., 2024).

AI-integrated resources and learning applications have provided unlimited, varied, individualized, and responsive teaching and learning resources (Strielkowski et al., 2024). For example, AI used in virtual assistants, chatbots, and language learning software leverages artificial intelligence to make learning better, efficient, and flexible because these impose individualized learning and increase the speed of a learner's progress (Gayed et al., 2022). Still, like with every other aspect of integration of AI, there are certain issues that one has to face while integrating AI in English language learning. However,) Comas-Forgas et al., Zainuddin (2024) pointed out the existence of research that has highlighted potential challenges by technological gaps. No learner's access to the requisite technology is equal –this further intensifies inequity gaps in learning and hinders the actualization of AI-enabled learning. Also, there is the question of implementation process: the move to AI-based instruction means that, as Gayed et al., (2022) educators are going to have to change their approach to teaching accordingly – a task that holds its own set of challenges.

The literature review indicates a massive research gap regarding the teaching approaches that may help in implementing AI in the English as a foreign language classroom. Recent investigations have emerged with respect to the different facets of AI in ALL, defining a number of research avenues. Zainuddin et al., (2024) used a quantitative research design to establish the usefulness of AI chatbots in vocabulary learning and asserted that there is need for more empirical studies in the effectiveness of similar tools on learning and retaining vocabulary. Roe & Perkins, (2024) examined how AI can assist learners with special educational needs to promote their rights and further raise awareness of the underrepresented needs of this learner audience. In another study, (Oseremi Onesi-Ozigagun et al., 2024; Strielkowski et al., 2024) explored learners' attitudes toward AI in language learning and future research should fill the knowledge gap on factors affecting learner AI adoption. Similarly, in AI-based adaptive feedback study, Gayed et al., (2022) suggested that the strategies for giving the feedback should set aside a combination of inconsistent feedback with general learning approaches to language learning. Finally, the study of (Gayed et al., 2022; Pryzant et al., 2020) about teachers' views of AI in their classrooms has contended that PD is required for teachers to adjust language teaching practices (Alek & Nguyen, 2023). When the learning of English language in the age of AI is considered, it is important to be aware of the current research, i.e., state of the art research.

Recent research is concerned with using of AI in several dimensions of learning: personalization of learning processes (Quyet & Minh, 2024), use of AI algorithms for designing curricula (Quyet & Minh, 2024), and AI-supported tools for assessments (Wang, 2023). In addition, current research has explored the effects of AI on the learner autonomy and self-regulated learning (Strielkowski et al., 2024), and the sonic patterns of language learning through AI that occurs in contexts that are not classroom-based (Mustapha & Paramasivam, 2018). This study aims to complement the existing body of knowledge by addressing the problematic of utilizing AI in English language learning focusing both on the advantages and challenges. Thus, this study seeks to contribute to knowledge of how AI affects learner experience, interaction, and learning outcomes in efforts to develop best practices of AI-supported teaching (Kostka & Toncelli, 2023; Peña-Acuña & Corga Fernandes Durão, 2024). Additionally, the research seeks to offer recommendations to educators and policy makers in finding their ways around the challenges attendant with the application of technology and adaptive teaching (Bögeholz et al., 2017). It is, therefore, this author's hope that the following research will bring out even the best possibilities of the use of AI in the learning of English as a demanding language to provide chances to all learners (Peña-Acuña & Corga Fernandes Durão, 2024; Quyet & Minh, 2024).

B. RESEARCH METHOD

The present work can be characterized as the critical literature review focused on identifying the big Opportunities and Issues of English learning in the context of the AI world (Mihira et al., 2021). The use of artificial intelligence in education has a potential of revolutionizing the language learning experiences to a more personalized one (Singh & Marappan, 2020). Technological advancements such as AI means that learners can get engage with technology enabled environment which is more interesting, realistic, individualized and active depending with the students' proficiency level (Anggraini & Cahyono, 2020). This transition to an AI world of English learning isn't without its drawback; privacy issues, job loss for teachers and more, but all in the name of employing innovation (Abduh et al., 2021). Consequently, although emerging new opportunities for teaching and learning English through AI, it is imperative to remove these barriers to fully unlock the possibilities for learner advantage in the contemporary world.

