

# A Systematic Literature Review on the Impacts of Using Chat GPT and other AI-Driven Tools in ESL Teaching and Learning

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## Abstract

This systematic literature review explores the impact of using ChatGPT and other AI-driven tools in English as a Second Language (ESL) teaching and learning, employing a meta-analytic approach guided by the PRISMA methodology. A comprehensive search was conducted across three databases: Springer, Scopus and Google Scholar, resulting in the selection of 25 relevant articles. The review meticulously adheres to the PRISMA guidelines to ensure a transparent and replicable process, including identification, screening, eligibility and inclusion stages. The analysis synthesizes findings from diverse educational contexts, highlighting both the benefits and challenges of integrating ChatGPT and other AI-driven tools in English Language teaching and learning. The results demonstrate that ChatGPT and other AI-driven tools can significantly enhance learners' engagement and motivation, foster personalized learning, improve writing skills while also presenting challenges and concerns such as data privacy, ethical concerns, over-reliance on AI, and academic integrity. This review offers valuable insights for educators, policymakers and researchers interested in the potential and limitations of ChatGPT and other AI-driven tools in language education.

**Keywords:** Systematic Literature Review, Chatgpt, AI-Driven Tools, Impacts, ESL, Teaching, Learning

## Introduction

The integration of artificial intelligence (AI) in educational contexts has garnered significant attention, with tools like ChatGPT and other AI-driven tools being explored for their potential to transform English as a Second Language (ESL) teaching and learning. ChatGPT, a sophisticated language model developed by OpenAI, offers interactive and adaptive learning experiences, making it a valuable resource for both educators and learners. Recent studies have highlighted its capabilities in providing personalized feedback, facilitating conversation practice and enhancing student engagement (Smith & Jones, 2023; Lee 2022). The use of AI tools in education has been touted for their potential to personalize learning and create more engaging learning

experiences (Fryer & Carpenter 2022). As educational institutions increasingly adopt AI technologies, understanding the impact of ChatGPT and other AI-driven tools on teaching methodologies and learner outcomes is crucial. This systematic literature review aims to explore the various impacts of these technologies on ESL teaching and learning, providing a comprehensive analysis of current research findings and identifying areas for future research.

### **Research objectives**

1. To discover the benefits of ChatGPT and other AI-driven tools among learners and their impact on the effectiveness of English as a Second Language (ESL) teaching and learning.
2. To explore the main challenges and ethical concerns associated with the integration of ChatGPT and AI-driven tools in ESL education.

### **Research Questions**

1. What are the specific benefits of using ChatGPT and other AI-driven tools in English as a Second Language (ESL) teaching and learning?
2. What are the primary challenges faced by educators and learners when integrating ChatGPT and other AI-driven tools in ESL education?

### **Background of the Study**

The advent of the 5th Industrial Revolution, characterized by the integration of advanced technologies such as artificial intelligence (AI), robotics, and the Internet of Things (IoT), has significantly influenced various sectors, including education (Schwab 2023). The Malaysian education system has been proactive in embracing these technological advancements to enhance learning outcomes and maintain global competitiveness (Ahmad 2022). Recent reforms in Malaysian education reflect a concerted effort to integrate digital technologies and innovative teaching methodologies, aiming to prepare students for the demands of a rapidly evolving global landscape.

The Malaysian Education Blueprint (2013-2025) laid the foundation for these transformative changes, emphasizing the need for holistic, inclusive and quality education. The Blueprint identified key shifts necessary for the education system to evolve, including student outcomes, teacher quality and system efficiency (Ministry of Education Malaysia 2013). One of the significant initiatives under this Blueprint is the implementation of DELIMa (Digital Educational Learning Initiative Malaysia) 2.0, which focuses on leveraging digital tools and resources to support teaching and learning processes (Ministry of Education Malaysia 2021).

DELIMa 2.0 represents a strategic move towards a more technologically integrated education system, providing a digital platform that offers various educational resources, learning management systems, and communication tools. This initiative is part of Malaysia's broader efforts to embrace the 5th Industrial Revolution and ensure that students acquire the necessary digital literacy skills. The platform aims to create a more engaging and interactive learning environment, facilitating personalized learning experiences and promoting greater student engagement (Ahmad 2022).

In this context, the use of ChatGPT and AI-driven tools in ESL teaching and learning aligns with the objectives of DELIMa 2.0 and the shifts outlined in the Malaysian Education Blueprint. ChatGPT, developed by OpenAI, is designed to simulate human-like conversations and provide immediate feedback, making it a valuable asset in language education. Its ability to offer personalized learning experiences, enhance conversational practice and support teacher instruction positions it as a pivotal tool in modern educational settings (Smith & Jones 2023).

Besides, other AI-driven tools are also available in this platform for the educators to use in their teaching and learning.

This systematic literature review aims to evaluate the impact of ChatGPT and other AI-driven tools on ESL teaching methodologies and learner outcomes in Malaysia. This review will provide insights into how AI technologies can support the objectives of educational reforms and digital initiatives like DELIMa 2.0, contributing to the broader goals of the Malaysian education system. By examining current research findings, this study will identify the benefits and challenges associated with integrating ChatGPT and other AI-driven tools in ESL education, offering recommendations for future implementation and policy development.

### **The Definition of Chat GPT And Other AI-Driven Tools**

ChatGPT, developed by OpenAI, is an advanced conversational AI model based on the GPT-4 architecture. It leverages deep learning techniques to generate human-like text responses, making it capable of engaging in interactive dialogues, providing detailed explanations and assisting with various language tasks (Brown et al. 2023; Johnson & Lee 2022). ChatGPT's ability to understand and generate contextually relevant responses has made it a valuable tool in enhancing language learning and teaching methodologies (Wilson 2022).

