ISSN 1840-4855 e-ISSN 2233-0046

Review Article http://dx.doi.org/10.70102/afts.2025.1833.647

FROM THEORY TO PRACTICE THE COMPREHENSIVE BENEFITS OF INTEGRATING AI IN EFL TEACHING AND HOW IT'S SHAPING THE FUTURE OF LANGUAGE EDUCATION

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Received: August 05, 2025; Revised: September 25, 2025; Accepted: November 07, 2025; Published: December 20, 2025

SUMMARY

Artificial Intelligence (AI) software has enormous potential to remain a versatile teaching tool that is of great interest to academicians and educators. This qualitative case study was intending to apply AI in foreign language teaching. It bridged a research gap by examining the potential applications, benefits and drawbacks of this novel method. This study selected it due to its possible ability to offer a detailed analysis of minute effects of AI on the process of learning the English as a Foreign Language (EFL) in an educational context. In the research, thirteen students who had attended preparatory courses longer than four weeks were considered; a researcher and a language instructor presented AI to the students through instruction exercises. The qualitative data is explored with the use of theme analysis, which is obtained within the process of interview. The research states that AI undoubtedly upsets the learning habits of the students particularly in writing, grammar and vocabulary development. It also enhances motivation and engagement because it is easy to incorporate it in a broad spectrum of learning activities. The findings will help to take into account the benefits and shortcomings of AI in education, and they can support both

researchers and educators in developing more effective lesson plans and curricula. The given article concentrates on the effects of AI in EFL, and its discussion is presented in a way that presents the result.

Key words: foreign language, ai, academicians, classroom, analysis, curriculum, and language learning.

INTRODUCTION

Prominent criticism has been made against the outmoded system of education which is characterized by being generic and standardized over recent years as a result of the failure to ascribe student-specific needs [1]. In the global school system, there is a trend of a more student-focused, more personalized and technologically advanced curriculum. Amongst the most recent technological advances, which are interesting to educators, is artificial intelligence (AI). English language stands out to be among the most widely spoken languages in the world; it will keep on increasing in terms of usage in communication in the next few years as a lingua franca in different regions, environments and fields of study.

On the international arena it is being used as a language of science, information technology, international media, business, diplomacy, entertainment, mass communication, education, etc. It is the prevailing global language of the 21 st century. English has also turned into a Lingua Franca in global economy. Demand and requests of English classes throughout the world are enormous. The supremacy of the English language goes to the range [8]. Therefore, it follows that the variety of multidimensional English usage, coupled with the generations, must be highly competent in regards to English specifically, requires an elevated degree of English communication proficiency. The speaking skill or oral performance is part of productive skills that the FL learners must obtain in order to realistically meet their communicative objectives in education and language learning. This communication use is an objective and a technique of learning a foreign language.

Any person wishing to make money through world research, knowledge, and business understands that he or she cannot achieve higher prospects in life unless he or she is well proficient in spoken English. This has led to the fact that communication skills have been considered the most important talent. Students often determine their learning effectiveness by the skill to communicate in English. As a result of this, there has been a lot of demand of spoken English, hence many scholars have advanced several methods and steps to be applied in enhancing oral language competence. The process of forming and conveying meaning in the form of both verbal and nonverbal cues is called speaking.

As researcher, it is also vital in acquisition and teaching of second language. Researcher implies that the aim of the teaching productive skill of speaking in a language is to produce oral fluency. According to the researcher, an ability to communicate oneself intelligibly is also the ability to speak. When the students learn to master this talent, they will be capable of explaining themselves in relevant, understandable and correct statements. Most English teachers especially those teaching English as a foreign language, as a second language or English as a first language struggle in ensuring that their students learn conversational skills.

In particular, teachers note that AI applications have a huge potential to help them understand the learning patterns of students according to the available information, and they believe that AI use would eventually bring more efficiency into the educational settings and learning constructs. Artificial intelligence (AI) has been integrated into the educational system to a level that educational system has been undergoing major form and functional transformation [21]. Taking an example, one can create individualized learning resources, imitate natural speech, produce and mark individualized tests, and consider the needs of each learner, and all these are possible options [3] [22].