C. RESULTS AND DISCUSSION

Embracing AI technologies for personalized and adaptive learning:

The integration of AI technologies in learning that produces learner-centered and adaptive learning processes can become the key to changing the concept of knowledge acquisition, skills, and competencies development. Personalized learning is the educational practice that caters for learners'

needs and interests in students (Kacetl & Klímová, 2019), while adaptive learning is the process of modifying the teaching and learning process in reference to the student's rate, mode and preference (Klimova, 2021). Due to relative new technologies including machine learning, natural language processing, cognitive computing, there can be improved adaptive learning systems that offer individualized education content and involvement.

Actually, one of the major benefits of application of the AI technologies in the sphere of education is the possibility to give the proper feedbacks and support learners and students in real time (Gayed et al., 2022; Roe & Perkins, 2024). They can also evaluate a learner's performance and give feedback information that can help the learner compare his or her performance and come up with a definite effective way of learning. Further, AI technologies can present learning content, relevant to the level of understanding, the learner's learning profile, and preferences (Cheng and Li, 2017). So it means that in this case the learners are able to know what material to read and it should facilitate their desire of learning. Other example include that AI technologies can also help in organizing big amount of educational data (Chan, 2023; Haristiani, 2019).

Using big data technologies, it is possible to define the regularities in the learners' activities and results to improve instructional strategies more efficiently. For instance, AI can show to which content or activities the learner

is more receptive, thereby allowing an educator to create better learning interventions. It can also assist educators to detect the struggling learners so that proper remedial actions are taken in order to enhance learner results (Kostka & Toncelli, 2023; Quyet & Minh, 2024). Consequently, although AI technologies are fully integrated into education, there is a limitation to that (Quyet & Minh, 2024). Another is that education practitioners who are to integrate the use of AI technologies in teaching and learning ought to acquire new related competencies. There is also lack of the models and frameworks for the implementation of the artificial intelligence technologies in the learning process (Gayed et al., 2022; Peña-Acuña & Corga Fernandes Durão, 2024).

Further, the two limitations emerging are that AI technologies are biased and not transparent; this will affect the quality and relevance of individual learning experiences (Kostka & Toncelli, 2023; Strielkowski et al., 2024). Finally, the possibilities afforded by AI technologies for revolutionising the learning experience by way of real time feedback, delivering personalized and adaptive learning content and managing the educational data have been summed up. But there are several issues and difficulties in applying AI technologies in educational context, which should be studied, developed and jointly addressed by educators, decision-makers and tech companies (Sincer et al., 2019; Uz Bilgin & Tokel, 2019). With the development of the AI technology in a higher level of growth the importance of a set of principles and guidelines to the application of

AI in the learning and teaching process is evident (Crawford et al., 2023; Quyet & Minh, 2024).

Overcoming language barriers with AI-powered tools

The number one challenge that can be largely attributed to the breakdown of interaction, and flow of information, ideas and culture is the language factor (Oseremi Onesi-Ozigagun et al., 2024). The use of AI tools is slowly rising as a means of reducing the stress that language creates when used in translation . The goal of this article is to examine whether and how particular AI tools can help people overcome language barriers and present both advantages and disadvantages of AI in intercultural communication as well as provide an understanding of how AI can facilitate intercultural communication in the digital environment (Al-Khatib, 2021).

In the contemporary globalized world where people have learnt or are learning other languages people will share information, ideas, communicate with others, and reach common goals and achieve milestones (Saleem et al., 2021). Language continues to present itself as huge challenges, especially due to the differences in the business world, international relations, learning, and communications. They cause misunderstandings; affect the globalization of business and the spread of knowledge (Karim Sadeghi, Michael Thomas, n.d.). If the world is to move towards a more collaborative environment, these barriers have to be eradicated, so becoming accommodative of a collaborative environment.

It has served an important role in changing several fields, as language translation (in a broader sense) (Weng, 2019). Machine learning, NLP and NMT are involved in AI language translators that translate incoming messages in a fluent and semantically correct way, and far less likely to introduce errors as compared to traditional ways of translation (Prentice & Kinden, 2018).

Strengths of AI-powered translation tools

1. Speed: Due to the increased ability to analyze and translate large amounts of written text, AI tools are perfect for real-time text processing in many different circumstances (Quyet & Minh, 2024; Wang, 2023).

