

# Exploring New Insights on the Use of Artificial Intelligence (AI) Tools to Facilitate Linguistic Proficiency of Undergraduate Foreign Language (FL) Learners

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## Abstract

The extension of Artificial Intelligence (AI) in the domain of foreign language education has not only proven beneficial to language students, but also to those who are learning foreign languages. With the presence of AI tools in this domain, many opportunities are presented to learners to improve their linguistics proficiencies. With this in mind, the current study is aimed at exploring the potential of AI tools in facilitating the linguistic proficiency of undergraduate students studying foreign languages. Using a mixed research methodology, the research engaged ninety-three (93) participants who include foreign language (FL) intermediate-level learners, and foreign language (FL) teachers to seek their perspectives on the main goal of this research. The study also examines the efficacy of Artificial Intelligence (AI) apps. in enhancing the linguistic competency and the application of these apps. in the learning system of foreign language (FL) undergraduates such as language translation, chatbots, and adaptive learning platforms amongst others. Furthermore, relevant themes were highlighted from the analyzed data. The themes include linguistic proficiency enhancement, student's engagement and motivation, personalization and adaptation, and pedagogical implication. Additionally, the research revealed that with specific AI tools, the linguistics proficiencies which include, speaking, listening, reading, and writing skills of foreign language (FL) undergraduates are strengthened. Nevertheless, the research encourages proper education of both foreign language teachers and students on how to use AI tools, to fully harness their benefits.

**Keywords:** Artificial Intelligence (AI) Tools, Foreign Language (FL) Undergraduates, Linguistic Proficiency, Foreign Language Education, Pedagogical Implications, Chabot.

## 1. Introduction

Integration of Artificial Intelligence (AI) tools in foreign language education has been one of the major factors that have brought positive change to the field. However, the traditional system of foreign language learning or acquisition was characterized by classroom-based learning and use of printed materials, sometimes facing challenges in delivering tailored, interactive, and immersive language learning opportunities. Nevertheless, the emergence of artificial intelligence (AI) and technological advancements present novel opportunities. AI-driven products, such as

language learning programs, chatbots, applications for speech recognition, and online language instructors, have become more prominent. According to Pokrivcakova (2019), these technologies have the capacity to provide customized, engaging, and realistic language learning environments. Traditional techniques sometimes encounter difficulties in providing real-time feedback, personalized practice, and engagement, but these aspects may be effectively facilitated by alternative approaches.

More so, the emergence of Artificial Intelligence (AI) and technological advancements in the field of foreign language education has also brought a change to both how foreign language is being taught and learned, thereby, providing foreign language teachers with sophisticated methods for language teaching and facilitation of foreign language instruction. On the other hand, these tools have also been proven to aid in enhancing linguistic proficiencies of language learners. Linguistic proficiency denotes the capacity to use a language with efficacy and precision. It comprises a diverse set of competencies and an in-depth understanding pertaining to a particular language. While emphasis has been placed on the role of these tools in offering language students opportunities to learn outside the classroom (Godwin-Jones 2022 and Nazari et al. 2021). However, there is still concern on how effectively the actual users perceive these tools in facilitating their proficiency in linguistics.

## **2. Literature Review**

The essence of this section is to outline and discuss the relevant concepts that are related to the aim of this study. It goes further to align the findings of other studies in relation to these concepts.

### **2.1. Historical Development of Artificial Intelligence (AI) in Foreign Language Learning**

The paradigm shift in the domain of foreign language learning as a result of the emergence of AI in the field is characterized with focus on several technological innovations with the ability to facilitate language teaching and learning. As a notable concept, Artificial Intelligence (AI) encompasses the replication of human intellect in robots or computer systems, enabling them to do activities that conventionally need human cognitive abilities. According to Lenci (2020), these activities include problem-solving, acquisition of knowledge, logical thinking, comprehension of linguistic expressions, identification of patterns, and the process of decision-making.