The definition of artificial intelligence is extremely disputed, and a number of modern variants exist. The usual definition of AI is complicated due to the constant transformations in AI concept [5], and also, the inter-disciplinary essence of studying AI [23]. In specific scholars, artificial intelligence (AI) is a group of computer functions that are inextricably linked to learning and problem-solving. Conversely, some people consider AI to be computer systems or machines, which duplicate the abilities of human cognition system [7]. To provide an example, there are those researchers who identified AI as Computer

systems which have been built to the world by means of abilities (such as speech recognition and visual perception) and intelligent behaviours (including the ability to utilize the available information to make decisions or take the most reasonable course of action to attain the stated purpose) which we would regard as being essentially human.

Authors have also used the term artificial intelligence to refer to the use of technological innovations to allow the human-like intelligent actions of a computerized system through replication [24]. The use of AI in the form of assisted skills has replaced human teachers in the educational sphere because it has overtaken the necessity to accumulate enormous loads of data on the academic performance of students. This information is then used to adjust or simulate learning material and the unique learning path of students [9] [25]. As well, they promote improvement of learning through timely feedback.

Even though the need to apply AI in education can be traced back to the past three decades, researchers are only recently beginning to understand how AI technology may be applied in the classroom to assist learners throughout all the phases of their lives [11]. In such a manner, especially with respect to language learning, artificial intelligence (AI) also supports development in many aspects, including personalized feedback, adjustable learning paths, improved tutoring frameworks, and natural language processing. Nevertheless, with these technologies, several questions and requirements likewise emerge that require additional research to be done. These are questions concerning the quality and credibility of the data and algorithms that AI frameworks work with, ethical, sociological, cultural, and linguistic issues [12].

The use of AI in the language training should be explored through research to identify how it could be applied in a responsible and successful manner [10]. Best practices and recommendations on how to design, develop and evaluate AI-based learning solutions should be found. The application of artificial intelligence (AI) in the English as a foreign language (EFL) is a topic to be explored in more literature, as the field is rapidly developing, and educators have shown more interest in it. This article provides an outline to instructors, students, and developers of the current state of the art, potential drawbacks and future of AI in EFL [13].

EFL Classroom

As defined by Oxford University Press, an EFL classroom is found in a country that does not speak English as the main language [2]. The students are supported by a common language and culture. The students can just interact with the teacher who speaks native English [4]. Opportunities of using English out of classroom among kids are very minimal [6]. It might happen that there are people who do not need to learn English. The exposure of pupils to English speaking society is largely done through biased media suits, like music or television. The EFL students require a lot of oral practice, exposure to the realworld English, want to continue studying the English language with the desire to study the language and justifications to do it. Nevertheless, the test-driven norm of an EFL classroom and accuracy-based norm is always the case.: EFL classroom is viewed by learners as a stressful environment [14] [20].

- i) Teaching and Learning Styles The main purpose of studying foreign languages is to communicate with the target language representatives effectively. Demonstrating and studying rules have become no longer the key element of teaching strategy. Research has found out that conversation behaviors are equivalent to pronunciation, vocabulary, and grammar and interfere with teaching a foreign language. Without such behaviors featured into the teaching and learning processes, there is no way that one can practice a language in real life situations. Culture is a complex phenomenon. Nostrand (1989, p. 51) notes that the core concepts in culture do not only involve rituals and attributes but also considerable beliefs, unconscious thinking procedures and dominant ideas on how people should be, and how society should be that an outsider must expect and be prepared to challenge. Acquisition of the second language as a medium of communication also involves the process of escaping the original paradise of the native socialization.
- ii) EFL students are forced to study English to be able to survive in the English-dominating environment of studying. In the case of immigrants (EFL learners), acculturation (or, at the most, flexibility) is the key to their successful co-existence in their new country. It does not, though, necessarily imply that

they have completely adopted and lost their national identity. Frequently, the aim of instruction is not to acculturate foreign people who learn English in their native land. The factors include a basic attempt to communicate to the foreigners of their home country or when they pay short visits to another country by speaking the target language. Thus, cultural adjustment is rather superfluous in case of such objectives. And whether or not we claim this as what we are undertaking, the question we would fain answer is whether or not there is positive change of perspective in the vectors of view in regard to target culture besides the growth of their awareness of it.

