

Reinforcement Learning Supplementing Communicative Language Teaching: Examining the Applications of ChatGPT in ELT Classrooms

Mudasar Jahan^{1*}, Lubna Aram Azam², Farooq Ahmad³,
Hina Sadia⁴

¹Associate Lecturer, Department of English, University of
Gujrat, Gujrat, Punjab, Pakistan
mudasar.jehan@uog.edu.pk

²Lecturer, Department of English, Mirpur University of Science
and Technology, Mirpur, AJK
lubna.eng@must.edu.pk

³Lecturer, Department of English, Mirpur University of Science
and Technology, Mirpur, AJK
farooq.eng@must.edu.pk

⁴Lecturer, Department of English and Literary Studies, University
of Management and Technology, Sialkot, Pakistan
hina.sadia@skt.umt.edu.pk

*Corresponding Author: (Mudasar Jahan - mudasar.jehan@uog.edu.pk)

Abstract

This study explores the supplementing features of newly embarking invention in the realm of Artificial Intelligence (AI), especially the application of ChatGPT in English Language Teaching (ELT) classrooms. Language learners often experience a lack of a native-like environment, making them uncomfortable in ELT classrooms (Horwitz, Horwitz & Cope 1986). The study aims to investigate that how Communicative Language Teaching (CLT) is supplemented by Reinforcement Learning (RL) in ELT classrooms to make the ELT process smooth. Randomly selected BS English students' and teacher's views are collected through questionnaires. The research uses a mixed-method approach. AntConc, Software is applied for quantitative data analysis, while for qualitative, different activities are performed on AI by giving instructions. This research hypothesized that reinforcement learning is a supplement to communicative language teaching. This research is based on the constructivist paradigm which is

based on the fact that that meanings are unstable depending on context. On ChatGPT human like conversation always generate new sentence and meaning in the given context. Reinforcement learning theory by Open AI is used in theoretical background. It is based to solve a wide range of complex decision-making tasks through machine (Dong, Dong, Ding, Zhang & Chang (2020). CLT teaching method is arguably complemented by RL. Thus both worked as theoretical background of this study. Investigation from teachers and students shows significant results in favor of ChatGPT as an effective application in ELT classrooms. The study reveals that machine reinforcement is complementary to human reinforcement or Human teacher in CLT class. ChatGPT outperforms social media applications in the ELT environment, and it streamlines the process for teachers and students by reducing time constraints and enabling them to achieve their goals more efficiently and in a native environment. The study concludes that Chat GPT is a distinguished social interaction chatbot that significantly enhances the ELT environment. ChatGPT is a popular tool among language learning institutions, teachers, and students, but the study highlights the need for responsible technology usage.

Keywords: ChatGPT, ELT, Open-AI, Artificial Intelligence, Reinforcement Learning, Teachers, Student

Introduction

Communicative Language Teaching (CLT) is a language teaching method that emphasizes interaction and active engagement in real-life situations. It focuses on enhancing students' communicative competence through interactive activities like group discussions, role-plays, and problem-solving rather than rote memorization of grammar rules. CLT aims to enhance students' communicative competence, enabling them to confidently and fluently use the language in various contexts. Losi and Nasution (2022). Say it was considered the best English Language Teaching (ELT) method for second language acquisition, including Pakistan. However, technology has boosted the whole education system, including ELT classes. Social networking sites played a role in ELT classes, followed by recently introduced technology, Artificial Intelligence (AI). There are many applications

on AI, one of them the most famous is ChatGPT" introduced in 2022. It has replaced Social Media and has become part of CLT classes. OpenAI's (2022) ChatGPT, a neural network-based language model, uses Natural Language Processing techniques to generate human-like responses (Aydın& Karaarslan, 2022). It can generate conversational text, draft essays, code, explain, and write lyrics. ChatGPT is rapidly gaining attention for its potential in language learning, mainly English, and is undergoing rapid development. This article evaluates how ChatGPT supplements CLT in ELT classrooms through reinforcement Learning.

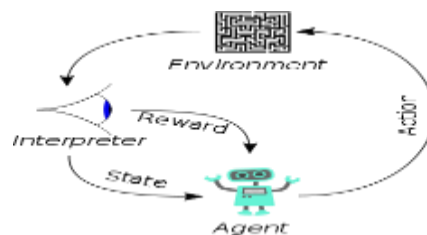
Background Context of the Study: At the onset of this century, the evolving social media landscape allowed educators to access resources and connect with ELT professionals through groups or pages. Jayanthi and Kumar (2016) emphasized the significant influence of social media on English language teaching classrooms in the modern technology era. It helped learners be exposed to real-life English communication, informal language, colloquialisms, and current trends, enhancing their understanding of everyday situations (Aloraini & Cardoso, 2020). Few researchers claimed that engaging with English content on social media platforms can enhance learners' reading, writing, and listening skills through videos, audio, or clips (Citrawati, Suwastini, Jayantini, Artini & Dantes, 2021). Another researcher explored that social media promotes cross-cultural communication, fostering language practice and exchange among non-native speakers and learners through language teaching groups that share resources, questions, and support (Hidayati, 2016). Teachers use social media to share ELT content, organize quizzes, and integrate language learning strategies, promoting global English learners' connections while ensuring responsible use and a safe learning environment (Simoes, Redondo & Vilas, 2013). Pakistani researchers also claimed that social media plays a crucial role in Pakistan's English Language Teaching (ELT) sector, enabling the sharing of learning resources through platforms like Facebook, YouTube, Instagram, WhatsApp, Zoom, and Google Meet (Ahmad, Alvi & Ittefaq, 2019). Instagram competitions promote language skill showcases, while Zoom and Google Meet virtual English courses offer professional development opportunities for Pakistani English language teachers (Ahmad & Zamir, 2018). Research shows that Facebook and WhatsApp groups have become famous for language learning, enabling students and teachers to exchange ideas, ask questions,

and practice language skills with native speakers (Susilo & Adhi, 2014).

The emergence of AI: Meanwhile, as social media is in vogue, the invention of AI is expected to bring new platforms, trends, internet accessibility changes, educational shifts, and technological advancements. Since 2022, Artificial Intelligence has gained popularity as a trend following the rise of social media. Mozaffar, Liao, Xie, Saha, Park, Cao, and Gan (2022) claimed that computer systems can mimic human-like Intelligence by developing algorithm models and systems that enable tasks requiring cognitive functions. Jarrahi and Hossein (2018) highlighted the significant advancements in Artificial Intelligence technology, which allows machines to process, analyze, recognize patterns, and make decisions. Yado, Khumprom, and Nita (2019) suggest that machine learning, which uses data and algorithms to enhance performance, can be effectively utilized in English language classrooms for acquiring native speech culture. Artificial Intelligence, including Natural Language Processing (NLP), enhances learning by creating a human-like language for students and teachers (Putri, Widiharso, Utama Shakti & Ghosh, 2022). Reinforcement Learning (RL), a quantum computing advancement in artificial intelligence theory, improves human reinforcement (Briegel & Dunjko, 2018). Integrating AI into our lives will significantly shape the future, presenting opportunities for innovation and societal challenges (Floridi et al., 2021). The technology employs statistics, reinforcement learning, and supervised learning to index words, phrases, and sentences (Abdullah, Madain & Jararweh, 2022). Artificial Intelligence tools like ChatGPT, Grammarly, and Cloud are utilized in ELT classrooms to enhance class efficiency and support human teachers. ChatGPT, with its natural language processing capabilities, can enhance interactive and personalized language learning by simulating real-life conversations to supplement human teachers (Jeon & Lee, 2023). Artificial Intelligence can engage in interactive conversations and generate responses resembling human behavior (Chowdhury & Haque, 2023). Research suggests that ChatGPT outperforms humans in answering queries, summarizing data, and writing articles (Shoufan, 2023). ELT is a rapidly evolving field aiming to enhance English language skills, and Artificial Intelligence's application offers multidimensional benefits to implant it in classrooms as a helping tool for pedagogy (Godwin-Jones, 2014).