Nevertheless, the origin of Artificial Intelligence (AI) in the domain of language acquisition may be historically situated in the mid-20th century, coinciding with the emergence of the "language labs" idea, Alexander (2007). Here, the laboratories, which were furnished with audio and video recording equipment, provided students with the opportunity to engage in exercises pertaining to pronunciation, listening comprehension, and oral communication. Although not classified as Artificial Intelligence (AI) in its contemporary definition, these early developments served as the groundwork for the concept of using technology to facilitate language acquisition, (Cheah, 2021; Divekar et al., 2022; Faiz et al., 2023).

The computer-Assisted Language Learning (CALL) movement started to gather impetus throughout the 1960s and 1970s. This event represented a notable milestone in the incorporation

of computers into the realm of language instruction. According to Kannan & Munday (2018), the first computer-assisted language learning (CALL) program placed emphasis on the implementation of drills and exercises, therefore, offering learners the opportunity to engage in interactive language practices (Elaish et al., 2019; Fu et al., 2020; Gardner & Yung, 2017).

On the other hand, the CALL program further experienced a notable change in 1980s and 1990s; wherein, computers are used to develop exercises that focused on enhancing effective communication skills. This approach is beyond mere linguistic correctness (earlier objective for language learning) and sought to foster fluency in language proficiency (Jiang, 2022; Lim et al., 2023; Mays et al., 2021). The period of integrative Computer-Assisted Language Learning (CALL) spanning from the 1990s to the early 21st century was marked by an increased availability of multimedia technologies and the Internet, leading to enhanced accessibility. As a result of improved technology accessibility, educators have started to develop language learning strategies that may be effectively used both within and outside the classroom (Nino, 2009; Seker, 2016; Ouyang et al., 2022; Tan et al., 2022).

Currently, Artificial Intelligence (AI) technologies, including natural language processing (NLP) and machine learning, have increasingly assumed a significant role in language learning software; from being rudimentary system for language exercises to advanced platforms that provide immersive and interactive learning opportunities.

## 2.2. Artificial Intelligence (AI) Tools in Foreign Language Learning

The use of Artificial Intelligence (AI) tools has significantly transformed the domain of foreign language acquisition. However, their function in the field of language instruction is beyond ordinary assistance, as they have emerged as agents that stimulate a new era of linguistic competence. Pokrivcakova (2019), views these tools as part of the developing domains within educational technology, and several scholars acknowledge the significant advantages they have in providing potential benefits to both students and educators.

Generally, different scholars (Woo & Choi 2021; Gulavani & Kulkarni 2022; De la Vall, & Araya 2023) have categorized Artificial Intelligence (AI) tools based on their specific functionality. Gulavani & Kulkarni (2022) classified these tools into three categories, learner oriented, instructor-oriented, and institutional system-oriented AI tools. Nevertheless, this categorization is also in tandem with that of Bahari (2022). Learner oriented or learner-facing AI tools is the software that is specifically meant for the students alone, while instructor-oriented or teacher-facing AI are the tools developed to aid instructors to effectively discharge their duties. Institutional system-oriented AI provides valuable information to administrators and managers at the institutional level. These tools assist in monitoring attrition rates across different faculties or institutions (Yesileinar, 2023, Zhai et al., 2021).

The benefits of the integration of these tools in foreign language learning go a long way in helping both the teachers and foreign language students. This technology has the potential to provide educators and students with the necessary resources to address not just the content of learning, but also the process of learning and the emotional state of the learner. As argued by Kannan & Munday (2018), the use of technology into language learning programs has provided

language students with the opportunity to utilize a diverse range of resources, multimedia materials, and interactive activities. In other words, technology provides learners with many possibilities to interact with genuine language resources and fully immerse themselves in the language of their choice. These opportunities may be accessed via language learning applications, internet platforms, or technologies powered by Artificial Intelligence (Zhao, 2022; Zhang & Zou, 2022).

Furthermore, the acquisition of information and skills that are in demand by employers may be facilitated by the utilization of these AI tools, while educators can use their potential to create more advanced learning environments that surpass conventional limitations. For instance, AI tools have the potential to facilitate collaborative learning, which may be challenging for a single instructor to do alone. This can be achieved by ensuring that appropriate groups are established for certain tasks, or by offering tailored help at the optimal moment.

