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Synergy of Artificial Intelligence in Facilitating English Language Learning



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Abstract

The aim of this quantitative study is to comprehend the perception of English language learners about the infusion of AI in their language learning. In the current era, language education is experiencing a major transformation in its implementation because of the incorporation of artificial intelligence. The current study focuses on the effect of AI on English Language Learners (ELL) at a private university in Lahore. The study explores the participants' understanding and perceptions regarding AI through a quantitative approach involving a questionnaire as a data collection tool. AI plays a vital role in enhancing learning and engaging students, making it easier for them to practice the English language both inside and outside the classroom. The results bring forth the notion that although AI receives more appreciation as compared to traditional methods used for English language learning, yet there are few students who still vouch for traditional methods. Findings show that in order to get better results of AI incorporation into English Language Learning, policymakers and language educators need to take into account students' perceptions regarding AI as well.

Key words: Artificial intelligence, English Language Learning, learners' (ELL) perceptions

Introduction

The current study aims to investigate the involvement of AI in English language learning at the tertiary level and aspires to understand the perception of the students in language classes associated with AI integration. Thus, the research problem is to understand the impact of AI on English language learning and to explore specific mechanisms through which AI effects language learning, which are still unexplored at the university level. The accessibility and acceptance of AI-based language learning tools among language learners is also a significant challenge and the current study aims to address this issue as well.

Artificial Intelligence has perfused itself in almost all walks of our lives particularly in education and specifically in teaching and learning English as a second language. AI offers innumerable tools and innovative elements that have now become part and parcel of English Language Learning. They have helped to engage and enhance students' language acquisition. There is no denying the fact that the English language, being the lingua franca in this interconnected global landscape is of pivotal importance for individuals to navigate their ways in their personal, professional, and academic spheres (Sari, 2023). Due to this over-emphasized demand for proficient skills in the English language, researchers appreciate the incorporation of innovative strategies to raise the learning outcomes. Shorey, et al (2019) points out that one of the eminent and innovative approaches to English language instruction is the integration of artificial intelligence to enhance the results. Vinuesa, et al. (2020) are of the view that AI is capable of presenting adaptive, interactive, and personalized learning capabilities designed according to learners' individual needs and preferences.

The incorporation of AI in language education, particularly English language learning, opens up numerous vistas for the enhancement of four fundamental skills i.e. listening, speaking, reading, and writing. Numerous AI-powered innovative tools and

applications such as chatbots, speech recognition systems, virtual tours, and language learning applications, offer interactive and immersive language learning experiences. These tools and apps enhance users' abilities and accelerate their language acquisition by offering personalized content, real-time feedback, and adaptive assessments. Lashari, et al. (2023) rightly say that artificial intelligence generates customized learning ways that change with learners' preferences, progress, and learning strategies. The reason for the integration of AI in language education is to address the challenges faced by English language learners entailing a requirement for individual attention, lack of prompt feedback, and no access to native speakers.

The study therefore focuses on urging English language learners to acquire the necessary skills in order to be successful in the contemporary interconnected world. Furthermore, it fills the gap in understanding the use of AI in English language learning using a quantitative approach.

Literature Review

There is no denying that AI has become an important part of our daily lives as its integration expands from the medical sciences to the domain of music and art and its instrumentalism is multifaceted. Lesia, et al. (2022) say that with every advancement AI is decisive in the future in numerous ways, making the lives of humans more comfortable and efficient. This could be seen where intelligent home systems offer handiness in household tasks and chatbots help consumers enhance their communication. The key feature of AI and technology in education is that it engages students thoroughly providing an immersive experience such as online language learning platforms or virtual reality classrooms. Such synergic tools usher more participation and motivation among English language learners (Gikas & Grant, 2013).

Applying AI in Language Learning

The role of artificial intelligence in the educational context has been extensively explored in previous studies. The findings of those studies have brought forth the positive outcomes of AI integration highlighting its potential merits in terms of engagement, motivation, and learning outcomes. Woo and Choi (2021) gathered data on AI tools developed from 2017 to 2020. The majority of these tools employed natural language processing and machine learning, targeting to sense errors, evaluate language proficiency, and generate feedback. They documented various AI-based tools and their influence on language acquisition (Lashari, et al. 2023).

The main goal of learning English is to develop competence which includes the skilful application of vocabulary and linguistic aspects to improve speaking, listening, reading, and writing abilities. It further expands to the use of language for comprehension and pragmatic understanding. Zou (2017) says it is essential to use AI applications, such as communication and simulation programs, to mimic real-life English language learning scenarios in order to accomplish these goals.