ChatGPT, an application of AI and ELT Classrooms: ChatGPT, an AI application, is a highly effective tool in ELT classrooms, providing personalized answers to linguistic aspects like grammar, errors, speech, and communication. It offers a comprehensive presentation with title, structure, text, and images, allowing users to highlight and rewrite text for improved functionality and problem-solving behavior (Anantrasirichai & Bull, 2022). The program offers students various interactive exercises, quizzes, language-learning games, writing prompts, model essays, and dialogues to enhance their language skills (Riyadini & Triastuti, 2023). A study explores the potential of ChatGPT in enhancing interactive ELT through reinforcement learning. This machine-learning technique optimizes decision-making under uncertainty (Sharma et al. 2021).

ChatGPT and Reinforcement Learning



Opted from (Open AI, 2015),
Reinforcement Learning Human
Response Model

Reinforcement Learning (RL) Theory emphasizes students' development through social interactions. RL theory, a subfield of machine learning, explores how agents learn decision-making through rewards or penalties, enhancing model performance through user input and parameter adjustments (Phan, 2023). RL in machine learning rewards intelligent agents for correct decisions under uncertainty, maximizing cumulative research.

This research hypothesized that reinforcement learning is a supplement to communicative language teaching. This research addresses the research problem of how ChatGPT is supplementing CLT in ELT classrooms through reinforcement Learning—the selected population of BS English students as second language learners has been executed for sampling. Hence, Communicative Language Teaching (CLT) and Reinforcement Learning (RL) have been executed as triangulated theoretical background.

Literature Review

The study explores integrating traditional and modern ELT classroom trends, focusing on social media platforms like YouTube, Instagram, Facebook, WhatsApp, Zoom, Google Classroom, and Artificial Intelligence. Recently, more focus has been laid on ChatGPT.

Traditional Trends in ELT

ELT styles traditionally involve text writing, blackboard, and oral pedagogy, with teacher-centered instruction, grammar-based approaches, and standardized assessments like Task-Based Learning (TBL), Grammar Translation Method (GTM), Audio Lingual Method (ALM), and Communicative Language Teaching (CLT). However, technology integration extends teaching and learning beyond borders in the modern era.

Modern Trends in ELT

Social media applications like YouTube, Facebook, Wikipedia, WhatsApp, Google Classroom, and Zoom significantly has enhanced ELT classroom engagement by providing enjoyable tools for students to learn new vocabulary (Rao, 2019). Li (2017) found YouTube the most popular social media tool for English learning, followed by Wikis, Facebook, and WhatsApp. Han (2022) suggests that flipped classrooms promote student-centered learning in higher education compared to teacher centers.

a. Social Media and ELT

Social media has significantly improved English Language Teaching in the modern technological world. Fewell (2014) highlights the significant role of Microblogging in enhancing English Language Teaching by sending short, direct messages to students on social networks.

i. YouTube: Media enhances teaching and learning in English as a Foreign Language (EFL) classrooms. Inayati (2015) found that Facebook and YouTube are the most frequently used Social Media Technologies (SMTs) by language center faculty members in various ELT contexts. Nasution (2019) highlighted YouTube's widespread use as a video-sharing platform, offering millions of language learning videos, making it an effective learning media for teaching and learning processes. Adisti (2022) highlights YouTube's successful transition from

face-to-face to virtual learning during the COVID-19 pandemic, particularly beneficial for non-English ELT students. EFL teachers utilize YouTube Vlogs to teach English vocabulary and genre-based text, with their knowledge being the primary mental construct influencing their use (Saiful, 2019). Anugerah, Yuliana, and Riyanti (2019) study highlights that YouTube enables students and teachers to create English videos for ELT classes or the general public.

ii. Instagram: Media in Foreign Language (EFL) classrooms significantly improves pedagogical processes. Instagram is a social media platform that effectively teaches English language and learning practices, providing innovative activities for individuals, pairs, and small groups (Suryantari & Priyanka, 2018). ELT researchers recommend Instagram for its potential benefits in language learning, grammatical accuracy, and classroom motivation (Al-Ali, 2014; Gikundi, 2017; Listiani, 2016). The increasing use of technology in language teaching has sparked students' interest in vocabulary learning through platforms like Instagram (Senolinngi, Damayanti, & Asmin, 2020). Erarslan (2019) suggests that Instagram's features can enhance English teaching by providing an engaging, informative, and practical learning method, with hashtags potentially enhancing future learning methods.

iii. Facebook: Barrot (2018) explores the potential of an ELT learning environment that focuses on language proficiency and skill development despite relying on self-report data and pre-experimental research. Facebook groups for ELT professionals are analyzed for their utility, providing information resources and socially-oriented nature, promoting exchanges and professional-focused socialization (Al-Ali, 2014; Gikundi, 2017; Listiani, 2016). Facebook's daily communication effectiveness can be effectively utilized in school environments, particularly in foreign language classes, to enhance student involvement, promote genuine communication, and promote progress (Buga, Căpeneată, Chirasnel, & Popa, 2014). Hiew (2012) suggests that Facebook dialogues can enhance teaching skills and improve language learning for English second language learners by addressing challenges and experiences. Adolescents are ideal for Facebook English language teaching, particularly intermediate-level learners, and self-study is crucial for

adjusting educational preferences based on current tools (Çakır & Atmaca, 2015). Van Rensburg and La Thanh's (2017) research reveals that Facebook significantly enhances mobile learning outcomes, student motivation, and community-building. AbuSa'aleek (2015) recommends Facebook for TEFL teachers to enhance motivation and confidence among EFL students. Srirat's (2014) study found that Facebook Groups significantly improve students' learning effectiveness, confidence, interest, and motivation in teaching foreign languages. Dogoriti and Pange's (2014) study highlights Facebook's potential to enhance English language classroom learning by improving communication skills, engagement, participation, and collaboration.

iv. WhatsApp, Zoom: The COVID-19 pandemic has significantly enhanced English Language Teaching (ELT) classrooms, boosted language skills, and reduced shyness in virtual classes (Suadi, 2021). Dweikat (2019) highlights that faculty members receive curriculum plans and activities incorporating WhatsApp implementation in learning environments, as students highly perceive WhatsApp for communication activities. WhatsApp has been utilized in English learning courses to enhance students' reading and writing skills, despite the main obstacle being self-effort to internet access (Wijaya, 2018). WhatsApp integration in language classrooms has significantly benefited learners and teachers, leading to widespread popularity in English as a foreign language classrooms worldwide (Alberth, Wiramihardja & Uden, 2020). Kheryadi (2017) claims ESL teachers utilize platforms like Telegram, WhatsApp, Google Classroom, and Zoom for student engagement and assessments but face challenges in engaging students, causing anxiety and affecting cooperation attitudes. Online classes are an excellent method for teaching English by creating a native-like environment (Singh, Singh, Abdullah, Moneyam, Ismail, Tek & Singh, 2020). The study investigates WhatsApp's potential to engage adult EFL learners outside class, focusing on voluntary communicative tasks and English as the preferred language. (Mackay, Andria, Tragant & Pinyana, 2021).

v. Twitter: Technology in ELT classrooms significantly impacts students and teachers, as it is widely used as an effective