- iii) English is not the native or official language in Oman and hence it does not justify the rapid acculturation of the learners to the EFL culture and their total subordination to the former.
- iv) EFL Teacher, The EFL teachers bring one more shade to the mixed-ability situation. These unique attributes of the EFL teachers render them unlike to other subject teachers. The EFL learners distinguish EFL teachers basing on four essential areas. These include 1) The content of teaching, 2) Complexity of the content, 3) Approaches to teaching as well as 4) Teacher personality.
- v) Teaching-learning issues: The inherent issue lies in making a child a low achiever that went to a vernacular school and got good enough marks to enter college and now needs to learn English as a third language (Table 1).

Teaching Styles	Description	Implications
Authority, or	Teacher-centered, involving extended	Not suitable for EFL classrooms.
lecture style	lecture sessions where students take notes	
	or listen passively.	
Demonstrator or	The teacher maintains formal authority by	It allows for differentiated instruction
coach-style	demonstrating expertise and showing	but may be challenging to meet
	students what they need to know.	individual needs in more extensive
		class settings.
Facilitator, or	Promotes self-learning and helps students	Encourages inquiry and problem-
activity style	develop critical thinking skills, enhancing	solving through exploration and
	knowledge retention and self-realization.	discovery, ideal for teaching science
		and related subjects.
Delegator or	Best suited for activities such as debates	Guided by the teacher, students work
group-style	and creative writing, this approach	together towards common goals,
	emphasizes peer feedback and	fostering independence while the
	collaborative work.	teacher takes on a consultancy role.
Hybrid or	Combining elements of the teacher's	Teachers have the flexibility to adapt
blended style	personality and student needs, this	their approach to cater to individual
	approach integrates various teaching	student requirements and the specific
	methods to suit diverse learning contexts.	subject matter.

Table 1. Diverse styles in teaching

AI IN EFL TEACHING AND LEARNING

There is a radical change in the landscape of the EFL (English as a Foreign Language) education through the introduction of Artificial Intelligence (AI). Artificial intelligence has many advantages to teachers and students, as it allows creating a more customized, interactive, and efficient learning environment. The adaptability of AI to learner needs and styles of learning is one of the most attractive aspects of AI in EFL classrooms. Old old-style, one size fits all methods usually leave students alone or unchallenged. The capabilities of AI-based platforms allow evaluating the level of proficiency of the student, the spheres that need improvements, and personalizing the learning paths. This makes sure that students will always be aiming at the right pace of learning and addressing the areas where they need the most feeds and enhance the areas of strength. Suppose a student has the issue of verb conjugation. This gap can be detected by an AI system and proposed specific exercises and interactive games aimed to develop verb usage. Such personalized learning promotes an effective and efficient learning process. Figure 1 provides the process of the Teaching and Learning of EFL. Table 2 provides the effect of AI in EFL Teaching and Learning (Table 2).

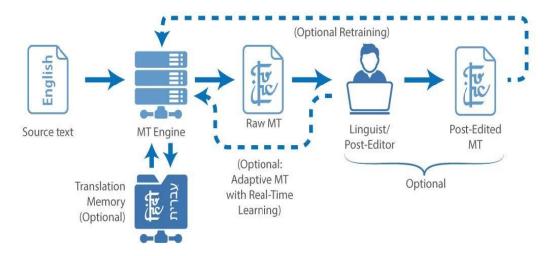


Figure 1. The teaching and learning of EFL

Table 2. Impact of AI on EFL teaching and learning

Aspect of EFL	Impact of AI	
Personalized	AI enables adaptive learning platforms that tailor teaching materials and pace to individual	
Learning	learners' needs, enhancing engagement and effectiveness.	
Language	AI-powered tools can conduct automated assessments of students' language proficiency,	
Assessment	providing immediate feedback on grammar, vocabulary, pronunciation, and	
	comprehension.	
Language	AI facilitates real-time language translation, aiding communication between students and	
Translation	teachers who speak different languages and providing access to a wide range of learning	
	resources in multiple languages.	
Pronunciation	AI-based language learning applications offer interactive pronunciation practice, using	
Practice	speech recognition technology to analyze and provide feedback on learners' pronunciation	
	accuracy.	
Language	AI-generated content, such as chatbots and language generation models, provides	
Generation	opportunities for students to engage in conversational practice and creative writing	
	exercises.	
Language Resource	AI-powered search engines and recommendation systems help learners discover relevant	
Discovery	language learning materials, such as articles, videos, and exercises, based on their interests	
	and proficiency level.	
Data Analysis and	In order to find patterns, trends, and areas for improvement in vast amounts of learner	
Insights	data, artificial intelligence (AI) systems evaluate the data. This allows educators to tailor	
	their lessons for the best possible learning results.	
Accessibility	Speech recognition and text-to-speech synthesis are among the AI technologies that	
	improve the accessibility of students with disabilities, allowing them to engage more	
	actively in EFL learning activities.	
Classroom	AI-driven virtual assistants and learning management systems streamline administrative	
Management	tasks, such as grading assignments and tracking student progress, freeing up teachers to	
	focus more on teaching and student interaction.	