Conversely, the field of language teaching has been significantly transformed by the advent of AI technologies, which have allowed the implementation of tailored and individualized learning paths. Cui et al., (2018), identified adaptive learning systems as one of AI tools that can aid language learners to achieve this. Adaptive learning systems distinguish themselves from conventional learning systems by providing students with a customized learning experience according to their individual knowledge levels. Adaptive systems are designed to gather and evaluate data on students' behaviors, updating learner profiles, and subsequently delivering timely and personalized feedback to each individual student. The implementation of such interactions between the educational system and students has the potential to enhance student engagement and optimize the efficacy of the learning process.

### 2.3. Strategies for effective integration of Artificial Intelligence (AI) tools in Language Learning

Language teachers and learners are the primary benefactors of the potential of AI tools. These tools are deemed effective when they are properly integrated into the language learning system. According to Pokrivcakova (2019), the successful integration of Artificial Intelligence (AI) technologies into language learning necessitates a well-rounded strategy that harmonizes technological advancements with human direction, therefore fostering a helpful and captivating learning setting. Some of the strategies for effective integration of AI tools in language learning include:

i) **Personalized Learning System:** Certain Artificial Intelligence (AI)-enabled systems have the capability to tailor educational resources to suit the unique needs of individual learners, certain courses, or even whole educational institutions. Artificial Intelligence (AI) has the capability to tailor educational material and adjust the speed of instruction according to the unique requirements of individual students. Personalized learning resources serve as an alternative to conventional textbooks and materials that adhere to a uniform approach to education, sometimes referred to as the "one-size-fits-all" model, Pokrivcakova (2019).

ii) **Gamification Strategy:** The concept of gamification involves the integration of Artificial Intelligence (AI) into educational games and applications, with the aim of enhancing the

language learning process. The essence of this strategy is to attract students' attention in language learning by creating a fun and educative environment for them. Artificial Intelligence (AI) has the capability to provide adaptive challenges, establish objectives, and provide incentives for accomplishments, enhancing the overall experience and involvement in the process of learning.

iii) Feedback and Assessment: Here, AI-powered tools are used for the evaluation of students' assignments, identification of errors, and provision of recommendations for improvement. In this strategy, the provision of real-time feedback is of great value in facilitating self-assessment and fostering progress, Woo & Choi (2021).

iv) Utilization of Chatbot: Learners have the ability to acquire knowledge and skills by engaging in direct discussion with a robot. Furthermore, chatbots possess the capability to provide tailored responses in reaction to learners' messages, evaluate their performance, and offer guidance on areas that need improvement. These automated systems possess the ability to replicate authentic dialogues, provide responses to inquiries, and provide assistance in language proficiency.

v) Utilization of Machine Translation Tools: Machine translation (MT) refers to the use of computer software to translate a document, whether written or spoken, from one natural language to another. The use of Artificial Intelligence (AI) technology, such as neural machine translation, has resulted in significant improvements in the overall quality of machine translation. However, machine translation systems have the capability to provide learners with access to a diverse array of literature in the language they are studying.

### **3. Gap in the Literature**

Extensive work has been done on incorporation of Artificial Intelligence (AI) in foreign language learning with primary focus of the impacts of these tools on both the learners and language instructors. Additionally, some of these works to an extent have also tried to account for factors that motivate language students to integrate these tools in their language learning path. Given numerous literatures on this subject matter, there exists little focus on the perspectives of language students on how AI tools help to facilitate the attainment of overall linguistic proficiency by foreign language students. This research seeks to bridge the identified gap in literature.

### **4. Research Questions**

- A. To what extent do Artificial Intelligence (AI) tools facilitate the overall attainment of linguistic proficiency by FL undergraduates?
- B. What are your perceptions on the trends associated with Artificial Intelligence (AI) integration in the development of linguistic proficiency of FL undergraduates?

## 5. Research Methodology

### 5.1. Study Method

The research adopted a mixed methodology, which encompasses both qualitative and quantitative methods. Nevertheless, the method availed by the current research is to collate quantitatively data for its purpose through the use of online survey. Collation of additional data was also made possible with qualitative method. Here, a semi-structured interview was administered to three research participants to investigate their opinions on perceptions on the trends associated with AI integration in the development of linguistic proficiency. The generated data were further analyzed, and relevant identified themes were also discussed.

