AI Platforms in EFL Education: Insights from Higher Education Students in Smart Society 5.0

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Abstract

This study aims to describe the perceptions of EFL students regarding the effectiveness of AI as a technological tool for enhancing English language learning. The method used in this study was qualitative research. Data collection was questionnaires and interviews with 189 students from the English Language Education program online. The sample was selected using a purposive sampling technique. Data analysis was carried out using quantitative descriptive techniques with percentage calculations and thematic analysis. The findings reveal that EFL students respond positively to using AI platforms in the learning process. Two types of skill enhancements were noted: for productive skills (writing and speaking), the platforms used are Grammarly (64.12%) and Duolingo (39.12%); for receptive skills (listening and reading), the platforms are Voice Dream Reader (40.12%) and Google Text-to-Speech (70.60%). Then, the students' challenges using IA were limited access to devices, unreliable internet connections, insufficient digital skills, difficulties in navigation, weakening of critical thinking abilities, decrease in problem-solving capabilities, and others. A limitation of this study is its methodological scope. Future researchers should utilize quantitative methods, such as experiments, to achieve more comprehensive results.

Keywords: *AI Platforms, EFL, Students, challenges.*

INTRODUCTION

AI platforms are increasingly being integrated into English as a Foreign Language (EFL) education, offering various benefits to both students and teachers. Studies have shown that AI technologies such as Automatic Evaluation Systems, Neural Machine Translation Tools, Intelligent Tutoring Systems, AI Chatting Robots, and Affective Computing can enhance different aspects of EFL learning (Jiang, 2022). For instance, AI can provide personalized feedback to students, assist in developing speaking skills, and improve learning engagement in online classrooms (Zou, 2023; Suharti et

al., 2021). Moreover, the use of AI in EFL settings has been found to reduce English speaking anxiety, enhance speaking performance, and facilitate the language learning process (Shazly, 2021; AbdAlgane & Othman, 2023).

Incorporating AI and recognition technologies in EFL writing can further support personalization and contextualization in authentic contexts, benefiting university students (Hwang et al., 2023). Additionally, AI speech evaluation programs can offer diverse textual feedback and practical suggestions to aid EFL learners in honing their speaking abilities (Zou, 2023). The utilization of AI technologies in EFL classrooms not only keeps both teachers and students updated on technological advancements but also optimizes the learning experience enhances education efficiency, and fosters creativity (Zhang, 2023; AbdAlgane & Othman, 2023). Furthermore, the COVID-19 pandemic has accelerated the adoption of online collaborative platforms for distance learning in EFL education, with students perceiving these platforms positively (Rukmi, 2021). Social media platforms have also proven to be effective in enhancing language proficiency development among EFL learners (Abdullah et al., 2022).

Additionally, the use of educational games and platforms (Khoiroh, 2023) like Facebook in EFL classrooms can boost student motivation and engagement (Masadeh, 2022; Espinosa, 2015). In conclusion, the integration of AI platforms in EFL education offers a wide array of benefits, from personalized feedback and improved engagement to reduced anxiety and enhanced language skills. These technologies have the potential to revolutionize the way EFL is taught and learned, providing a more interactive, engaging, and effective learning environment for students in the Smart Society 5.0 era.

Despite the potential benefits, the adoption of AI in EFL education raises several questions regarding its effectiveness, accessibility, and the perceptions of learners towards these new technologies. There is a gap in understanding how higher education students in a Smart Society 5.0 perceive AI platforms for language learning, what benefits and challenges they identify, and how these tools impact their learning outcomes and motivation. Addressing these questions is essential for optimizing AI educational tools and ensuring they meet learners' needs and preferences. The primary aim of this research is to explore higher education students' insights into the use of AI platforms in EFL education within the context of Smart Society 5.0. This study seeks to assess the perceived effectiveness of AI platforms in enhancing language learning outcomes among higher education students. Explore the challenges and limitations faced by students in using AI platforms for language learning, including any technological,

pedagogical, or accessibility issues. Then, provide recommendations for educators, policymakers, and developers to optimize AI platforms for EFL learning, based on the insights and preferences of higher education students. This research contributes to the burgeoning field of educational technology by providing empirical insights into the use of AI in language learning from the perspective of learners themselves. By understanding students' experiences, preferences, and challenges, this study will offer valuable guidance for the development and implementation of AI tools in EFL education. Furthermore, it sheds light on the role of technology in facilitating language learning in the era of Smart Society 5.0, offering implications for educators, technologists, and policymakers aiming to harness AI's potential in education.