RESEARCH DESIGN AND DATA COLLECTION

This investigation involved a phenomenological case study design.

- a) carrying out an extensive analysis of a state in its temporal and real context;
- b) using it to gain the knowledge of novel means, models, or theories of explaining cases.

The research views cases as unit of analysis and definition of a case is determined by design process. This investigation described cases in the following way: as students of different programs and with the greatly different levels of language proficiency. In this sense, the researchers have explored how AI has

an impact on the learning experiences of the students in regard to languages. Moreover, they checked the benefits and drawbacks of the tool in the framework of the foreign language teaching.

Study Group

The study group consisted of 13 students of the School of Foreign Languages (SFL) taking the preparatory classes. The study was presented at the SFL in which pupils are supposed to go through a formative evaluation after every two months. Whether the innovative assessments developed, this research conducted traditional evaluations. To accomplish this aim, a goal-directed sampling process that is accurately extreme dissimilarity sampling was carried out.

The force behind the argument is that having a more diverse and enriched data of the study would be represented by the male students of various departments. The sample consisted of the participants with the proficiency range of A2-B2 which represents the range of the language proficiency. The university administrators interviewed during the study were concerned about the implementation of AI in the curriculum, as it is yet to be introduced. Therefore, they enabled researchers to apply AI to one classroom only. Therefore, the study was carried out under the help of the volunteers belonging to the class of one instructor. Figure 2 represents the demographic characteristics of the contributors.

Collection of Data and Process of Analysis

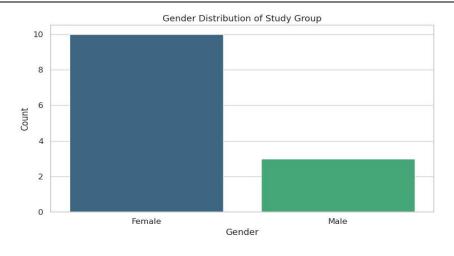
The Ethics Committee of the university accepted the study involving comparing AI-assisted language learning with the traditional ones. The teacher clarified the intent and confidentiality of the study on the students and obtained their consent. During a period of more than four weeks, the study group was subjected to different activities. Classes were taken via Microsoft Teams, and the interviews via Zoom. The participants completed a Google Form in order to schedule interviews, and interviewed at the time of their choice. The objectives of the research were announced, and the participants agreed to voluntary video-recorded interviews. Such a thorough measure was adopted to ensure that there was ethical compliance and the participation of participants in assessing the impact of AI on learning language. There were no problems with the video, audio and presentation displays and, the interviews took the duration of between 15 and 20 minutes.

The semi-structured interview questions were constructed and thematically discussed in the context of case study developed by Yin. They were created on the basis of the research questions and were based on two review articles on the use of AI in language learning. The questions concentrated on such subject areas as AI and the learning of foreign languages, how it is used, the effects, advantages, and optimization. Good ideas on how AI should be used in classes were also sought. After the interviews, transcriptions were done on audio recordings. Several scholars developed a coding and category system, one gave codes independently, and the others resolved any differences together. Consent on the coding led to report on findings.

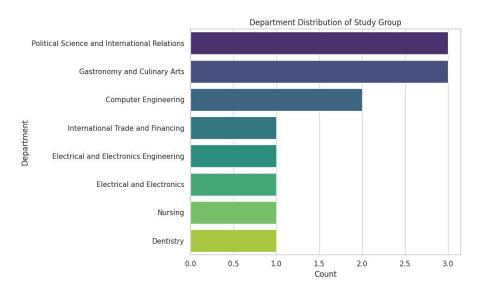
RESULT AND DISCUSSION

The analysis demonstrated the role of AI-assisted language learning and its impact on the learning process of the students and its evaluation of the pros and cons in the framework of the foreign language learning. An additional aspect where the investigation explored the pros and cons of implementing AI is the benefits and the drawbacks. There were thirteen interviewees. The anonymity of the learners was retained through the use of code names (e.g. L1, L2, L3 etc.) throughout all the tables. The views of the students regarding AI are discussed and sorted into three general themes, which were further divided into detailed subheadings.