2. Cost-effectiveness: Since AI takes charge of the translation process, organizations are able to cut down their expenditure with translators up to an impressive level (Strielkowski et al., 2024).

3. Scalability: Huang states that the versatility of the multiple-language and big-data operations can help the AI tools meet the increasing need for translation services.

4. Consistency: Not only do the AI translation tools give us consistency in style, tone and even the terms that we use in translation, but also Included that the translated message is practically the same as the original message ((Hapsari, 2022).

Challenges of AI-powered translation tools

1. Contextual accuracy: However, unlike current AI drives that tend to generate unverifiable outputs, much of the nuances

such as idioms, cultural features, and even contextual meaning may be less well covered with the current version of AI drives (Strielkowski et al., 2024).

2. Language complexity: Several constraints have been pointed out: Firstly, highly inflected languages or languages with multiple dialects pose a difficulty for just AI translation tools as may need special understanding of a language base to achieve a perfect translation (Gayed et al., 2022; Turap et al., n.d.).

3. Computational resources: The amount of calculations needed for training and use of AI translation models is significant, thus it is a challenge that can stimulate an evolution in terms of available or needed computing center's capacities (Harrington Fernandez, 2017).

Heavily relying on AI based instruments one can state that use of these instruments enabled people to fight with language barriers really well and develop easy communication avenues. Where things are headed in the future with technology advancement is that the AI translation tool will be able to translate text faster and at a huge accuracy, it will be contextually aware.

This study's future implications should target the improvement of a sophisticated NMT algorithm, the fine-tuning acquisition of the training data, and the addition of more language pair(s) for the better translation efficiency, cost, and usability of AI (Parmaxi & Demetriou, 2020). The use of AI translation technology would extremely help create an environment of global covenant and harmony, where people will start embracing, understanding, and accepting one another, as the world would become better.

Exploiting AI to foster creativity and critical thinking:

The next and last of the key competencies was identified as creativity and critical thinking that is imperative for success in the twenty-first-century work (Strielkowski et al., 2024). With the increasing growth of technology, artificial intelligence (AI) has been proposed to improve these functions. The application of the AI capabilities in learning practices or work places is beneficial to the extent of reaching a human and the machine nexus. Such collaboration may facilitate formation of unique solution finding technique and innovative thinking processes that could not have been imaginable before (Larson, 1977; Oseremi Onesi-Ozigagun et al., 2024).

According to descriptions of AI above, such technologies have the ability to complement human cognition and intelligence as well as to create new knowledge, provide a solution to a specific problem and develop new approaches, ideas in various fields (Ismail et al., 2022). For example, an AI system can handle a lot of number, can spot some of the patterns and then make the valid assumptions, which would be hard for a human being. We use them to then explore creativity and criticality. Also, AI can produce ideas, indeed it does not veto people's decision (Anggeraini, 2020).

If, as some people consider critical thinking and creativity as learning outcomes,

then this is one area of applicability for artificial intelligence. Intelligent education resources assist educators in garnishing student attention and focus while meeting their needs and creating solutions they can comprehend (Akbarani, 2024). For instance, in the context of, artificial intelligence in education, tutoring systems can dynamically adapt content, interaction and feedback to meet the learnerpreferences and foster participation, as well as acquire higher order thinking skills. Indeed, AI can also assist with creativity as it can come up with ideas, digest through several points of view and bring ideas together (Comas-Forgas et al., 2024; Oseremi Onesi-Ozigagun et al., 2024).

In addition, AI possesses the potential to contribute to the building of an organizational culture of creativity within the working context. Using the tools provided by Such AI, employees can have data-driven decisions with the help of AI and the same can be used to have better problem solving techniques. Additionally, it removes redundancies by automating most of the operations to allow human resource to focus on other valuable and analysis work that AI cannot do (Strielkowski et al., 2024). In addition, such collaboration platforms enabled through AI can foster creativity within a team since persons with different backgrounds, skills, knowledge, and expertise are connected in a team (Chan, 2023).