English language learning tool (Allam, Elyas, Bajnaid, & Rajab, 2017). ELT professionals are utilizing Twitter for self-directed professional development, leveraging its networking and collaboration opportunities, and its positive impact on language learning is widely acknowledged by learners (Nicholas, Avram, Chow, & Lupasco, 2018; Taskiran, Gumusoglu, & Aydin, 2018). The study by Kartal and Korucu-Kis (2020) found that using Twitter and Youglish effectively aids pronunciation learning and retention. University campuses utilized experiential learning theory to create social media strategy assignments using Twitter, promoting learning and best practices in public relations, social media, and language learning (Fraustino, Briones, & Janoske, 2015). Twitter's hashtags are utilized in English teaching to enhance learning experiences by promoting emotional engagement, familiarizing learners with English speakers, and facilitating real-life usage of idioms (García-Gámez & Melendres, 2022).

b. Artificial Intelligence and ELT

AI in English language teaching improves skills optimization, translation, assessment, recognition, attitude, and satisfaction, but practitioners must understand technology, research methods, instruments, and educational level (Sharadgah & Sa'di, 2022). Fitria (2021) explores the potential of AI in ELT to improve personalized English learning environments and teaching impact through Google Translate, TTS, and English. Hockley's (2023) study delves into the growing use of AI in English language teaching, its advantages and disadvantages, ethical concerns, and the necessity of digital literacy. Thadphoothon (2022) highlights the significant role of AI in business and education, especially in ELT, through machine learning models like speech recognition, grammar correction, and translation. AI improves language learning experiences by teaching English effectively and promoting learner autonomy through speech recognition, editing, chatbots, and voice commands (Kuddus, 2022). Delgado, de Azevedo, Sebastian, and Silva (2020) discuss the benefits and challenges of Artificial Intelligence in English language teaching, emphasizing the necessity for autonomy in effective teaching methods. AI is utilized in English language teaching (ELT) to enhance inclusion, diversity, and accessibility, thus advancing inclusive pedagogy (Anis, 2023).

ChatGPT

Chat-GPT, an AI chatbot, is revolutionizing various human-led fields by enabling human-like chats and writing essays, potentially impacting education. ChatGPT, a textual data platform, uses reinforcement learning to enhance human interactions in English language learning classrooms, causing excitement and concerns about academic integrity and publishing (Teng, Zhang & Sun, 2023). Holmes and d Tuomi (2022) suggest that AI may not signal the end of education but rather guide educators into a new era of pedagogical innovation. The Kostka and Toncelli (2023) found the same. ChatGPT, an OpenAI tool, is known for improving grammatical accuracy in various topics (Fitria, 2023). Kostka and Toncelli (2023) highlight that while ChatGPT offers advantages in English language teaching, it also presents challenges in pedagogy. ChatGPT has significantly improved English language learning by enhancing reading and writing skills (Ali, Shamsan, Hezam & Mohammed, 2023). AI's power in education is utilized in a design-based approach to language and content-based tasks, benefiting educators, researchers, and developers (Japoshvili-Ghvinashvili & Suleman, 2023). EFL teachers utilize ChatGPT positively but acknowledge its limitations, including potential dependency and overreliance on students (Ulla, Perales, & Busbus, 2023). ChatGPT can improve second language teaching by providing personalized learning experiences and addressing concerns about its writing assessments (Hong, 2023). Baskara's (2023) article delves into the advantages, challenges, and potential ethical issues of ChatGPT in English as a Foreign Language writing instruction. ChatGPT outperforms previous chatbots in generating human-like responses, being more active and efficient (Chaka, 2023). ChatGPT has been proven significant because it can reduce grammar errors and improve teacher receptivity, indicating its potential for wider educational use (Ali & Abrar, 2023). Liu & Ma's (2023) study reveals that English as a Foreign Language (EFL) learners have a positive attitude towards ChatGPT, indicating its potential. ChatGPT model enhances English language teaching by understanding complex queries, providing plausible responses, and offering personalized assistance, emphasizing the importance of AI and human engagement (Fikri, 2023). ChatGPT has the potential to revolutionize education by enabling independent learning for foreign language learners and transforming

teachers' roles, but it also presents both challenges and opportunities (Huang & Li, 2023).

Methodology

The study employs a mixed-method approach. Quantitative data is collected from the selected population by filling out a questionnaire based on strategies from the CLT methodology's origin that how ChatGPT is supplementing efficiently in ELT classrooms. For qualitative ChatGPT, multiple activity-based questions were collected, keeping in view CLT methods to measure how ChatGPT is supplementing efficiently in ELT classrooms.

For the population, the research focuses on BS English students and teachers due to their direct knowledge and ability to provide accurate information for English Language Teaching Classes. The study collects quantitative data from fifty randomly selected students and teachers through questionnaires. In contrast, qualitative data is obtained from ChatGPT to evaluate its CLT approach activity-based questions (screen shorts are attached).

ChatGPT is a tool that provides native-like speech therapy to students, aiding teachers in making language teaching tasks more accessible and progressive. The machine learning technique focuses on teaching agents to make decisions and act in an environment to maximize reward signals. Reinforcement Learning involves agents interacting with their environment, taking actions, receiving feedback, following a policy to balance exploration and exploitation, and updating their policy and value function over time. Reinforcement learning is a machine learning framework that optimizes actions to maximize rewards, focusing on real-life situations, interaction, and fluency development, encouraging active learning participation. The Communicative Language Teaching (CLT) method fosters effective communication, authenticity, interaction, fluency, task-based learning, contextualization, and a learner-centered approach.

ChatGPT, a method similar to Communicative Language Teaching, uses trial and error to optimize activities, creating new meanings for each unique situation and context. 'This study is based on the philosophical paradigm of constructivists.' This study utilizes OpenAI's Reinforcement Learning (RL) complementary theory in collaboration with Dell Hymes' Communicative Language Teaching (CLT). This

teaching method promotes direct interaction between students and teachers, with the teacher acting as a facilitator rather than an authority figure.

Theoretical Framework

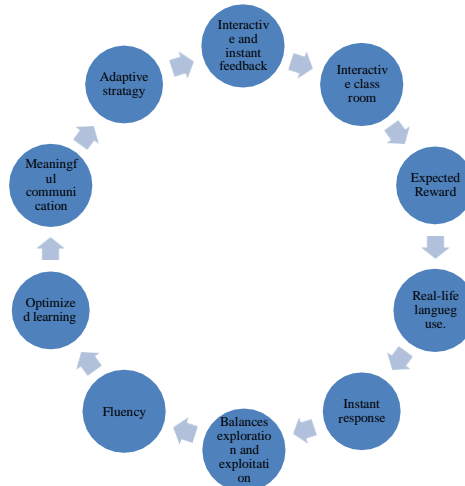


Figure 1. Theoretical Framework Based on CLT and RL.

Figure 1 illustrates the triangulation of Communicative Language Teaching (CLT) and Reinforcement Learning (RL) theories.

Results

ChatGPT boosts students' confidence and motivation by providing immediate feedback on their language skills, enabling teachers to access instant answers to their students' queries. The study's findings were gathered from a select group of teachers and students and ChatGPT using CLT and RL triangulated theories.

1. Instant Response

Students (95%) and teachers (90%) overwhelmingly supported Chat GPT is very instant in responses and replies in seconds due to its instant human-like response capabilities.