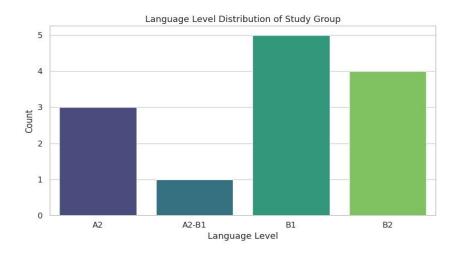
The adoption of Artificial Intelligence (AI) in education has caught the attention and argument of many, especially about its use in language learning. The paper explores how AI can be used to improve teaching English as a Foreign Language (EFL). It was carried out in the School of Foreign Languages and this study was aimed at determining the usefulness of AI assisted learning in a preparatory course. Figure 2 provides the details of the distribution of demographic data.



a) Gender



b) Department



c) Language Level

Figure 2. Demographic detail distribution

The paper emphasized some of the major themes of AI-assisted language learning. It enhanced individual proficiencies such as writing, grammar, and vocabulary but had weak effects on speaking and no effect on listening. Generally, the motivation and engagement were improved, and the learning experience was found engaging among the students, even though certain students did not find any form of motivational improvement. Multimedia Learning: Modified writing activities, interactive sessions, cultural interaction. Some of the improvement points were technical problems at times and the general contribution to the language learning process was small.

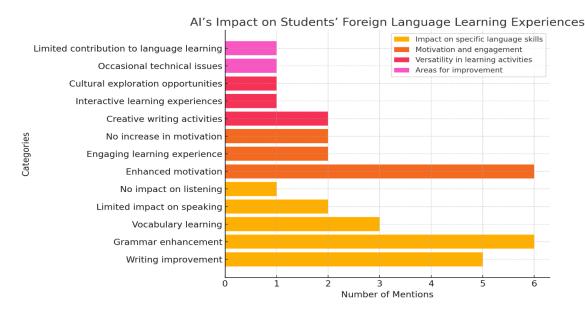


Figure 3. AI's impact on EFL

Figure 3 presents the effect of AI on learning a foreign language among students with particular focus on the significant areas. L3, L4, L5, L10, L11 and L12 were found to have improved grammar and L5, L6, L8 and L12 had improved writing. The learning of vocabulary was marked in L1, L8 and L12, and also there was little influence on speaking (L4, L12) and no influence on listening (L8). L1, L7, L8, L9, L10 and L12 reported increased motivation whereas L8 and L9 found the experience interesting. Interactive learning (L2), writing (L3, L5) activities were creative. Technical issues (L7) and contribution to learning (L4) became the challenges.

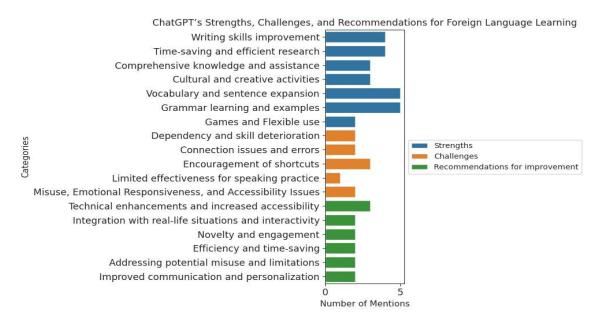


Figure 4. Strengths, challenges, and recommendations on AI for EFL

The strengths of AI are also discussed in Figure 4: grammar acquisition (L3, L4, L6-L18), writing skills development (L1, L4, L9-L11), and effective research (L1, L3, L4, L13). The difficulties were dependency (L1, L2) and connection problems (L1, L3). Some of the recommendations are technical (L1, L4, L5), real life (L2, L5), and enhanced communication (L3, L4).