### 5.2. Study Sample

The study sample for this research includes ninety-three (93) participants who include foreign language intermediate-level learners and foreign language teachers (specifically those who possess expertise in instructing foreign languages and use Artificial Intelligence (AI) technologies as an integral component of their teaching methodology). Additionally, the participants were purposely selected from a range of educational institutions, including universities, colleges, and language schools. Before the collection of the basic information of the participants, an informed consent was obtained from them. The table below presents demographic information of the respondents.

Table 1: Demographic Variation

Category	Variation	Frequency	Percentage
Gender	Male	45	48.4%
	Female	48	51.6%
Age	18- 25 years	31	33.33%
	26-35 years	22	23.66%
	36-45years	21	22.58%
	46+ years	19	20.43%
Educational Background	Currently Students	35	37.63%
	Bachelor's Degree	22	23.66%
	Master's Degree	19	20.43%
	Doctorate Degree	17	18.28%
Years of Experience (for teachers)	2-5 years	21	22.58%
	6-10 years	19	20.43%
	11-15 years	11	11.83%
	16-20 years	17	18.28%
	20+ years	25	26.88%

The above table represents the demographic information of the research respondents. From the table, it can be observed that, more than 50% of the participants are females, while remaining percentage are males. On the other hand, the participants within the age range of 18- 25 years are larger in number compared to other groups. The participants within this age range are possibly students. In terms of educational qualifications, the majority of the participants are currently students. 22.66% of the respondents are bachelor's degree holders while 20.43% are master's degree holders. However, the remaining percentage of the respondents are doctorate degree holders. Lastly, the participants who are foreign language (FL) teachers with more than 20 years of teaching experience are larger in number as compared to other teachers.

### 5.3. Study Tool

The study used both an online questionnaire and semi-structured interview for collating the research data. However, the questionnaire contains 15 items; wherein nine (9) survey items were generated from the first research question, and other four (4) items pertain to the demographic information of the participants; which have already been presented. Nevertheless, the remaining part of the questionnaire contains two (2) survey items generated from the second research question (semi-structured interview was conducted based on these items). Also, it is pertinent to note that both foreign language (FL) learners and teachers participated in the survey items contained in the first research question, while only foreign language (FL) teachers participated in the semi-structured interview.

### 5.4. Analysis Procedure

The data obtained from interviews and questionnaires were subjected to analysis utilizing qualitative and quantitative research methodologies, correspondingly. Furthermore, thematic analysis was used to ascertain prevalent themes within qualitative data, whilst statistical analysis was utilized for quantitative data.

## 6. Results and Discussion (of Findings)

### 6.1. Result of the First Research Question

The survey items that are contained in the first research question are as follows.

- i. Do you frequently integrate Artificial Intelligence (AI) tools in language learning?
- ii. Can you operate these tools effortlessly without external guidance?
- iii. Do you believe that Artificial Intelligence (AI) tools help in facilitating overall proficiency of foreign language students?
- iv. Are these tools more effective for attaining linguistic proficiency than the traditional language learning method?
- v. Are there Artificial Intelligence (AI) tools that help you with specific language skills, such as speaking, listening, reading, or writing?
- vi. Do these tools impact on learners' motivation and engagement?
- vii. Do you feel comfortable while using these tools to learn?
- viii. Do these tools help you to overcome common language challenges?
- ix. Based on your experience, do you encounter challenges while using these tools?

Table 2: The Use of AI in the Facilitation of Linguistic proficiency

Survey Item	SA	A	N	SD	D	Mean	St.D
i.	43.01%	19.35%	21.51%	10.75%	5.38%	3.66	1.18
ii.	34.41%	17.20%	26.88%	13.98%	7.53%	3.60	1.27
iii.	36.56%	22.58%	19.35%	15.05%	6.46%	3.78	1.09
iv.	15.45%	18.15%	27.30%	20.92%	18.17%	2.64	1.30
v.	34.41%	16.13%	24.73%	17.20%	7.53%	3.67	1.13
vi.	32.26%	20.43%	23.66%	13.97%	9.68%	3.72	1.16
vii.	37.63%	20.43%	21.51%	12.90%	7.53%	3.71	1.16
viii.	25.45%	28.18%	21.82%	14.53%	11.88%	3.35	1.17
ix.	18.18%	20.05%	23.64%	18.28%	19.85%	2.94	1.27

SA= Strongly Agree, A= Agree, N= Neutral, SD= Strongly Disagree, D= Disagree

The data presented above are summarized as follows.