Students' Response	Yes	No	Teachers' Response	Yes	No
Instant Response	95%	5%	Instant Response.	90%	10%

Image collected from ChatGPT for instant response



Hi ChatGPT write a hundred words short story for a poor boy from a town who secured high score in CSS examination



In a forgotten town, where dusty paths met tattered dreams, a young lad named Raj, with determination etched into his weathered palms, rose from the shackles of poverty. Despite the odds stacked against him, his relentless pursuit of education led him to conquer the formidable CSS examination. Amidst the cheering town, his sun-kissed smile whispered a tale of unwavering perseverance. From the dusty alleyways, hope sprung anew, as Raj's triumph illuminated the path for generations to follow. His tale became a testament to the indomitable spirit, proving that from the humblest beginnings, greatness can emerge, igniting the flames of possibility.

ChatGPT provides immediate language assistance in ELT classrooms, creating teaching materials and lesson plans and assisting students in learning grammar rules. Previous research works can be compared to this aspect of the current study. ChatGPT can provide immediate responses by recognizing user preferences and tailoring their responses (Kalla & Smith, 2023; Sharma & Yadav, 2022). ChatGPT in ELT classrooms can enhance learner engagement and motivation by providing personalized, immediate feedback, leveraging the rapidly evolving capabilities of Artificial Intelligence (Briegel & Dunjko, 2018; Japoshvili-Ghvinashvili et al., 2023).

2. Interactive Feedback

ChatGPT, a language tutor-like tool, provides interactive, personalized feedback to students, with (93%) of students and (89%) of teachers supporting its use.

Students' Response	Yes	No	Teachers' Response	Yes	No
Interactive feedback	93%	7%	Interactive feedback.	89%	12%

Image collected from ChatGPT for interactive feedback



Please write fifty words an interactive feedback conversation between a student an a teacher may take place on ChatGPT



Certainly! Here's a concise example of an interactive feedback conversation between a student and a teacher that could take place on ChatGPT in an ELT classroom setting:

Student: I'm confused about when to use 'much' and 'many'. Can you clarify?

ChatGPT: Of course! 'Much' is used with uncountable nouns, while 'many' is used with countable nouns. For example, you say 'much water' but 'many books.'

Teacher: Excellent explanation. Can you give me one more example for each?

ChatGPT: Certainly! Here you go:

- There isn't much time left.
- She has many friends at school.

Interactive feedback in ELT classrooms involves two-way communication between students and teachers using tools like ChatGPT. It includes tailored explanations, practice exercises, corrections, and queries. This real-time interaction enhances the learning environment, promoting effective language learning. This aspect can be compared to previous research works in this aspect. ChatGPT enhances ESL classrooms by providing a realistic, interactive environment for language skill practice, improving vocabulary, grammar, and fluency, and introducing diverse feedback methods. Interactive Reinforcement Learning (RL) improves formative feedback in interactive learning environments, incorporating environmental observations and secondary sources, enhancing agents' learning speed. (Goldin, Narciss, Foltz & Bauer, 2017; Michael, Acklin & Scheuerman, 2020; Faulkner, Short & Thomaz, 2020).

3. Adaptive Strategies

ChatGPT, an adaptive language learning tool, has received high praise from students (90%) and teachers (85%) for its adaptability and ability to cater to individual learning styles.

Students' Response	Yes	No	Teachers' Response	Yes	No
--------------------	-----	----	--------------------	-----	----

Adaptive strategy mold and remold.	90%	10%	Adaptive strategy mold and remold.	85%	15%
---------------------------------------	-----	-----	---------------------------------------	-----	-----

Image collected from ChatGPT for adaptive strategies



Please tailor a grammar exercises for students with specific concepts, while simultaneously provide advanced reading materials for more proficient learners



Certainly! Here's a tailored grammar exercise for students focusing on the usage of modal verbs and an advanced reading material for more proficient learners:

Tailored grammar exercise for students on the usage of modal verbs:

1. Complete the sentences with the appropriate modal verb:
 - You _____ eat your vegetables for good health.
 - He _____ speak French fluently when he was younger.

Advanced reading material for proficient learners:

Title: "The Influence of Modernist Literature on Contemporary Writing"

Content: An exploration of the profound impact of modernist literature on contemporary writing styles, delving into the experimental techniques and thematic innovations that continue to shape the landscape of modern literature. This text offers an insightful analysis of influential modernist authors, encouraging readers to critically examine the evolution of narrative structures and literary movements in the context of the modern era.

ChatGpt offers personalized language learning experiences, ensuring students practice language skills without judgment or embarrassment, using self-adaptive systems to enhance learning. The current aspect can be compared to previous research works. ChatGpt offers personalized language learning experiences, ensuring students practice language skills without judgment or embarrassment, using self-adaptive systems to enhance learning (Caldas et al., 2020; Michael et al., .2020). Japoshvili-Ghvinashvili et al. (2023) highlighted that ChatGPT can be effectively utilized for adaptive learning.

4. Response in real-life language

ChatGPT, a real-life language learning tool, offers a classroom-like experience, with (89%) of students and (80%) of teachers describing it as a human teacher.

Students' Response	Yes	No	Teachers' Response	Yes	No
Responses in real life, like language	89%	11%	Responses in real life, like language	80%	20%

Image collected from ChatGPT for real-life response.



what is response in real life language in ELT classroom by using ChatGPT.



Certainly! In an ELT classroom, a real-life language response from ChatGPT might look something like this:

Student: Can you explain the difference between 'much' and 'many'?

ChatGPT: Sure! 'Much' is used with uncountable nouns, while 'many' is used with countable nouns. For example, you say 'much water' but 'many books.' It's all about whether you can count the items or not.

I hope that helps! If you have any more questions, feel free to ask.

A real-life language response on ChatGPT is a text-based interaction where ChatGPT provides clear explanations or answers emulating natural human conversation, similar to how a teacher would explain concepts face-to-face. Previous research works can be compared to this aspect of the current study. ChatGPT, when used correctly, can enhance ESL classrooms' authentic language practice by simulating real-world interactions, improving natural language processing, and providing instant human-like interaction (Koraishi, 2023). ChatGPT enhances learners' interests and experiences by providing real-world scenarios, authentic texts, and multimedia content (Japoshvili-Ghvinashvili et al., 2023).

5. Optimize Language-Learning

ChatGPT enhances language learning by adjusting teaching strategies, ensuring maximum effectiveness and engagement, with (88%) of students and (75%) of teachers expressing positive feedback.

Students' Response	Yes	No	Teachers' Response	Yes	No
--------------------	-----	----	--------------------	-----	----

Optimized language learning. 88% 12% Optimized language learning. 75% 25%

Image collected from ChatGPT for optimized language learning



Please describe a through an example about optimized learning on ChatGPT for ELT class room that is for different proficiency level.



Certainly! Here's an example illustrating optimized learning on ChatGPT for different proficiency levels in an ELT classroom:

For beginners:

ChatGPT can provide simple vocabulary lessons and basic grammar explanations. For example, it can generate exercises focusing on everyday expressions and fundamental sentence structures, aiding students in building a strong linguistic foundation.

For intermediate learners:

ChatGPT can offer more complex grammar exercises and reading comprehension activities. For instance, it can provide interactive passages with questions that require a deeper understanding of the text, fostering improved comprehension and critical thinking skills.

For advanced students:

ChatGPT can generate advanced writing prompts and facilitate discussions on complex topics. For example, it can provide sophisticated reading materials and prompt students to engage in debates or write analytical essays, fostering advanced language proficiency and critical analysis abilities.

ChatGPT caters to language proficiency levels, offering vocabulary exercises, grammar explanations, complex reading materials, and challenging writing prompts for beginners, intermediates, and advanced students. ChatGPT optimizes learning by providing personalized guidance, adaptive materials, and interactive exercises tailored to each student's needs, fostering comprehensive understanding, critical thinking, and knowledge retention in various educational contexts, including ELT classrooms. Previous research works can be compared to this aspect of the current study. Sharma et al. (2021) explored the potential of ChatGPT in enhancing interactive ELT through reinforcement learning, a machine learning technique that optimizes decision-making under uncertainty.