These resources combine instructional games with language learning, focusing and providing hands-on training in language proficiency. Artificial intelligence (AI) chatbots play a role in setting up scenarios where acoustic exercises and visual media are used to improve pronunciation accuracy. In addition to opportunities for guided pronunciation practice and listening, they include assignments for describing and analyzing imagery and commonplace scenarios. Furthermore, these resources also help students polish their language abilities and get constructive feedback for development.

Research Gap

Since the introduction of AI into language learning, a lot of research is going on in the field of language education. Researchers check the impact of AI integration on the enhancement of listening, speaking, reading, and writing, yet very few researchers are accounting for learner's perceptions regarding AI incorporation into language learning. The current study focuses on addressing this research gap in private-sector universities in the Pakistani context.

Significance of the Study

The study is significant for English language learners as it guides them to devise new AI-based strategies and the utilization of AI platforms for improving English language learning to enhance their proficiency. Furthermore, it helps learners in adapting and improving different English language approaches, methods, and activities based on student needs and artificial Intelligence (AI) in learning. This research can pave the way for the conception of informed policies that facilitate responsible and equitable adoption of AI, based on students' perceptions in language education for future language learning methodologies, and help language students in improving language skills through artificial intelligence.

Research Method and Methodology

The study employs quantitative research methods to investigate the impact of AI on English Language Learning (ELL) among students at a private sector university. The sample for data collection consisted of 50 students, randomly selected from the Department of English Linguistics and Literature. The primary data collection instrument utilized was a structured questionnaire dispersed through WhatsApp groups. The questionnaire consisted of a series of questions intended to gauge various aspects of AI integration in ELL, including its perceived impact on language proficiency, learning outcomes, and overall educational experience.

Data Collection

The data was collected by distributing the questionnaire to students through the digital communication channel i.e. WhatsApp groups. As per research ethics, the participants were informed about the purpose of the research, the voluntary nature of their participation, and the confidentiality of their responses. The questionnaire was adopted and then adapted from a research study by Crawford (1990) and consisted of multiple types of mixed responses i.e. Likert questions, dichotomous and appropriate response questions to get a comprehensive response from the participants. The questionnaire gathered data on various aspects, including the frequency of AI use in language learning, the perceived efficiency of AI-driven tools, challenges encountered when using AI in language learning, and students' overall satisfaction with AI-integrated language learning experiences. The data collection intends to document the viewpoints and experiences of the ELLs' of the English Department concerning the incorporation of artificial intelligence into their language learning endeavors. The collected responses were then analyzed quantitatively to draw meaningful understandings and conclusions regarding the impact of AI on English Language Learning at The University of Lahore.

Findings

The distributed questionnaire consisted of a section requiring demographic information including the gender and age of the participant. The other section contained 13 questions regarding AI incorporation in English language learning and the perceptions of the students.

Table 1

<i>Gender and Students</i>		<i>Age of the</i>	
		Frequency	percentage
Gender	Male	39	78%
	Female	11	22%
Age	Above 20	32	64%
	Under 20	18	36%
Total	Participants	50	100%

The Table 1 presents the demographics of the participants highlighting the distribution of the sample on the basis of their gender and age. It shows that 78% of the participants were males and 64% of these males were above 20 years of age and 36 % of them were under 20. Similarly 22% of the participant students were females out which 64% were above 20 and 36% were under 20 years of age. The age factor provides additional information about the participant in terms of maturity or seriousness towards language learning.

Table 2

Frequency of AI Usage

	Responses	Frequency	Percentage
This table insight into	Never	2	4%
	Occasionally	7	14%
	sometimes	6	12%
	Often	11	22%
	Always	24	48%
	total	50	100%

renders an the frequencies with which students utilize AI for language learning purposes. The data brings forth a varied range of AI usage patterns among the 50 participants. A small number of students i.e. 4 % reported never using AI for language learning. Almost an equal percentage of students, 14.0% and 12% fall into the "Occasionally," and "Sometimes," indicating the fact that students still have some hesitations towards the use of AI. 22% of the participants fall in the "Often" category, indicating a variable degree of AI integration into their language learning routines. Nevertheless, 48% which is nearly half of the students, use AI "Always" for language learning and it is a noteworthy finding. This significant percentage highlights the critical role that AI plays in assisting language learning. This wide variety of responses highlights the need for flexible and adaptive AI-based tools that accommodate individual preferences and requirements by revealing the differences in how students engage with AI in language learning. Furthermore, the fact that a sizable percentage of students actively incorporate AI into their studies demonstrates the expanding incorporation of artificial intelligence into language learning methodologies.