1. The majority of the foreign language (FL) learners affirmed that they frequently make use of AI tools in their language. Nevertheless, the presence of high mean score (3.66) suggests that the respondents have positive attitude towards the use of AI tools for language learning.

2. The total number of foreign language (FL) learners who affirmed that they could operate these tools without external guidance is more than 50%. On the other hand, the presence of standard deviation of 1.27 suggests that while the majority of respondents tend to agree, there exists a diversity of experiences among the participants. Certain individuals may exhibit a high level of self-assurance in their capacity to use AI technologies autonomously; however, others may possess a lower degree of certainty and want more support and direction.

3. For the third item, more than 55% of the participants typically maintain a good opinion about the contribution of AI technologies in enhancing the overall competency of foreign language students. More so, the average score of 3.78, which is above the neutral threshold of 3, suggests a generally positive assessment. The very consistent perspective among respondents is shown by the low standard deviation of 1.09. This finding indicates that a significant proportion of the participants hold the belief that AI technologies have a positive impact on improving the linguistic skills of students learning a foreign language.

4. In the fourth survey item, the research participants exhibited a certain level of skepticism about the effectiveness of AI technologies in comparison to conventional language learning approaches for achieving linguistic proficiency. While the average score of 2.64 falls below the neutral threshold of 3 (suggesting a proclivity towards disagreement), the relatively large standard deviation of 1.30 shows a broad variety of perspectives in respondents' views. The findings reveal that while some respondents believe that AI technologies are more effective in language learning as compared to traditional methods, some respondents stand in opposition to this assertion.

5. The responses with regard to the fifth item show that the participants acknowledged the existence of AI technologies that aid them in enhancing their proficiency in various language abilities, encompassing listening, speaking, reading, and writing. While the high mean score of 3.67 suggests that a majority of participants see AI technologies as advantageous in enhancing their language proficiency across many domains, the relatively low standard deviation indicates



a degree of consensus with little variability in the replies, indicating a consistent and favorable perspective on the effectiveness of AI technologies for enhancing language proficiency.

6. As regards the sixth item, there is a high agreement among the respondents on the impact of AI tools on the motivation and engagement of language learners. From the data presented, more than 50% of the respondents attested to the fact that these tools of artificial intelligence technologies have a beneficial influence on learners' motivation and involvement in the language learning process. Additionally, the average score of 3.72 which is above the neutral threshold of 3 suggests a favorable opinion. The moderate standard deviation seen in the data reveals a prevailing positive perspective among the participants, suggesting that most of them perceive these tools as beneficial in improving learners' motivation and involvement throughout the process of learning a foreign language.

7. This findings in the seventh item indicate that a majority of participants report a favorable and satisfactory experience while using artificial intelligence technologies for the purpose of acquiring proficiency in a second language. In addition to this, the presence of a moderate standard deviation (3.71) suggests a consensus among participants on their level of comfort, with little divergence in their replies. This indicates that the feeling of comfort is a prevalent characteristic linked to the utilization of AI technologies in the context of foreign language acquisition.

8. For the eighth survey item, the mean score is slightly above the neutral value of 3. This finding suggests that a majority of participants view AI technologies as helpful in overcoming typical linguistic difficulties encountered throughout their language acquisition process.

9. The last item unveiled challenges encountered in the use of these tools. Although, these tools are beneficial to learners, some of the participants have affirmed that they face difficulty while using them. Nevertheless, the moderate standard deviation indicates that there exists variability in the experiences had by participants, with some individuals encountering a greater number of obstacles as compared to others.