6. Meaningful and Contextual

ChatGPT, a pragmatic tool, responds naturally and contextually to students (86%) and teachers (74%), demonstrating its relevance in the learning environment.

Students' Response	Yes	No	Teachers' Response	Yes	No
Meaningful and contextual.	86%	14%	Meaningful and contextual.	74%	26%

Image collected from ChatGPT for meaningful and contextual

Describe in detail through example how chat on ChatGPT is meaningful and contextual.



Certainly! Here's a detailed example showcasing how a chat on ChatGPT can be both meaningful and maintain contextual relevance:

User: Can you provide some tips for improving my English writing skills?

ChatGPT: Certainly! One effective way to enhance your writing is by focusing on clarity and coherence. This involves organizing your ideas logically, using transition words to connect your thoughts, and ensuring that your writing is easy to follow. Additionally, incorporating a variety of sentence structures and vocabulary can make your writing more engaging and dynamic.

User: Thank you! Can you also suggest any resources for practicing grammar?

ChatGPT: Of course! Online grammar exercises, grammar books, and language learning websites often offer comprehensive grammar practice materials that can help you strengthen your understanding of English grammar rules. You might also consider utilizing grammar-checking tools and language learning apps that provide instant feedback on your writing.

ChatGPT aims to provide relevant and coherent responses within a given conversation, ensuring accurate information and relevance to the user's query, thus offering more valuable and relevant assistance. The current study in this aspect can be compared to previous research works. Koraishi (2023) emphasized the relevance of ChatGPT in English language teaching, highlighting its potential for providing meaningful, context-specific learning experiences. Japoshvili-Ghvinashvili et al. (2019) assert that effectiveness is determined by the activities suitable for various learning contexts. Ulla et al. (2023) assert that ChatGPT's development and implementation in English language instruction are attributed to increased student participation and meaningful language activities. Hatmanto and Sari (2023) discovered that integrating ChatGPT conversation with the "Personalization and Differentiation" strategy improves the English language

learning environment by making it more meaningful and contextual.

7. Enhance Fluency

ChatGPT improves students' fluency and proficiency by resembling native conversations, with (85%) of students and (73%) teachers stating it helps in public speaking through specific in-class activities.

Students' Response			Teachers' Response		
	Yes	No		Yes	No
Enhances Fluency	85%	15%	Enhances Fluency	73%	27%

Image collected from ChatGPT for fluency



Elaborate through examples how ChatGPT enhances fluency.



Certainly! Here are a couple of examples illustrating how ChatGPT enhances fluency:

Example 1:

User: What are some effective methods for improving English pronunciation?

ChatGPT: One effective method is to practice speaking regularly, focusing on the correct pronunciation of individual sounds and words. Additionally, listening to native speakers, imitating their intonation and rhythm, and using pronunciation apps for feedback can significantly aid in improving your English pronunciation skills.

Example 2:

User: How can I prepare for a job interview in English?

ChatGPT: Preparation is key. Start by researching common interview questions and practicing your responses. Focus on expressing your ideas clearly and concisely, and consider participating in mock interviews to gain confidence. Additionally, working on your body language and maintaining eye contact can also contribute to a successful interview performance.

ChatGPT improves fluency in English by providing coherent, natural-sounding responses that mimic human conversation. For example, users can recommend books like "English Grammar in Use" by Raymond Murphy and "Word Power Made Easy" by Norman Lewis for improving vocabulary and grammar understanding. ChatGPT's response is fluent and natural, enhancing the user's fluency in English. The current study can be compared to previous research works in this aspect. ChatGPT aids students in enhancing their speaking


fluency and academic listening and speaking skills during in-class activities (Kostka & Toncelli, 2023). Ulla et al. (2023) emphasized the importance of teachers' pedagogical proficiency.

8. Exploration and Exploitation


ChatGPT enhances language learning by encouraging students to explore patterns and structures, with (83%) of students and (72%) of teachers using their knowledge when sharing with the tool.

Students' Response	Yes	No	Teachers' Response	Yes	No
Exploration and exploitation.	83%	17%	Exploration and exploitation.	72%	28%

Image collected from ChatGPT for exploration and exploitation



Elaborate through examples how ChatGPT's chat is based on Exploration and Exploitation.



In the context of chat interactions, the concept of exploration and exploitation refers to the balance between trying new, potentially beneficial strategies (exploration) and using known effective strategies (exploitation). Here's an example illustrating how ChatGPT's chat can incorporate both aspects:

Exploration:
 User: Can you suggest any unconventional methods for improving my vocabulary?
 ChatGPT: Have you considered learning through etymology? Understanding the roots and origins of words can provide a deeper insight into their meanings and help you remember them more effectively.

Exploitation:
 User: What are some effective study techniques for mastering English grammar?
 ChatGPT: Utilizing grammar workbooks, practicing with online exercises, and regularly reviewing grammar rules through quizzes can be effective techniques. Additionally, integrating grammar practice into your daily reading and writing can reinforce your understanding.

ChatGPT enhances ELT classrooms by promoting exploration and exploitation through innovative teaching methods, interactive activities, and creative exercises, fostering a dynamic learning environment for students. The current study can be compared to previous research works in this aspect. Schmidt and Strasser (2022) claimed that outlined AI-powered tools could explore and methodologically exploit the language learning process in the EFL classroom. AI tools that support digital practice, so-called Intelligent Tutoring Systems (ITS), exploit Natural Language Processing and deep learning.

9. Expected Rewards and Answers

ChatGPT, a gamified approach, uses reinforcement learning to motivate students and teachers, with (82%) and (71%) believing it provides expected rewards, similar to human teacher feedback.

Students' Response	Yes	No	Teachers' Response	Yes	No
Expected rewards or answers.	82%	18%	Expected rewards or answers.	71%	29%

Image collected from ChatGPT for expected rewards and answers



Elaborate through examples how ChatGPT's chat is based on Expected Rewards and Answers



Certainly! Here are a few examples that illustrate how ChatGPT's chat can be based on expected rewards and answers:

Example 1:

User: What are the benefits of learning a second language?

ChatGPT: Learning a second language can enhance cognitive abilities, improve memory, and foster cultural understanding, which can broaden your worldview and create new opportunities for personal and professional growth.

Example 2:

User: Can you provide tips for effective public speaking?

ChatGPT: Certainly! Tips for effective public speaking include practicing your speech, maintaining eye contact, and using engaging body language to captivate your audience. Additionally, crafting a clear and concise message and incorporating persuasive techniques can help convey your ideas more effectively.

ChatGPT aims to provide users with expected rewards and answers, delivering valuable information, guidance, or solutions to their queries. ChatGPT provides informative, relevant answers that align with the user's expected benefits, ensuring a positive and rewarding interaction for various inquiries and learning needs. ChatGPT uses exploration and exploitation to generate valuable responses. Exploration involves unconventional approaches to provide innovative solutions, while exploitation uses established strategies to provide reliable information. This approach balances creativity with dependable information to meet users' needs and preferences. The current study can be compared to

previous research works in this aspect. ChatGPT interprets text and generates contextual responses based on points, rewards, and badges, ensuring accurate responses to various questions (Shaikh, Yayilgan, Klimova, & Pikhart, 2023). Hong (2023) highlighted ChatGPT's ability to generate text in various forms like essays, jokes, and poetry, and its performance in similar tasks has been improved.