METHOD

This study employed a qualitative design. The data were analyzed qualitatively to capture students' experiences with interactive aids (IA). Questionnaires and interviews were administered to the students. Purposeful sampling was utilized to select participants for the study (Campbell et al., 2020). The selection of participants was based on their use of IA in their learning processes, aiming to gather insights into their experiences. A total of 189 students from an English as a Foreign Language (EFL) classroom participated. The data collection tools consisted of questionnaires and interviews online. Initially, the 189 students received a questionnaire divided into two sections with thirteen statements. These statements sought to identify the types of IA used in their learning and assess the effectiveness of these IA platforms on English language skills.

Subsequently, the study delved into the strengths and limitations of IA platforms. Out of the 189 students, 15 were chosen for follow-up questions that sought to verify their responses in the questionnaires. This subgroup of 15 was randomly selected to encompass students with both positive and negative perceptions of IA, allowing them to express their views on the use of the free version of IA in the classroom. The interview questions were designed to elicit detailed feedback on the pros and cons of using IA in EFL settings, with questions tailored to the student's overall perceptions.

The analysis of the research data involved both percentage calculations and content analysis. The questionnaire data were first quantitatively analyzed to determine the percentage of students' perceived effectiveness of IA in the classroom. Following this, the interview data were subjected to thematic analysis, categorizing the responses to highlight the

themes discussed during the interviews. The findings revealed various challenges associated with the use of IA in educational settings.

RESULT AND DISCUSSION

Profile Participations

In this study, women aged 17-22 years old dominate, comprising mainly students from the third (3), fifth (5), and seventh (7) semesters. The majority of the participants, when considering the number of respondents, are from the fifth semester, indicating that they contribute the most to this survey.
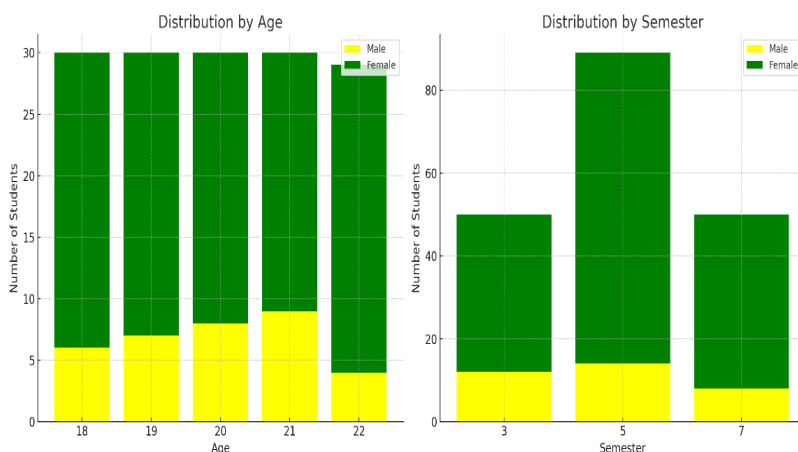

Diagram 1. The distrubtion of students

Student's Perceptions on the Use of IA

The result from the data questionnaires showed that various of platforms of IA platforms were categorized under the productive skills (Speaking and writing) and the receptive skills (reading and listening) and Each branch of the mind map corresponds to a specific AI platform with its percentage of market share to EFL students.
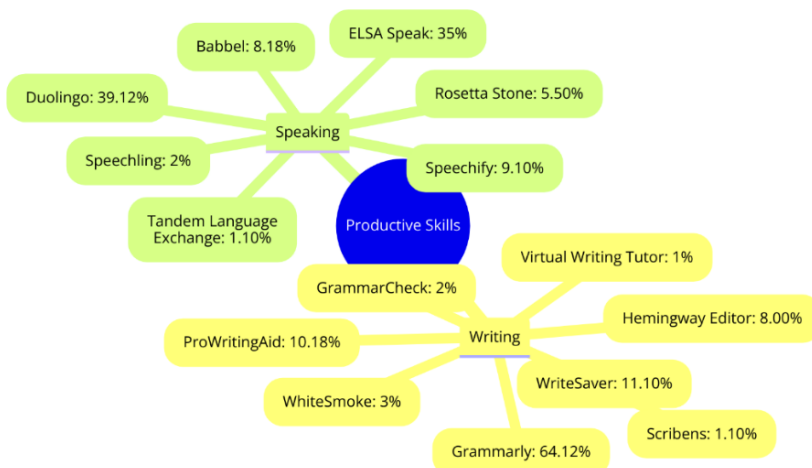
Diagram (Mind Map) 1. Students' Perspective of IA in Productive Skills

The mindmap diagram reflects the utilization of various AI-powered platforms that facilitate productive language skills, particularly in the context of writing and speaking. The section of Writing show Grammarly (64.12%) is the most predominant tool, reflecting its comprehensive AI-driven grammar and writing enhancement capabilities. Its high usage signifies the importance of accurate and polished writing in academic contexts. ProWritingAid (10.18%) and Hemingway Editor (8.00%) are significant but less dominant, indicating a preference for varied functionalities like style and readability analysis. WriteSaver (11.10%) suggests a focus on not just correction but also on learning and improvement in writing. Tools like Scribens (1.10%), WhiteSmoke (3%), GrammarCheck (2%), and Virtual Writing Tutor (1%) show a diverse range of options catering to specific needs, such as ESL students who may require different levels of support.