## 6.2. Result of the Second Research Question

The second research question aims to explore the perspectives of both foreign language learners and teachers on their perceptions on the trends associated with AI integration in the development of linguistic proficiency. In order to answer this question, an interview was conducted. However, the following questions were developed to guide the aim of the said interview.

- i) Which particular trends are associated with AI technologies you believe have the most potential for augmenting language proficiency?
- ii) Are there any problems or obstacles linked with the integration of (AI) in the development of language proficiency that you would want to emphasize?

The excerpts from the conducted interviews are included in Appendix 1. Nevertheless, the following identified theme from the interviews serves as the foundation for the findings presented in this study.

#### a) Linguistic Proficiency Enhancement

In the interview, the participants emphasized on the enhancement of several linguistic proficiencies such as listening, speaking, reading, and writing. Many of the participants, particularly, foreign language (FL) learners empathized more on improvement of their speaking skills. This can be seen from expressions such as “students easily learn how to speak another language when they consistently practice with a language learning app”. This expression is an extract found in the statements of three foreign language (FL) teachers. Another major proficiency that was emphasized on is writing skill. In the speeches of the three foreign language (FL) teachers, there were corresponding utterances that points to writing skill. These utterances are: “students tend to write error-free content with the aid of Grammarly”, “students constantly get corrected whenever they make mistake”, “i observed that writing styles of my students have positively changed after constant practice with AI tools”.

#### b) Student’s Engagement and Motivation

From the perspectives of foreign language (FL) teachers, majority of AI tools can allow the students to completely focus on language learning by providing appropriate guidance they needed. Nevertheless, the three foreign language (FL) teachers who were interviewed emphasized on the relevance of gamification. The expressions such as, “gamification tools provide conducive environment for language learning”, “the fun part of gamification is that it entertains the students and at the same time teach them”, “students are motivated when they interact with game elements such as reward, leaderboards, and badges; reveal that AI tools are power technologies capable of engaging and motivating language learners.

#### c) Personalization and Adaptation

Another prominent theme unveiled from the interview is personalization and adaptation. The foreign language (FL) teachers noted that AI tools also present themselves as language tutor; wherein learners are taught based on their language level. This gives beginners the opportunity to relax and learn from the basic. The expressions of the 2<sup>nd</sup> and 3<sup>rd</sup> foreign language (FL) teachers point at how language learners personalize and adapt to these tools. The following statements were extracted from their expressions, “the flexibility of AI tools provides students with personalized learning experience”, “these tools offer language learners enough time to fully understand the underlying principles of a particular language”, “they provide unique feedback mechanism which is significant in language learning”. Meanwhile, the 1<sup>st</sup> foreign language (FL) teacher summarized that, ‘the assessment offered by AI tools accurately identifies areas in need of work, and recommended activities that align with language learners’ identified shortcomings.

#### d) Pedagogical Implication

The incorporation of Artificial Intelligence (AI) technologies has the potential to greatly influence pedagogical techniques and approaches, hence enhancing the efficacy and inclusivity of language instruction. An important statement made by the 2<sup>nd</sup> foreign language (FL) teacher revealed how these tools aid language teachers to address language students’ needs. 2<sup>nd</sup> foreign language (FL) teachers specifically affirmed that, “AI has the potential to provide educators with

comprehensive data pertaining to individual students' academic progress, hence enabling the implementation of tailored interventions. Another extract from the 3<sup>rd</sup> foreign language (FL) teacher affirmed that, "AI in education enables teachers to provide more inclusive, effective, and customised instruction."

#### e) Challenges of Artificial Intelligence (AI) Integration

The three foreign language (FL) teachers who were interviewed also highlighted challenges that are associated with the use of AI tools in language learning. The 2<sup>nd</sup> and 3<sup>rd</sup> foreign language (FL) teachers expressed concern on the ethical aspect of AI integration. Their expressions such as, "privacy problems are a substantial matter of concern", "language applications powered by AI often gathers user data; and there is possibility of comprising these data". Another challenge as pointed out by the 2<sup>nd</sup> foreign language (FL) teacher is disparity in the accessibility of technology and internet among language learners. From the statements of this participant, the following extract, "I believe that some students do not have access to these tools based on their financial capacity and level of exposure to technology" shows that some language learners faced the challenge of affording appropriate AI tools for learning. More so, 1<sup>st</sup> foreign language (FL) teacher specifically mentioned that "most AI technologies do not account cultural disparities and sensitivities". Nevertheless, an expression for the 3<sup>rd</sup> foreign language (FL) highlighted solution to this challenge. This participant said, "Language application developers should account for cultural disparities and sensitivities when designing educational technologies, in order to guarantee that the material and interactions are inclusive and do not cause offence or exclusion to learners from diverse cultural backgrounds".