10. Interactive Class-Rooms

ChatGPT transforms traditional classrooms into interactive spaces, promoting active student participation, collaboration, and discussion, enhancing learning outcomes, and attracting (80%) of students and (70%) of teachers.

Students' Response	Yes	No	Teachers' Response	Yes	No
Interactive classroom.	80%	20%	Interactive classroom.	70%	30%

Image Collected from ChatGPT for Interactive Classroom



Elaborate through examples how ChatGPT's chat is based on Interactive Class-Rooms



Certainly! Here are a few examples that illustrate how ChatGPT's chat can be based on interactive classrooms:

Example 1:

User: Can you explain the difference between 'inference' and 'implication' in literature analysis?

ChatGPT: Certainly! 'Inference' refers to drawing conclusions based on evidence in the text, while 'implication' implies something that is suggested but not directly stated. Let me provide you with an example from a literary work to clarify further.

Example 2:

User: How do I improve my essay writing skills?

ChatGPT: To enhance your essay writing, focus on structuring your ideas coherently, using strong supporting evidence, and refining your thesis statement. Additionally, consider incorporating counterarguments to strengthen your argument and engaging your readers with compelling introductions and conclusions.

ChatGPT for ELT creates interactive classrooms, providing personalized guidance and materials to students and teachers. It aims to emulate traditional classroom settings,

enhancing the collaborative and participatory nature of language learning. The current study can be compared to previous research works in this aspect. ChatGPT, like humans, can provide real-time, personalized feedback on learners' performance, enhancing the overall learning experience (Koraishi, 2023). Yeo (2023) highlights ChatGPT as a sophisticated, interactive AI tool redefining education, adapting to traditional classrooms, online, and blended environments.

Discussion

ChatGPT is an advanced AI tool that provides exclusive responses to various inquiries. ChatGPT's accuracy and helpfulness can vary based on contextual information, language, tone, and training data, but it generally provides accurate responses. ChatGPT can be helpful in various ways in the field of ELT. It can aid in providing language practice, generating exercises, offering explanations, and creating engaging content. Educators and students are enthusiastic about the potential of innovative tools to transition from traditional teaching methods.

The study of student and teacher feedback confirms that ChatGPT is a highly beneficial tool for English language learning. This article was supposed to evaluate how ChatGPT is supplementing CLT in ELT classrooms through reinforcement Learning. The research significantly triggers answers that ChatGPT works in Classrooms by providing instant feedback, making interactive classrooms, and giving expected rewards. It provides real-life language use, creates interactive classrooms, helps enhance fluency, optimizes learning levels, provides meaningful and contextual communication, and creates a balance between exploration and exploitation. Lastly, it can adopt different strategies for answering a question when asked many times; it is done by managing the context of the question. The research is significant in how this application can enhance learnability and enable students to improve their four target language skills in ELT classrooms, making it more effective in today's ELT environment. Teachers are utilizing the application to create lesson plans, offer personalized feedback on student writing, and offer tailored support for all levels. The situation is 'a storm in a teacup' (Hollis, 2023).

Future Suggestions for Teachers: Teachers should use ChatGpt to supplement traditional language learning methods. Teachers should monitor conversations, provide feedback, and check facts when using ChatGpt for language development, as excessive reliance may hinder students' language skills. Teachers must obtain proper student consent and ensure that the use of technology is secure and responsible. Teachers can identify students' abilities, and if perfect grammar, prose, or creative writing suddenly appears, alarm bells ring, indicating that students still need the scrap heap.

Limitations and Future Recommendations

It is beyond the scope and intention of this article to review the different writing assistants and GPTs on the market. As new and more powerful ones appear all the time, as evidenced by the release of ChatGPT and, even more recently, GPTZero (<https://gptzero.me/>) as a counter-measure, there would be little point in doing this. Furthermore, app developers are constantly improving their tools, so even the affordances of Wordtune and jenni.ai described above may have been eclipsed. Readers can search the terms AI writing assistants, augmented writing, and GPTs to find information about the latest AI authoring tools.

Conclusion

According to the study's findings, Chat GPT is a notable chatbot for social interaction that greatly improves the ELT environment. A helping application for students and teachers. According to the research, the answer of the research question is in multiple numbers as: ChatGPT functions in classrooms by offering immediate feedback, creating dynamic learning environments, and bestowing anticipated incentives. Real-world language use is facilitated, interactive classrooms are developed, fluency is improved, learning levels are maximised, meaningful and contextual communication is provided, and a balance is struck between exploration and exploitation. Finally, it may respond to questions in a variety of ways when they are asked repeatedly; this is accomplished by controlling the question's context. Although ChatGPT is a well-liked tool for teachers, students, and language learning institutions, the study emphasises the importance of using technology responsibly.

References

- Abdullah, M., Madain, A., & Jararweh, Y. (2022). ChatGPT: Fundamentals, applications, and social impacts. In 2022 Ninth International Conference on Social Networks Analysis, Management and Security (SNAMS) (pp. 1-8). IEEE.
- AbuSa'aleek, A. O. (2015). Students' Perceptions of English Language Learning in the Facebook Context. *Teaching English with Technology*, 15(4), 60-75.
- Ahmad, B., & Zamir, Y. (2018). Job Opportunities and Career Development of Maritime University Graduates: South Asian Perspective, Pakistan a Case in Point. In *International Conference Dalian Maritime University* (Vol. 26, p. 27).
- Ahmad, T., Alvi, A., & Ittefaq, M. (2019). The use of social media on political participation among university students: An analysis of survey results from rural Pakistan. *Sage Open*, 9(3), 2158244019864484.
- Allam, M., Elyas, T., Bajnaid, A., & Rajab, H. (2017). Using Twitter as an ELT tool in the Saudi EFL context. *International Journal of Linguistics*, 9(5), 41-63.
- Al-Ali, S. (2014). Embracing the selfie craze: Exploring the possible use of Instagram as a language-learning tool. *Issues and Trends in Educational Technology*, 2(2).
- Alberth, Wiramihardja, E., & Uden, L. (2020). WhatsApp with English language teaching? Some practical ideas and strategies. *International Journal of Technology Enhanced Learning*, 12(3), 262-274.
- Ali, J. K. M., Shamsan, M. A. A., Hezam, T. A., & Mohammed, A. A. (2023). Impact of ChatGPT on learning motivation: teachers and students' voices. *Journal of English Studies in Arabia Felix*, 2(1), 41-49.
- Ali, M, A. & Abrar. (2023). An Intervention Study on the Use of Artificial Intelligence in the ESL Classroom: English Teacher Perspectives on the Effectiveness of ChatGPT for Personalized Language Learning.
- Anantrasirichai, N., & Bull, D. (2022). Artificial Intelligence in the creative industries: a review. *Artificial intelligence review*, 1-68.
- Anis, M. (2023). Leveraging Artificial Intelligence for Inclusive English Language Teaching: Strategies and Implications for Learner Diversity.