RECOMMENDATION

A small and homogenous sample size of 13 students is one of the major drawbacks of the study. This can imply that one of the major limitations of the study is that it relied on a limited and homogeneous sample of 13 students. This can mean that the results of the findings cannot be relevant applicable to a wide-spreading age sets, cultures, and levels of education. The findings of the study might not reflect the lack of diversity among the learning styles and students generally. In this respect, futureThe study results may not precisely reflect the student body as well as its various learning strategies. In this respect, future research can be done on a more diverse and expanded sample groups. Also, students might not have maximized AI due to problems of technological access and connection to the internet. The use of the free AI version by students also brings issues regarding the possible differences in the performance and acquisition of the foreign language in the two AI products.

Moreover, Education and Information Technologies suggest that guidelines and protocols be formulated now so that the application of AI in teaching and learning EFL would be ethical and responsible. The qualitative data which is the personal opinion of the participants may complicate the objective inferences. The broadened should be used in the future by incorporating more substantial quantitative research that can examine the efficacy of AI in affecting academic success, motivation, and belief in FL learning by students, and attitudes toward AI usage in FL education would be a solid, generalizable, and valid rationale of participant prejudice.

CONCLUSION

The opportunities and challenges of the integration of the use of Artificial Intelligence (AI) into the teaching and learning of English as a Foreign Language (EFL) are real. The given qualitative case study addresses an important gap in the research by analyzing possible applications of AI, its benefits, and limitations regarding the field of language teaching. Those results indicate that AI has a positive influence on the learning experiences of students, especially writing abilities, grammar, and the growth of vocabulary. The customized learning process and simplified administration processes increase the effectiveness and involvement, which leads to an efficient learning process. Nevertheless, the issue of privacy, predisposition, and addiction to technology need to be looked at, with concern. In spite of these issues, the research highlights the need to carry out further studies and experiment on the role of AI in EFL learning. Using the power of AI as a worthy companion, educators will be able to develop active and useful learning settings that address specific needs of the students, which will eventually contribute to better language acquisition and proficiency.

REFERENCES

- [1] Sumakul DT, Hamied FA, Sukyadi D. Artificial intelligence in EFL classrooms: Friend or foe?. LEARN Journal: Language Education and Acquisition Research Network. 2022 Jan 22;15(1):232-56.
- [2] Bahreini M, Zamanian M. Iranian EFL teachers' attitudes toward their teaching profession. International Academic Journal of Social Sciences. 2017;4(2):122–130.
- [3] Jeon J. Exploring AI chatbot affordances in the EFL classroom: Young learners' experiences and perspectives. Computer Assisted Language Learning. 2024 Jan 2;37(1-2):1-26. https://doi.org/10.1080/09588221.2021.2021241
- [4] Roy VI, Janardhanan KA. Exploring the relationship between teacher job satisfaction, self-efficacy, and student engagement in engineering classrooms. Indian Journal of Information Sources and Services. 2025;15(1):107–14. https://doi.org/10.51983/ijiss-2025.IJISS.15.1.15
- [5] Mohamed AM. Exploring the potential of an AI-based Chatbot (ChatGPT) in enhancing English as a Foreign Language (EFL) teaching: perceptions of EFL Faculty Members. Education and Information Technologies. 2024 Feb;29(3):3195-217.