Table 3

Learning Engagement through AI Integration

This table	Responses	Frequency	Percentage
	Yes	41	82%
	No	9	18%
	Total	50	100

demonstrates that 82% of the students, which is a majority in number, find AI-integrated language learning more interesting and engaging than conventional methods of language learning. Students find these AI tools more interactive and dynamic boosting their motivation and interest. However, 18% of students still favour traditional methods and find worth in conventional approaches. This suggests that in order to meet the diversified needs and preferences of English language learners, a poised strategy combining AI and conventional methods is required.

Table 4

Facilitation of AI in Practicing Language Learning outside the Classroom

The Table 4 noteworthy	Responses	Frequency	Percentage	shows that a majority of
	Yes	44	88%	
	No	6	12%	
	Total	50	100	

students i.e. 88.0%, feel that AI has made it easier for them to practice English outside the classroom. This suggests that more number of students view AI-powered tools and resources as advantageous for encompassing language learning into everyday contexts, eventually improving language proficiency.

On the other hand, only 12% of students, do not find AI helpful and in this regard. Although their percentage is comparatively low, yet their feedback points out the importance of addressing any challenges or limitations to make sure that AI serves all students effectively.

Table 5

The Pleasant Experience of Language Learning through AI Integration

The Table 5	Responses	Frequency	Percentage	shows an
	Yes	46	92%	
	No	4	8%	
	Total	50	100	

inordinate response of 92% of participants mentioning that AI enhances their enjoyment and satisfaction of learning English. This indicates that AI-powered tools contribute meaningfully to the development of motivation and enthusiasm for English language learning. Only 8% of the participants negated the idea.

Table 6

Preference of AI-integrated Learning over Traditional Methods

Responses	Frequency	Percentage
Yes	41	82%
No	9	18%
Total	50	100%

The Table 6 signposts that 82% of students, which is a significant percentage, would prefer AI-integrated learning over traditional approaches. This shows their emphatic preference for the interactive and dynamic nature of AI tools in English language education. Conversely, 18% of participants voted for traditional methods. Considering the rationale behind this comparatively smaller percentage is essential to establish inclusive learning settings that accommodate a varied range of needs and preferences. The data thus underlines the maintenance of a balanced approach that yokes together, both AI integration and traditional methods to allow for mixed learning styles.

Table 7

Improvement in English Language Proficiency after AI Incorporation

Responses	Frequency	Percentage
Enhanced	38	76%
Stayed the same	5	10%
Decayed	7	14%
total	50	100%

The Table 7 indicates that a majority of participants, i.e. 76%, accept that by inculcating AI into their language learning their proficiency regarding English language has considerably improved. This positive response emphasizes how AI-powered language learning tools might improve language proficiency. 10 % of the participants on the other hand believe that there is no shift in their proficiency when it comes to using such AI-based tools. Conversely, 14% of the participants faced a decline in their language learning capabilities after the use of AI-based tools. It is important to understand these disparities for augmenting AI's impact on language learning outcomes as it emphasizes the importance of customized support to all students to ensure progress in English language proficiency.

Table 8

Prior use of AI for English Language Learning

Responses	Frequency	Percentage
Yes	37	74%
No	13	26%
Total	50	100%

The table above indicates that 74% of the participants willingly incorporated AI-driven software in their English language learning to get the benefits of the innovations in the field of education. However, 26% of the participants have yet not engaged themselves in such endeavours. In order to ensure the integration and optimization of AI-driven tools in language education to make sure that all students can benefit from them, it is important to explore the reason behind these differences. This information highlights the possibility for

further advances in the field of language teaching as well as the growing interest in AI technology.

Table 9

Motivation and AI-powered Language Learning

Responses	Frequency	Percentage
Yes	38	76%
No	12	24%
Total	50	100%

This table validates that a significant majority of students i.e. 81.6%, recognize AI-powered language learning tools as having increased their motivation to learn English. Moreover, the fact that a substantial percentage of students actively incorporate AI into their language learning highlights the expanding incorporation of AI into language learning techniques. However, 24% of the participants, had quite a different experience. Gaining an understanding of the rationale behind this alternative viewpoint will help maximize the effects of AI-powered resources and guarantee that every student is more motivated to study English. The gathered data highlights the benefits of AI for language learning as well as the possibility for more integration and improvement of AI-driven educational systems.