- Aydın, Ö., & Karaarslan, E. (2022). OpenAI ChatGPT generated literature review: Digital twin in healthcare. Available at SSRN 4308687.
- Barrot, J. S. (2018). Facebook as a learning environment for language teaching and learning: A critical literature analysis from 2010 to 2017. *Journal of computer-assisted learning*, 34(6), 863–875.
- Çakır, A., & Atmaca, Ç. (2015). Pre-service teacher perceptions about the use of Facebook in English language teaching. *Digital Culture & Education*.
- Caldas, R. D., Rodrigues, A., Gil, E. B., Rodrigues, G. N., Vogel, T., & Pelliccione, P. (2020, June). A hybrid approach combining control theory and AI for engineering self-adaptive systems. In *Proceedings of the IEEE/ACM 15th International Symposium on Software Engineering for Adaptive and Self-Managing Systems* (pp. 9-19).
- Chowdhury, M. N. U. R., & Haque, A. (2023). ChatGPT: Its Applications and Limitations. In *2023 3rd International Conference on Intelligent Technologies (CONIT)* (pp. 1–7). IEEE.
- Delgado, H. O. K., de Azevedo Fay, A., Sebastiany, M. J., & Silva, A. D. C. (2020). Artificial intelligence adaptive learning tools: the teaching of English in focus. *BELT-Brazilian English Language Teaching Journal*, 11(2), e38749-e38749.
- Dong, H., Dong, H., Ding, Z., Zhang, S., & Chang. (2020). *Deep Reinforcement Learning*. Singapore: Springer Singapore.
- Dogoriti, E., & Pange, J. (2014). Considerations for online English language learning: the use of Facebook in formal and informal settings in higher education. In *The social classroom: Integrating social network use in education* (pp. 147-170). IGI Global.
- Dweikat, K. A. J. (2019). EFL Students of Whatsapp and its Potential Benefits in ELT Practicum. *المجلة الفلسطينية للتكنولوجيا والعلوم*
- Dunjko, V., & Briegel, H. J. (2018). Machine learning & artificial Intelligence in the quantum domain: a review of recent progress. *Reports on Progress in Physics*, 81(7), 074001.
- Erarslan, A. (2019). Instagram as an Education Platform for EFL Learners. *Turkish Online Journal of Educational Technology-TOJET*, 18(3), 54–69.

النظيرية, (2)

Special Issue On Multidisciplinary Research

- Fewell, N. (2014). Social networking and language learning with Twitter. *Research Papers in Language Teaching & Learning*, 5(1).
- Fikri, H. (2023). Leveraging ChatGPT to Transform English Language Teaching. Universitas Negeri Makassar 220025301052@student.unm.ac.id <https://scholar.google.com/citations?user=UY7cJNkAAAAJ>.
- Fitria, T. N. (2021). The use of technology based on artificial Intelligence in English teaching and learning. *ELT Echo: The Journal of English Language Teaching in Foreign Language Context*, 6(2), 213-223.
- Fitria, T. N. (2023, March). Artificial Intelligence (AI) technology in OpenAI ChatGPT application: A review of ChatGPT in writing English essay. In *ELT Forum: Journal of English Language Teaching* (Vol. 12, No. 1, pp. 44–58).
- Floridi, L., Cowls, J., Beltrametti, M., Chatila, R., Chazerand, P., Dignum, V., ... & Vayena, E. (2021). An ethical framework for a good AI society: Opportunities, risks, principles, and recommendations. *Ethics, governance, and policies in Artificial Intelligence*, 19-39.
- Fraustino, J. D., Briones, R., & Janoske, M. (2015). Can every class be a Twitter chat?: Cross-institutional collaboration and experiential learning in the social media classroom. *Public Relations Education*, 1.
- García-Gámez, M., & Melendres, C. F. (2022). I am tweeting to learn: A qualitative analysis using Twitter as a teaching resource. Dra. Haydeé Ramírez Lozada, PhD, 186.
- Godwin-Jones, R. (2014). Games in Language Learning: Opportunities and Challenges. *Language Learning & Technology*, 18(2), 9–19.
- Goldin, I., Narciss, S., Foltz, P., & Bauer, M. (2017). New directions in formative feedback in interactive learning environments. *International Journal of Artificial Intelligence in Education*, pp. 27, 385–392.
- Gikundi, D. (2017). A Mobile application for locating the available handyperson services within a locality (Doctoral dissertation, Strathmore University).
- Han, S. (2022). Flipped classroom: Challenges and benefits of using social media in English language teaching and learning. *Frontiers in Psychology*, p. 13, 996294.

Special Issue On Multidisciplinary Research

- Hatmanto, E. D., & Sari, M. I. (2023). Aligning Theory and Practice: Leveraging Chat GPT for Effective English Language Teaching and Learning. In E3S Web of Conferences (Vol. 440, p. 05001). EDP Sciences.
- Henrickson, L., & Meroño-Peñuela, A. (2023). Prompting meaning: a hermeneutic approach to optimizing prompt engineering with ChatGPT. *AI & SOCIETY*, 1-16.
- Hidayati, T. (2016). Integrating ICT in English language teaching and learning in Indonesia. *JEELS (Journal of English Education and Linguistics Studies)*, 3(1), 38–61.
- Hiew, W. (2012). English Language Teaching and Learning issues in Malaysia: Learners' perceptions via Facebook Dialogue Journal. *Researchers World*, 3(1), 11.
- Hockly, N. (2023). Artificial Intelligence in English Language Teaching: The Good, the Bad and the Ugly. *RELC Journal*, 00336882231168504.
- Hollis, S. (2023). Disasters in the Anthropocene: a storm in a teacup? *Disasters*, 47(2), 298–319.
- Holmes, W., & Tuomi, I. (2022). State of the art and practice in AI in education. *European Journal of Education*, 57(4), 542-570.
- Hong, W. C. H. (2023). The impact of ChatGPT on foreign language teaching and learning: opportunities in education and research. *Journal of Educational Technology and Innovation*, 5(1).
- Horwitz, E. K., Horwitz, M. B., & Cope, J. (1986). Foreign language classroom anxiety. *The Modern Language Journal*, 70(2), 125-132.
- Huang, J., & Li, S. (2023). Opportunities and Challenges in the Application of ChatGPT in Foreign Language Teaching. Vol. 6, Issue.4, pp. 75-89. ISSN 2581-5148. DOI: <https://doi.org/10.37500/IJESSR.2023.6406>.
- Japoshvili-Ghvinashvili, M., & Suleman, N. (2023). Assisting ELT Teachers: Designing Activities for Using ChatGPT in Teaching and Learning. *Pakistan Journal of Multidisciplinary Innovation*, 2(1), 24–35.
- Jarrahi, & Hossein, M. (2018, July-August). Artificial Intelligence and the future of work: Human-AI symbiosis in organizational decision making.
- Jeon, J., & Lee, S. (2023). Large language models in education: A focus on the complementary relationship between human

Special Issue On Multidisciplinary Research

teachers and ChatGPT. *Education and Information Technologies*, pp. 1–20.

- Kalla, D., & Smith, N. (2023). Study and Analysis of Chat GPT and its Impact on Different Fields of Study. *International Journal of Innovative Science and Research Technology*, 8(3).
- Kartal, G., & Korucu-Kis, S. (2020). The use of Twitter and Youglish to learn and retain commonly mispronounced English words. *Education and information technologies*, 25, 193-221.
- Kheryadi, K. (2017). The implementation of “WHATSAPP” as a media of English language teaching. *Loquen: English Studies Journal*, 10(2), 1–14.
- Kolb, D. A. (2007). *The Kolb learning style inventory*. Boston, MA: Hay Resources Direct.
- Koraishi, O. (2023). Teaching English in the age of AI: Embracing ChatGPT to optimize EFL materials and assessment. *Language Education and Technology*, 3(1).
- Kostka, I., & Toncelli, R. (2023). Exploring applications of ChatGPT to English language teaching: Opportunities, challenges, and recommendations. *The Electronic Journal for English as a Second Language*, 27(3).
- Kuddus, K. (2022). Artificial Intelligence in language learning: Practices and prospects. *Advanced Analytics and Deep Learning Models*, pp. 1–17.
- Li, V. (2017). Social media in English language teaching and learning. *International Journal of Learning and Teaching*, 3(2), 148–153.
- Listiani, G. (2016, March). The effectiveness of Instagram writing compared to teacher-centered writing to teach recount text to students with high and low motivation (The case of eighth-grade students in SMP Kesatrian 1 Semarang in the academic year of 2015/2016). In *ELT Forum: Journal of English Language Teaching* (Vol. 5, No. 1).
- Losi, R. V., & Nasution, M. M. (2022). Students' Attitudes toward Communicative Language Teaching (CLT) in English Speaking Intensive Program. *International Journal of English and Applied Linguistics (IJEAL)*, 2(1), 95-102.
- Mackay, J., Andria, M., Tragant, E., & Pinyana, À. (2021). WhatsApp as part of an EFL program: Participation and interaction. *ELT Journal*, 75(4), 418-431.