The section of Speaking show Duolingo (39.12%) and ELSA Speak (35%) represent the substantial usage of apps for enhancing speaking skills, which are crucial for EFL learners. These platforms use AI to provide immediate feedback on pronunciation and fluency. Babbel (8.18%), Rosetta Stone (5.50%), and Speechify (9.10%) are tools that complement traditional learning with their interactive and user-friendly interfaces, making language practice more accessible. Tandem Language Exchange (1.10%) and Speechling (2%) demonstrate the inclusion of social learning in language education, promoting real-time communication practice with native speakers and language partners.

Within the framework of Smart Society 5.0, characterized by the fusion of technology and education into a cohesive and intelligent network, the employment of AI tools signifies a shift towards autonomous, technology-supported language acquisition. Students in higher education within this context are progressively utilizing AI to enhance their language learning, benefiting from tailored and adaptable educational experiences. The widespread use of platforms such as Grammarly and Duolingo highlights the pivotal role of AI in advancing language skills, addressing the varied requirements of EFL learners striving for proficiency in both written and verbal English within an international academic setting.
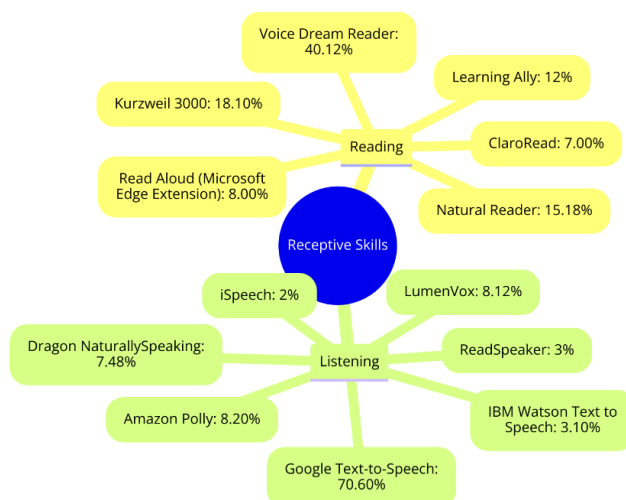
Diagram 3. Mind Map Students' Perspective of IA Receptive Skill

The mindmap diagram reflects the utilization of various AI-powered platforms that facilitate receptive language skills, particularly in the context of reading and listening. The section on Reading shows Voice Dream Reader (40.12%) stands out prominently, indicating its significant role in providing accessible reading aids. Its high usage among students could be attributed to its effectiveness in making reading material more accessible, especially for EFL students who may face challenges with text-heavy content. Natural Reader (15.18%) and other tools like Kurzweil 3000 (18.10%), Learning ally (12%) ClaroRead (7.00%), and Read Aloud (Microsoft Edge Extension) (8.00%) show a healthy diversity in tool adoption, suggesting that students leverage different functionalities—such as text-to-speech and readability adjustments to support their unique learning styles and needs.

The section of Listening shows Google Text-to-Speech (70.60%) dominates this branch, reflecting its widespread use likely due to its integration with Android devices and Google services. This tool's prominence underscores the importance of listening skills in language mastery and the reliance on AI to provide clear, accurate pronunciation models. Dragon NaturallySpeaking (7.48%), Amazon Polly (8.20%), and IBM Watson Text to Speech (3.10%) are utilized for their speech synthesis capabilities, which can help EFL learners with listening comprehension and pronunciation practice—a crucial aspect of language learning that prepares students for real-world interactions.

In Smart Society 5.0, higher education students are expected to be highly adept at using such tools to self-facilitate their language learning journey. The adoption rates indicated by the mindmap suggest a strong reliance on these technologies, reflecting a shift towards personalized, tech-driven learning experiences that cater to individual learning paces and preferences. Overall, the mindmap serves as a snapshot of how AI tools are becoming indispensable in EFL education, assisting students in navigating the complexities of language learning through customizable, interactive, and user-friendly platforms. This aligns with the educational paradigms of Smart Society 5.0, which prioritizes innovation, flexibility, and student autonomy.