## 7. Discussion

The major aim of this research, i.e., 'exploring the potential of AI tools in facilitating the linguistic proficiency of undergraduate students studying foreign languages' has been answered through the research's analysis. However, the mixed methods employed by this study have been able to provide new insight associated with AI integration in language learning.

Meanwhile, the functions of AI tools in the field of language instruction are beyond ordinary assistance, as they have emerged as agents that stimulate a new era of linguistic competence. In other words, this technology has the potential to facilitate the development of overall linguistic proficiency of language learners. This is evident from the responses of the participants in this research.

To start with, there is a positive response from the research participants on the effectiveness of these tools. The findings generated from the quantitative method revealed that AI tools help language learners in the development of their listening, speaking, reading, and writing skills. Further statements by the three foreign language (FL) teachers who were interviewed provided further support to this assertion. These teachers testified that students who make use of these tools improve significantly in their language skills. As emphasized by Pokrivcakova (2019) these

tools have facilitated learners in developing their linguistic proficiencies and augmenting their educational encounters.

Another prominent finding in this research is the impact of these tools on learners' motivation and engagement. Motivation and engagement play crucial roles in the language acquisition process, and the use of AI-driven language learning technologies has shown notable efficacy in augmenting these aspects. According to Zhao (2015), AI technologies demonstrate proficiency in customizing the language acquisition process to cater to the unique needs of individual learners. The use of a personalized approach enhances learners' motivation by establishing a connection between the material and their individualized needs and objectives.

In terms of comparing the effectiveness of AI tools for the attainment of linguistic proficiency to the traditional language learning method, it can be said that technology alone does not guarantee complete development of linguistic proficiency. Rather, the combination of traditional learning methodology and AI tools can provide a potent synergy, affording the advantages of interpersonal engagement alongside the efficacy and convenience of technological tools. Apart from students' engagement and motivation, and linguistic proficiency enhancement, three remaining themes identified in this research are: i) personalization and adaptation ii) pedagogical implication, and iii) challenges in AI integration. According to Godwin-Jones (2022) AI technologies demonstrate proficiency in customizing the language learning experience to suit the unique needs of individual learners. The adaptation of material, tempo, and difficulty levels is contingent upon the learner's progress and preferences.

Despite the numerous benefits of the use of these tools, there are challenges language learners encounter while using them. One of these challenges as identified in the analyzed data is ethical issues. This includes the privacy of the user for these tools. Some of the participants expressed concern about the possibility of these tools compromising their information. Akgun & Greenhow (2021), maintained that it is important for the developers of these tools to ensure that data is only used for educational reasons and not for any other commercial or marketing endeavors.

Similarly, the benefits of AI tools in the domain of language learning cannot be over-emphasizing. However, proper education of both foreign language teachers and students on how to use AI tools will not only allow them to fully harness the benefits of these tools, but also provide interesting and easy ways to teach and learn foreign languages.

## 8. Conclusion

The incorporation of Artificial Intelligence (AI) tools into the domain of foreign language teaching has emerged as a significant catalyst for positive transformation within this domain. The traditional approach to foreign language learning or acquisition was often centered on classroom-based instruction and the use of printed materials. The emergence of AI tools such as language learning programs, chatbots, voice recognition systems, and online language teachers have provided customized, interactive, and immersive language learning experiences. Conversely, similar technologies have also shown their efficacy in augmenting the linguistic abilities of those

learning a language. Additional evidence has been provided by this research based on this assertion. However, current research has been able to demonstrate the efficacy of these tools in facilitating the listening, speaking, reading, and writing skills of foreign language learners.

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