The presence of these pointers of difficulty and impediments to the efficiency of AI in encouraging creative and critical thinking approaches should enable them to be identified so as to clarify means of facilitating AI efficacy in that direction. One is, AI has to be explainable so that humans are able to understand how the AI arrived at its decisions and be in a position to take informed decisions with regard to whether they accept the decisions of the AI, or not (Hosseini et al., 2023). Besides, there is need to create new AI systems that are more humane, and fair, by catering for diverse views and feelings from different people (Oseremi Onesi-Ozigagun et al., 2024). Last but not the least; human and AI collaboration requires a strategic, empowering and ongoing process of social embedding of AI in everyday and professional life, as well as, promotion of AI literacy, including awareness of potential and promising uses of AI and its potential and inherent limitations.

According to this, we can state that AI technologies have huge potential for increase of creativity and critical thinking in the context of learning and work. One way for AI to expand how man and machine can talk and work together is to explore a new paradigm for working and creating (Hosseini et al., 2023; Qolamani & Mohammed, 2023). For this to happen, it is crucial to consider obstacles concerning AI transparency, inclusiveness and the AI-human collaboration. In this manner we could achieve use of true potential of AI in helping an individual unleash his creativity, think critically and succeed in the world that is rapidly becoming more complex with interactions.

Addressing concerns and challenges in implementing AI-driven English learning

252

AI has become one of the most popular trends in the last few years as a tool for enhancing learning in the context of language acquisition (Strielkowski et al., 2024). It is possible to bring intelligent applications into teaching and learning in teaching English to students and thus to offer student centered, engaging and efficacious instructions (Tiwari, 2024). However, to get the best results with the English learning using AI and the best possible reception of this highly beneficial technology, we need to settle some specific considerations and challenges surrounding the use of such technology.

A major issue that arises when using AI in the teaching and learning of English is that there is required language foundation knowledge. These language learning applications can assist learning in the classroom by presenting numerous types of original material and practice questions that are customized to each student who uses AI-enabled devices (Reddy et al., 2020). However, for these tools to make the desired impact, the learners have to have some level of second language proficiency. In this regard, it has now become important to discuss how AI can be used to build the prerequisite skills that must be achieved before language functions are performed (Gayed et al., 2022).

However, one of the major concerns as AI's are employed in the learning of English is fairness and equity of access to the gadgets. A problem of AI language learning applications is that they are expensive, and therefore may not reach all of its target users including those from the low income income and or, impoverished background. As a result, teachers and policy makers need to work on the development of cheap intelligent learning resources and equity of access to intelligent learning resources (Akbarani, 2024). Furthermore, schools and other centers of education should be encouraged promote and incorporate applications based on AI principles to languages learning to help all students learn effectively.

Moreover, the issues regarding the efficiency of the specified AI courses in learning English need to be raised (Hapsari, 2022). Although the AI-based language learning applications have demonstrated a potential in afar of delivering diverse and engaging interventions, the features and efficacy of such tools in enhancing the language learning results has not been explored sufficiently (Al-Ahdal & Alharbi, 2021). For this reason, research and evaluation are required to determine the relative effectiveness of AI language learning on learners' performance while demonstrating the effective practices (Akbarani, 2024).

One of the issues that teachers face in using the information and communication technology for actual English learning is how they can continue to play a significant part in the learning process. However, it is crucial for teachers always to be in a position to guide, correct, and support their learners that are using those applications to support and supplement their learning experience (Huong & Hung, 2021). To make sure this happens, there must

be teacher professional development programs which can enable teachers effectively incorporate AI tools in their classrooms practice (Chen et al., 2021).

As a result, it is important to emphasize the fact that the implementation of such program for English learning on the basis of AI has a huge potential as one of the sources leading to revolutionary reformation in the learning process when all the current issues and problems would be eliminated in order to obtain the best results for the learner (Anggeraini, 2020). Concerns that must be met are Component language knowledge; 2 Access to AI tools; 3 AI tool efficacy; And 4 Teacher engagement. Working with these issues will ensure that any AI mediated English learning will accelerate language proficiency and the language learning process, and that educators and policymakers will ensure that they can do so (Roe & Perkins, 2024).

D. CONCLUSION

The conclusion of this article is that the application of Artificial Intelligence (AI) in English language learning has great potential to improve the efficiency and effectiveness of education, with the use of technologies such as virtual tutors, adaptive learning apps, and individual learning apps that enable more flexible and personalized learning experiences. However, challenges such as high implementation costs, limited infrastructure, lack of teacher and student understanding, as well as the need for appropriate training and curriculum, hinder the maximum integration of

AI in English language education. Therefore, to realize the potential of AI in English education, efforts need to be made to overcome these barriers, including by providing accessible and affordable AI tools, and engaging policymakers, educators, and technology companies in initiatives that support the development of this educational technology. Ongoing research and evaluation are also needed to ensure continued progress in the integration of AI in English language learning in the future.