Table 10

AI-powered Language Learning is More Motivating than Traditional Language Learning.

Responses	Frequency	Percentage
Yes	39	78%
No	11	22%
Total	50	100%

The percentages shown in this table highlight that 78% of the participants felt that AI and other language learning applications are more motivating than conventional language learning methods. This raised frequency and percentage brings forth the idea that there exist a strong preference among the English language students to incorporate AI driven language learning tools in their language education. 22% of the participants, however, found traditional materials more helpful and motivating than the AI or language learning apps. This might help understand the difference in the employed strategies and techniques in both methodologies i.e. AI-driven and traditional, ultimately helping develop a hybrid methodology catering to both.

Table 11

Recommendation of AI-powered Language Learning Tools to Others

Responses	Frequency	Percentage
Yes	41	82%
No	9	18%
Total	50	100%

This table shows that 82% of students would recommend AI-powered language learning tools to others, emphasizing their

positive experiences and satisfying experiences with these innovative tools. On the other hand, 18% minority of participants would not recommend these AI-driven tools to their friends and acquaintances. Investigating the causes of this discrepancy in recommendation can provide insights toward personalizing AI-powered language learning systems to fit the needs and preferences of all students. Substantial willingness towards the inculcation of AI-driven tools for the enhancement of language skills paves the way for its broader acceptance and adoption in language education.

Table 12

The Convenience of AI-Integrated Learning

	Responses	Frequency	Percentage	
The Table forth the perceptions regarding English learning. It	Strongly disagree	19	38%	12 brings feelings and of students AI for language shows that
	Disagree	12	24%	
	Neutral	10	20%	
	Agree	4	8%	
	Strongly Agree	5	10%	
	total	50	100%	

38% of the participants strongly disagree that AI make language learning an enjoyable for them. It further reveals that 24 % of the participants simply disagreed. On the other hand, 20% strongly agreed that AI improved their enjoyment level while learning English, and 2% agreed. Around 10% of participants remained neutral, meaning they had an ambivalent response or perhaps they still needed time to think about it.

Table 13

Contribution of AI in overall English Language Proficiency

	Responses	Frequency	Percentage	
The	Enhanced vocabulary	18	36%	table displays that how participants perceived about AI being helpful in improving their language skills. Around 36% of students consider that AI has boosted their vocabulary, whereas 6% believe that they have improved their grammatical skills. 20% of the participants are of the view their conversational skills have raised considerably because of AI. Most interestingly, a larger group i.e. 38% of the participants, believe that their language skills, including vocabulary, grammar, and conversational abilities have enhanced due to the inculcation of AI in their language education. Thus, overall we can say that participants perceive AI as useful in numerous aspects of their English language Learning.
	Improved grammar	3	6%	
	Better conversational skills	10	20%	
	All of the above	19	38%	
	total	50	100%	

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Discussion

The findings of the study highlight the perceptions of English Language Learners regarding the infusion of AI-powered English language learning. A substantial percentage, i.e. 88 % of the participants appreciate AI integration as it supports them not only inside the classroom but outside as well. 92% of the students view this AI-fused learning as a more enjoyable, motivating, and engrossing experience.

Furthermore, 82% of the participants prefer AI-integrated language learning over conventional language learning approaches pointing out its customization and user-friendliness. The findings overall allude to the fact that AI integration can lead to the holistic enhancement of language proficiency.

As the study reveals a positive perception of the students expressing their willingness to inculcate AI-powered tools in language education but at the same time it draws our attention to the fact that still there are students who are reluctant to use AI-based tools. Although the percentage of such participants is few, yet it cannot be ignored as it would urge educators and policymakers to devise some comprehensive and inclusive strategies for broader acceptance of such integrated learning.

Conclusion

In conclusion, the study not only points out positive perceptions of the participants regarding the infusion of AI-based language learning tools and software, it also sheds light on the marginal opinions of the participants who still are perplexed regarding the inculcation of the AI in their language education. By addressing these challenges, particularly of the students who prefer to use traditional methods over AI-integrated tools, educators and policymakers can think of developing more comprehensive and applicable strategies effective for English language learning which are at par with the contemporary era. Furthermore, The findings of the study can be applied to establish policies and practices that promote responsible and fair AI deployment in educational settings, eventually benefiting language students in their academic and career endeavours.

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