Special Issue On Multidisciplinary Research

- Michael, C. J., Acklin, D., & Scheuerman, J. (2020). On interactive machine learning and the potential of cognitive feedback. arXiv preprint arXiv:2003.10365.
- Mozaffar, M., Liao, S., Xie, X., Saha, S., Park, C., Cao, J., ... & Gan, Z. (2022). Mechanistic artificial Intelligence (mechanistic-AI) for modeling, designing, and controlling advanced manufacturing processes: Current state and perspectives. *Journal of Materials Processing Technology*, 302, 117485.
- Nasution, A. K. R. (2019). YouTube as a media in English language teaching (ELT) context: Teaching procedure text. *Utamax: Journal of Ultimate Research and Trends in Education*, 1 (1), 29–33.
- Nicholas, B., Avram, A., Chow, J., & Lupasco, S. (2018). Building a community of connected ELT professionals on Twitter. *TESL Canada Journal*, 35(2), 166-178.
- OpenAI. (2023). ChatGPT [Large language model]. <https://chat.openai.com>.
- Putri, N. S. F., Widiharso, P., Utama, A. B. P., Shakti, M. C., & Ghosh, U. (2022). Natural Language Processing in Higher Education. *Bulletin of Social Informatics Theory and Application*, 6(1), 90-101. Classroom, and Zoom.
- Rao, P. S. (2019). The impact of social media on learning English: A critical study in English language teaching (ELT) context. *Research Journal of English*, 4(2), 266–274. undergraduate level Rezaei, S., & Meshkati, M. A. (2017). Iranian teachers' attitude towards using social media and technology to increase interaction amongst students inside or outside the classroom. *Theory and Practice in Language Studies*, 7(6), 419.
- Riyadini, M. V., & Triastuti, A. (2023). Teachers' Perspectives on ChatGPT as A Language Teaching Resource: Benefits, Challenges, and Pedagogical Considerations. In *Conference on English Language Teaching* (pp. 1105-1115).
- Schmidt, T. O. R. B. E. N., & Strasser, T. H. O. M. A. S. (2022). Artificial Intelligence in foreign language learning and teaching: a CALL for intelligent practice. *Anglistik: International Journal of English Studies*, 33(1), 165-184.
- Senolinngi, F., Damayanti, S., & Asmin, A. I. (2020). Are Senior High School Students Interested in Learning Vocabulary in ELT Context Using Instagram Platform? *CLLIENT (Culture et al.)*, 2(2), 1-11.

Special Issue On Multidisciplinary Research

- Shaikh, S., Yayilgan, S. Y., Klimova, B., & Pikhart, M. (2023). Assessing the Usability of ChatGPT for Formal English Language Learning. *European Journal of Investigation in Health, Psychology and Education*, 13(9), 1937-1960.
- Shoufan, A. (2023). Exploring Students' Perceptions of ChatGPT: Thematic Analysis and Follow-Up Survey. *IEEE Access*.
- Sharadgah, T. A., & Sa'di, R. A. (2022). A Systematic Review of Research on the Use of Artificial Intelligence in English Language Teaching and Learning (2015-2021): What are the Current Effects? *Journal of Information Technology Education: Research*, 21.
- Shoufan, A. (2023). Exploring Students' Perceptions of ChatGPT: Thematic Analysis and Follow-Up Survey. *IEEE*.
- Sharma, K., Singh, B., Herman, E., Regine, R., Rajesh, S. S., & Mishra, V. P. (2021, March). Maximum information measure policies in reinforcement learning with a deep energy-based model. In *2021 International Conference on Computational Intelligence and Knowledge Economy (ICCIKE)* (pp. 19–24). *IEEE*.
- Sharma, S., & Yadav, R. (2022). Chat GPT—A Technological Remedy or Challenge for Education System. *Global Journal of Enterprise Information System*, 14(4), 46–51.
- Singh, C. K. S., Singh, T. S. M., Abdullah, N. Y., Moneyam, S., Ismail, M. R., Tek, E., ... & Singh, J. K. S. (2020). Rethinking English language teaching through telegram, WhatsApp, Google Classroom, and Zoom. *Systematic Reviews in Pharmacy*, 11(11), 45–54.
- Simões, J., Redondo, R. D., & Vilas, A. F. (2013). A social gamification framework for a K-6 learning platform. *Computers in Human Behavior*, 29(2), 345-353.
- Susilo, A. (2014). Exploring Facebook and WhatsApp as supporting social network applications for English learning in higher education. *Conference On Professional Development In Education (PDE2014)*, Widyatama University Indonesia, Open University Indonesia, and Open University Malaysia.
- Citrawati, N. K., Suwastini, N. K. A., Jayantini, I. G. A. S. R., Artini, N. N., & Dantes, G. R. (2021). Telegram as Social Networking Service (SNS) for enhancing students' English: A systematic review. *Journal of English Language Teaching and Linguistics*, 6(2), 239-260.

Special Issue On Multidisciplinary Research

- Srirat, K. (2014). Using the Facebook group to facilitate teaching English for everyday communication. In the 2014 WEI International Academic Conference Proceedings.
- Suadi, S. (2021). Perceptions of using Zoom and WhatsApp in ELT Amidst the COVID-19 pandemic. *SALEE: Study of Applied Linguistics and English Education*, 2(1), 51–64.
- Teng, Y., Zhang, J., & Sun, T. (2023). Data-driven decision-making model based on artificial Intelligence in higher education system of colleges and universities. *Expert Systems*, 40(4), e12820.
- Thadphoothon, J. (2022). ELT in the Age of Artificial Intelligence (AI): Working with Machines. *Journal of NELTA*, 27(1-2), 202.
- Taskiran, A., Gumusoglu, E. K., & Aydin, B. (2018). Fostering Foreign Language Learning with Twitter: What Do English Learners Think About It? *Turkish Online Journal of Distance Education*, 19(1), 100-116.
- Thomas, K. (2020). Reading and writing activities on Instagram. In P. Clements, A. Krause, & R. Gentry (Eds.), *Teacher efficiency, learner agency*. Tokyo: JALT. <https://doi.org/10.37546/JALTPCP2019-54>.
- Ulla, M. B., Perales, W. F., & Busbus, S. O. (2023). 'To generate or stop generating response': Exploring EFL teachers' perspectives on ChatGPT in English language teaching in Thailand. *Learning: Research and Practice*, 1-15.
- van Rensburg, H., & La Thanh, T. (2017). Teachers' use of Facebook motivates Vietnamese students to improve their English language learning. *Mobile learning in higher education in the Asia-Pacific region: Harnessing trends and challenging orthodoxies*, 359-375.
- Wijaya, A. (2018). Students' Responses toward the use of Whatsapp in Learning. *Journal of Teaching & Learning English in Multicultural Contexts*, 2(1), 46–55.
- Yeo, M. A. (2023). Academic integrity in the age of Artificial Intelligence (AI) authoring apps. *TESOL Journal*, e716.