E. REFERENCES

Abduh, A., Basri, M., Rapi, M., & Rosmaladewi, R. (2021). Multicultural engagement activities to support internationalization of bilingual higher education programs. *Qualitative Report*, *26*(10), 3296–3306. https://doi.org/10.46743/2160-3715/2021.5022

Akbarani, R. (2024). Use of Artificial Intelligence in English Language Teaching. *International Journal of English Learning and Applied Linguistics (IJELAL)*, *4*(1), 14–23. https://doi.org/10.21111/ijelal.v4i1.10756

Al-Ahdal, A. A. M. H., & Alharbi, M. A. (2021). MALL in Collaborative Learning as a Vocabulary-Enhancing Tool for EFL Learners: A Study Across Two Universities in Saudi Arabia. *SAGE Open*, *11*(1). https://doi.org/10.1177/21582440219990 62

Al-Khatib, M. A. (2021). (Im)politeness in Intercultural Email Communication between People of Different Cultural Backgrounds: A Case Study of Jordan and the USA. *Journal of Intercultural Communication Research*, *50*(4), 409–430.

https://doi.org/10.1080/17475759.2021.1913213

Alek, & Nguyen, V.-T. (2023). Online systematic guided reading strategies to improve EFL s tudents' reading performance. *XLinguae*, *16*(2), 69–84. https://doi.org/10.18355/XL.2023.16.02.06

Almagarbeh, B. (2022). Learners' Aptitude towards Using Digital Techniques in Learning EFL: Internet Discourse. *Journal of Practical Studies in Education*, *3*(2), 1–6. https://doi.org/10.46809/jpse.v3i2.42

Altun, M., & Ahmad, H. K. (2021). The Use of Technology in English Language Teaching: A Literature Review. *International Journal of Social Sciences & Educational Studies*, *8*(1), 226–232. https://doi.org/10.23918/ijsses.v8i1p226

Anggeraini, Y. (2020). Language Teaching in the Digital Age: Teachers` Views and Its Challenges. *Research and Innovation in Language Learning*, *3*(3), 163. https://doi.org/10.33603/rill.v3i3.3444

Anggraini, M. P., & Cahyono, B. Y. (2020). Scrutinizing efl learners' online reading strategy use across proficiency levels. *XLinguae*, *13*(4), 190–200. https://doi.org/10.18355/XL.2020.13.04.14

Bögeholz, S., Eggert, S., Ziese, C., & Hasselhorn, M. (2017). *Modeling and Fostering Decision-Making Competencies Regarding Challenging Issues of Sustainable Development*. https://doi.org/10.1007/978-3-319-50030-0_16

Chan, C. K. Y. (2023). A comprehensive AI policy education framework for university teaching and learning. *International Journal of Educational Technology in Higher Education*, *20*(1). https://doi.org/10.1186/s41239-023-00408-3

Chen, X., Zou, D., Xie, H., & Su, F. (2021).

Twenty-five years of computer-assisted language learning: A topic modeling analysis. *Language Learning & Technology*, *25*(3), 151–185. http://hdl.handle.net/10125/73454

Comas-Forgas, R., Koulouris, A., & Kouis, D. (2024). 'AI-navigating' or 'AI-sinking'? An analysis of verbs in research articles titles suspicious of containing AI-generated/assisted content. *Learned Publishing*, *April 2024*, 1–11. https://doi.org/10.1002/leap.1647

Crawford, J., Cowling, M., & Allen, K. A. (2023). Leadership is needed for ethical ChatGPT: Character, assessment, and learning using artificial intelligence (AI). *Journal of University Teaching and Learning Practice*, *20*(3). https://doi.org/10.53761/1.20.3.02

Dergaa, A. I., Chamari, K., Zmijewski, P., & Saad, H. Ben. (2023). *From human writing to artificial intelligence generated text : examining the prospects and potential threats of ChatGPT in academic writing*. 615–622.