Student's Challenges on the Use of IA
Table 1. Student's Challenges on the Use of IA

Theme	Codes	Description
Access to Technology	- Limited access to devices - Unreliable internet connections	Students encounter obstacles because they lack access to essential technological devices and dependable internet connections, both of which are necessary for the effective use of AI-based learning resources.
Digital Competency	- Insufficient digital skills - Difficulties in navigation	The absence of necessary digital literacy skills among students poses problems, making it challenging for them to navigate and effectively employ AI tools for learning languages.
Dependence on AI	- Weakening of critical thinking abilities - Decrease in problem-solving capabilities	Concerns are raised by students about becoming too dependent on AI resources, which they fear could detrimentally affect their critical thinking and autonomous problem-solving skills.
Tailoring and Personalizing Learning	- Standardized learning approaches - Lack of customization for	There is a call for AI learning platforms to offer more tailored and flexible learning experiences, as the current offerings tend to provide one-size-fits-all solutions

	individual learning preferences	that don't meet the unique needs of each student.
Cultural and Contextual Relevance	- Insufficient cultural content - Absence of contextual applicability	The shortfall of cultural and contextual insights in some AI learning tools is noted by students, underscoring the importance of these aspects for a full understanding of a language.
Privacy and Security of Information	- Concerns over data privacy - Questions about data security	Students are apprehensive about the way their data is handled and safeguarded within AI learning environments, highlighting concerns over privacy and data security.
Functional and Usability Challenges	- Regular technical disruptions - Complicated interfaces	Students report facing technical issues and dealing with unwieldy user interfaces in AI learning tools, which hinder effective learning.
Alignment with Educational Objectives	- Discrepancy with educational goals - Limited support for instructors	The difficulty of integrating AI tools in a way that aligns with wider educational and teaching goals is identified, along with a noted lack of sufficient teacher support for incorporating these technologies.

The primary objective of this study is to find out the students' insight into IA in EFL education. The findings of this study were answered quantitatively. As aforementioned above, some positive applications are representative of the results. First, Grammarly, recent studies have explored students' perceptions of Grammarly, a popular tool for grammar checking and writing assistance, yielding generally positive feedback across different educational contexts. Ananda et al (2021) investigated the use of Grammarly in grammar checking for written assignments, revealing that despite encountering technical issues and misunderstanding feedback, students responded positively to the learning aid provided by Grammarly. This sentiment was echoed by Raihan et al (2023), who noted the tool's ability to clarify and enhance the writing process for students. Jelita et al (2023) further confirmed Grammarly's effectiveness in improving writing quality, specifically highlighting improvements in grammatical accuracy and punctuation. However, Faisal and Carabella (2023) pointed out some students' concerns

regarding the relevance and contextuality of Grammarly's feedback, suggesting room for improvement in the tool's feedback mechanisms. Fitria et al., (2022) concluded that Grammarly offers significant assistance in thesis writing through clear feedback and time-saving features, although its limitations, such as the inability to detect certain errors and the requirement for a premium subscription to access full features, were also noted. Collectively, these studies suggest that while Grammarly is a valuable tool for enhancing students' writing skills, its effectiveness can be contingent on the users' ability to navigate and interpret its feedback accurately.

Second, Duolingo, recent studies have underscored the positive perceptions of students towards Duolingo as a tool for language learning, highlighting its utility in enhancing motivation and vocabulary mastery. Inayah et al (2020) discovered that undergraduate students regarded Duolingo as a beneficial and motivational resource for English learning, despite noticing a discrepancy between their favorable perceptions and the limited time spent using the application. Nurhisyam et al. (2023) identified predominantly positive perceptions among university students regarding vocabulary learning through Duolingo, commending its user-friendly interface, engaging content, and absence of advertisements, albeit acknowledging the requirement for internet connectivity. Cesarini et al. (2021) revealed Duolingo's significant impact on students' vocabulary mastery, affirming its contribution to language acquisition. Furthermore, Irzawati and Unamo (2023) documented students' positive responses to Duolingo, emphasizing its simplicity, entertainment value, engagement, and motivational qualities. Yana (2021) noted that students perceived Duolingo positively, finding it interesting and motivating, which bolstered their confidence in language learning, though they suggested improvements in its presentation and content repetition.

CONCLUSION

AI platfroms give the positive impact to the students' learning process. with the AI the students felt easy to learn and improve their ability specifically some platfrom can imrove their capability such as Grammarly, Duolingo, and Elsa. However, some challenges also provides such as Limited access to devices Unreliable internet connections, Insufficient digital skills, difficulties in navigationinsufficient cultural content, absence of contextual applicability-concerns over data privacy, questions about data securitydiscrepancy with educational goals, limited support for instructors. A limitation of this study is its methodological scope. Future researchers should utilize quantitative methods, such as experiments, to achieve more comprehensive results.

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