- [6] Mukhitdinov O, Bakirov P, Atashikova N, Makhkamova S, Sapaev IB, Karimova Z, Jo'rayeva M, Kholmurodova O. A lightweight AI-based access control system for IoT-integrated smart classrooms. *Journal of Internet Services and Information Security*. 2025;15(2):30–42. https://doi.org/10.58346/JISIS.2025.I2.003
- [7] Alhalangy A, AbdAlgane M. Exploring the impact of AI on the EFL context: A case study of Saudi universities. Alhalangy, AGI, AbdAlgane, M. Exploring The Impact of AI on The EFL Context: A Case Study of Saudi Universities. Journal of Intercultural Communication. 2023 Jun;23(2):41-9. https://doi.org/10.36923/jicc.v23i2.125
- [8] Rajendran M, Ray M, Ilangovan A, Chokkalingam VK, Singh AB. Commercial Video Games and English Language Skills Development: A Systematic Review. Language Teaching Research Quarterly. 2024;45:57-85
- [9] Sumakul DT, Hamied FA. Amotivation in AI injected EFL classrooms: Implications for teachers. Indonesian Journal of Applied Linguistics. 2023 May 1;13(1):26-34. https://doi.org/10.17509/ijal.v13i1.58254
- [10] Rakhmanovich IU, Taslim M, Raman AM, Ugli AA. The rise of behavioral economics: Leveraging AI to understand consumer decision-making. InAIP Conference Proceedings 2025 Jun 5 (Vol. 3306, No. 1, p. 050007). AIP Publishing LLC. https://doi.org/10.1063/5.0276470
- [11] AbdAlgane M, Osman K. Utilizing artificial intelligence technologies in Saudi EFL tertiary level classrooms. Available at SSRN 5765870. 2023 Mar 8. https://dx.doi.org/10.2139/ssrn.5765870
- [12] Marzuki, Widiati U, Rusdin D, Darwin, Indrawati I. The impact of AI writing tools on the content and organization of students' writing: EFL teachers' perspective. Cogent Education. 2023 Dec 11;10(2):2236469. https://doi.org/10.1080/2331186X.2023.2236469
- [13] Jeevika Tharini V, Ravi Kumar B, Sahaya Suganya Princes P, Sreekanth K, Kumar BR, Sengan S. Business Decision-Making Using Hybrid LSTM for Enhanced Operational Efficiency. In International Conference on Multi-Strategy Learning Environment 2024 Jan 12 (pp. 155-166). Singapore: Springer Nature Singapore. https://doi.org/10.1007/978-981-97-1488-9_12
- [14] Yang H, Gao C, Shen HZ. Learner interaction with, and response to, AI-programmed automated writing evaluation feedback in EFL writing: An exploratory study. Education and Information Technologies. 2024 Mar;29(4):3837-58. https://doi.org/10.1007/s10639-023-11991-3
- [15] Zhang C, Meng Y, Ma X. Artificial intelligence in EFL speaking: Impact on enjoyment, anxiety, and willingness to communicate. System. 2024 Apr 1;121:103259. https://doi.org/10.1016/j.system.2024.103259
- [16] Octavio MM, Argüello MV, Pujolà JT. ChatGPT as an AI L2 teaching support: A case study of an EFL teacher. Technology in Language Teaching & Learning. 2024 Mar 27;6(1):1142. https://doi.org/10.29140/tltl.v6n1.1142
- [17] Hsiao JC, Chang JS. Enhancing EFL reading and writing through AI-powered tools: design, implementation, and evaluation of an online course. Interactive Learning Environments. 2024 Oct 20;32(9):4934-49. https://doi.org/10.1080/10494820.2023.2207187
- [18] Tharini VJ, Shivakumar BL. High-utility itemset mining: fundamentals, properties, techniques and research scope. InComputational intelligence and data sciences 2022 Mar 10 (pp. 195-210). CRC Press.
- [19] Hazaymeh WA, Bouzenoun A, Remache A. EFL instructors' perspective on using AI applications in English as a foreign language teaching and learning. Emerging Science Journal. 2024;8(5):73-87. http://dx.doi.org/10.28991/ESJ-2024-SIED1-05
- [20] Zou B, Du Y, Wang Z, Chen J, Zhang W. An investigation into artificial intelligence speech evaluation programs with automatic feedback for developing EFL learners' speaking skills. Sage Open. 2023 Aug;13(3):21582440231193818. https://doi.org/10.1177/21582440231193818
- [21] Alshumaimeri YA, Alshememry AK. The extent of AI applications in EFL learning and teaching. IEEE Transactions on Learning Technologies. 2023 Oct 5;17:653-63. https://doi.org/10.1109/TLT.2023.3322128
- [22] Koraishi O. Teaching English in the age of AI: Embracing ChatGPT to optimize EFL materials and assessment. Language Education and Technology. 2023 May 12;3(1).
- [23] Söğüt S. Generative artificial intelligence in EFL writing: A pedagogical stance of pre-service teachers and teacher trainers. Focus on ELT Journal. 2024 Mar 5;6(1):58-73. https://doi.org/10.14744/felt.6.1.5
- [24] Zhao X. Leveraging artificial intelligence (AI) technology for English writing: Introducing wordtune as a digital writing assistant for EFL writers. Relc Journal. 2023 Dec;54(3):890-4.
- [25] Tharini VJ, Shivakumar BL. An efficient pruned matrix aided utility tree for high utility itemset mining from transactional database. Int. J. Intell. Syst. Appl. Eng. 2023 Jan;2023(1):1-2.