Gayed, J. M., Carlon, M. K. J., Oriola, A. M., & Cross, J. S. (2022). Exploring an AI-based writing Assistant's impact on English language learners. *Computers and Education: Artificial Intelligence*, *3*(October 2021), 100055. https://doi.org/10.1016/j.caeai.2022.100055

Hapsari, I. P. (2022). AI Chatbots Learning Model in English Speaking Skill: Alleviating Speaking Anxiety, Boosting Enjoyment, and Fostering Critical Thinking. In *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)* (Vol. 13449, pp. 444–453). https://doi.org/10.1007/978-3-031-15273-3_49

Haristiani, N. (2019). Artificial Intelligence (AI) Chatbot as Language Learning Medium: An inquiry. *Journal of Physics: Conference Series*, *1387*(1).

https://doi.org/10.1088/1742-6596/1387/1/012020

Harrington Fernandez, O. (2017). The Many Voices of Lydia Davis: Translation, Rewriting, Intertextuality , by Jonathan Evans . *Translation and Literature*, *26*(2), 259–263. https://doi.org/10.3366/tal.2017.0297

Hosseini, M., Rasmussen, L. M., & Resnik, D. B. (2023). Using AI to write scholarly publications. *Accountability in Research*, *31*(7), 1–9. https://doi.org/10.1080/08989621.2023.2168535

Huong, L. P. H., & Hung, B. P. (2021). Mediation of digital tools in english learning. *LEARN Journal: Language Education and Acquisition Research Network*, *14*(2), 512–528.

Ismail, E., Sumardjo, S., Lubis, D. P., & Kinseng, R. A. (2022). The Effect of Tourism Development Program Support on the Feasibility of Homestays in the Kepulauan Seribu Indonesia. *International Journal of Progressive Sciences and Technologies*, *34*(2), 381. https://doi.org/10.52155/ijpsat.v34.2.4643

Kacetl, J., & Klímová, B. (2019). Use of smartphone applications in english language learning—A challenge for foreign language education. *Education Sciences*, *9*(3), 1–9. https://doi.org/10.3390/educsci9030179

Karim Sadeghi, Michael Thomas, and F. G. (Ed.). (n.d.). *Techbology-Enhanced Language Teaching anf Leraning: Leasson From The Covid-19 Pandemic*.

Klimova, B. (2021). Evaluating impact of mobile applications on EFL university learners' vocabulary learning - A review study. *Procedia Computer Science*, *184*, 859–864. https://doi.org/10.1016/j.procs.2021.03.108

Kostka, I., & Toncelli, R. (2023). Exploring Applications of ChatGPT to English Language Teaching: Opportunities, Challenges, and Recommendations. *Teaching English as a Second or Foreign Language--TESL-EJ*, *27*(3), 1–19. https://doi.org/10.55593/ej.27107int

Larson, R. H. (1977). Developing Creativity in Engineers. In *Mechanical Engineering* (Vol. 99, Issue 8).

Mihira, L. S. N., Suwastini, N. K. A., Artini, N. N., Jayantini, I. G. A. S. R., & Budiarta, I. W. (2021). Gender Inequality Represented in English Textbooks: a Literature Review. *Jurnal Ilmu Sosial Dan Humaniora*, *10*(3), 576. https://doi.org/10.23887/jish-undiksha.v10i3.39209

Mustapha, W. Z. W., & Paramasivam, S. (2018). Propagating Critical Reading and Creative Writing Literacy Using Reader'S Digest Magazines. *Aicll: Annual International Conference on Language and Literature*, *1*(1), 330–335. https://doi.org/10.30743/aicll.v1i1.41

Oseremi Onesi-Ozigagun, Yinka James Ololade, Nsisong Louis Eyo-Udo, & Damilola Oluwaseun Ogundipe. (2024). Revolutionizing Education Through Ai: a Comprehensive Review of Enhancing Learning Experiences. *International Journal of Applied Research in Social Sciences*, *6*(4), 589–607. https://doi.org/10.51594/ijarss.v6i4.1011

Parmaxi, A., & Demetriou, A. A. (2020). Augmented reality in language learning: A state-of-the-art review of 2014–2019. *Journal of Computer Assisted Learning*, *36*(6), 861–875. https://doi.org/10.1111/jcal.12486

Peña-Acuña, B., & Corga Fernandes Durão, R. (2024). Learning English as a second language with artificial intelligence for prospective teachers: a systematic review. *Frontiers in Education*, *9*(November). https://doi.org/10.3389/feduc.2024.1490067

Prentice, F. M., & Kinden, C. E. (2018). Paraphrasing tools, language translation tools and plagiarism: An exploratory study. *International Journal for Educational Integrity*, *14*(1), 1–16. https://doi.org/10.1007/s40979-018-0036-7

Pryzant, R., Martinez, R. D., Dass, N., Kurohashi, S., Jurafsky, D., & Yang, D. (2020). Automatically neutralizing subjective bias in text. *AAAI 2020 - 34th AAAI Conference on Artificial Intelligence*, *2013*, 480–489. https://doi.org/10.1609/aaai.v34i01.5385

Qolamani, K. I. B., & Mohammed, M. M. (2023). The Digital Revolution in Higher Education: Transforming Teaching and Learning. *QALAMUNA: Jurnal Pendidikan, Sosial, Dan Agama*, *15*(2), 837–846. https://doi.org/10.37680/qalamuna.v15i2.3905

Quyet, C. B., & Minh, N. B. (2024). Using AI Tools in Learning English Experimental Research in Vietnam. *Journal of Ecohumanism*, *3*(4), 1203–1214. https://doi.org/10.62754/joe.v3i4.3651

Reddy, P., Sharma, B., & Chaudhary, K. (2020). Digital literacy: A review of literature. *International Journal of Technoethics*, *11*(2), 65–94. https://doi.org/10.4018/IJT.20200701.oa1

Roe, J., & Perkins, M. (2024). *Generative AI in Self-Directed Learning: A Scoping Review*. 1–18. http://arxiv.org/abs/2411.07677

Saleem, T., Yasmin, M., & Saleem, A. (2021). Linguistic politeness of Pakistani English and British English speakers: Culture and gender perspectives. *Cogent Arts and Humanities*, *8*(1). https://doi.org/10.1080/23311983.2021.1996917

Sincer, I., Severiens, S., & Volman, M. (2019).

Teaching diversity in citizenship education: Context-related teacher understandings and practices. *Teaching and Teacher Education*, *78*, 183–192. https://doi.org/10.1016/j.tate.2018.11.015

Singh, C. K. S., & Marappan, P. (2020). A review of research on the importance of higher order thinking skills (HOTS) in teaching english language. *Journal of Critical Reviews*, *7*(8), 740–747. https://doi.org/10.31838/jcr.07.08.161

Strielkowski, W., Grebennikova, V., Lisovskiy, A., Rakhimova, G., & Vasileva, T. (2024). AI-driven adaptive learning for sustainable educational transformation. *Sustainable Development*, *June*, 1–27. https://doi.org/10.1002/sd.3221

Tiwari, H. P. (2024). Artificial Intelligence in the Classroom: Revolutionizing English Language Teaching. *Journal of English Teaching and Linguistics Studies (JET Li)*, *6*(1), 42–59. https://doi.org/10.55215/jetli.v6i1.9757

Turap, T., Merupakan, T. B., Lebih, T. B., & Turap, T. D. (n.d.). *Translation-mediated Communication in a Digital World Facing*.

Uz Bilgin, C., & Tokel, S. T. (2019). Facilitating Contextual Vocabulary Learning in a Mobile-Supported Situated Learning Environment. *Journal of Educational Computing Research*, *57*(4), 930–953. https://doi.org/10.1177/0735633118779397

Wang, W. (2023). AI technology using as a tool for enhancing university students English speaking skills: Perceptions and practices. In *Proceedings of SPIE - The International Society for Optical Engineering* (Vol. 12779). https://doi.org/10.1117/12.2689728

Weng, W. H. (2019). Unsupervised clinical language translation. In *Proceedings of the ACM SIGKDD International Conference on Knowledge Discovery*

and Data Mining (pp. 3121–3131). https://doi.org/10.1145/3292500.333071 0

Zainuddin, N., Suhaimi, N. A., Jaffar, M. N., Norwawi, N. M., Sahrir, M. S., Wan Daud, W. A. A., & Ghani, M. T. A. (2024). Responsible and Ethical Use of Artificial Intelligence in Language Education: A Systematic Review. *Forum for Linguistic Studies*, *6*(5), 316–325. https://doi.org/10.30564/fls.v6i5.7092