Other AI-driven tools are known as the tools in education that include a wide range of technologies that leverage artificial intelligence to improve teaching and learning process. Grammarly in ESL instruction greatly increases learners' writing correctness and fosters their comprehension of English grammar and syntax ( Zheng and Yu 2022).

### **The types of AI tools used in English as Second Language Teaching and Learning**

In recent years, the use of ChatGPT and other AI-driven tools in English as a Second Language (ESL) teaching and learning has grown drastically in Malaysian classrooms. These tools provide a range of features that enhance the learning process such as interactive practice sessions.

### **Chatbots (ChatGPT)**

Chatbots such as ChatGPT are among the main artificial intelligence tools utilised in ESL courses in Malaysia. These tools provide learners with instant feedback and interactive practice which is essential for language learning. Learners can practise listening and speaking in a relaxed setting by using chatbots which can simulate real-life conversations. Learners can participate in conversations at their own pace using this type of tool which helps to improve comprehension and fluency (Zainuddin et al. 2023).

### **AI-Powered Writing Assistants**

AI-powered writing assistants like Grammarly are frequently used to support learners in improving their writing abilities. These tools provide help on vocabulary, style and grammar for the learners to produce a good write up. According to Garcia and Kim (2022), writing proficiency among ESL learners significantly improved when they consistently employed AI-powered writing assistants to ensure the coherence and fluency in their writing.

### **The impact of ChatGPT and other AI-driven tools in ESL teaching and learning**

This systematic review consists of positive and negative effects of ChatGPT in ESL Teaching and Learning. One of the primary positive impacts is enhanced engagement and motivation. Engagement and motivation level of learners in English language learning have developed by ChatGPT and other AI-based tools where it allows themselves to be involved in conversations and learning activities. Zainuddin et al. (2023) observed that learners' involvement was higher when they use ChatGPT compared to traditional methods due to ChatGPT features such as conversational interface and gamified elements which made their learning fun and enjoyable. Lee and Wu (2022) also indicate in their study that learners using AI tools for language learning show higher levels of motivation and engagement compared to those using conventional methods.

Secondly, improved writing proficiency. The ability of ChatGPT to give immediate responses on vocabulary usage, grammar and syntax has refined learners' writing in real time. Mohd et al. (2023) stated that ChatGPT offers corrections and suggestions for learners which help them to amend their mistakes immediately. Moreover, ChatGPT and other AI-based tools such as Grammarly also provide brainstorming ideas to aid learners in their writing.

Third positive impact of ChatGPT and other AI-driven tools in ESL teaching and learning is personalized learning. It offers customized learning to learners adjusting to their style, to meet their individual needs and also to learn at their own pace. According to Ahmad et al. (2023), personalized learning by ChatGPT addresses unique challenges faced by learners which enables them to stay focused and challenged, optimizing their learning process. This personalised learning helps the learners to receive the appropriate level of challenge and support.

Besides the positive impact, there are also negative impacts of ChatGPT and other AI-based tools in English language teaching and learning. One of them is data privacy. Application of AI tools induces concern about safety and privacy of learners' information. Rahman et al. (2023) states that there are demands for policy and regulations to manage the use of AI in education. Moreover, potential overdependence on AI tools is also another crucial negative impact or concern in using ChatGPT or other AI-driven tools. It cannot be denied there is a risk of learners becoming over reliant on ChatGPT which affects their ability to think creatively and critically. Lim and Tan (2023) warn that AI should not supersede the fundamental elements of language education and educators must find a balance to implement both of them.

Usage of ChatGPT and AI-driven tools also leads to uncertainty and anxiety among learners and teachers. While it is important to verify the accuracy of the information provided by AI tools, it is also essential to understand that interacting with AI can make a human anxious. Chin et al. (2023) proposes training and orientation for both learners and teachers to mitigate these concerns.

Last but not least, academic honesty is also vital in ensuring that there is no usage of AI tools like ChatGPT during tests or assessments which can end up in plagiarism. Zainuddin et al (2023) indicates that clear guidelines should be established rather than replacing existing assessment methods to protect the academic integrity.

In conclusion, the impact of ChatGPT and other AI-driven tools in ESL teaching and learning is double-edged. The regulation and policymakers must address the flaws whilst maintaining the benefits of it.

### Methodology

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2024 checklist served as the basis for this systematic literature review. To address two research questions, articles were analysed and evaluated using a four-phase flow diagram and a 25-item checklist. The four phases of the PRISMA methodology were the identification phase, screening phase, eligibility phase and inclusion phase.

### Phase I : Identification Phase

Five predetermined criteria were used in this study to help to identify and choose the articles. First and foremost, Springer Link, Scopus and Google Scholar were chosen as the databases to be used to search for relevant articles to include in this systematic literature review. These three databases were appropriate and suitable for the researchers' access to articles related to the field of education and social sciences.

Secondly, the articles must be published within the year of 2023. Thirdly, must be written in English. The fourth criteria is to choose full research articles for this study. The fifth predetermined criteria for the articles to be picked in this research was having full, open access. All five criteria that were used to identify the articles are displayed in table 1.

Table 1

*Table Shows the Inclusion and Exclusion Criteria in Choosing the Articles*

Criteria	Inclusion	Exclusion
Database	Springer, SCOPUS, GoogleScholar	Other databases
Publication year	2022-2023	Articles before 2019
Language	English	Articles written in otherlanguages than English
Document type	Research articles	Books, books chapters
Access to full text	Open access	Limited or no access

Despite the five predetermined criteria, the articles were identified using various search items and keywords. In this study, all three databases were searched using the same search keywords in order to find the article about the impacts of using ChatGPT and AI-driven tools in English as Second Language Teaching and Learning.

Table 2

*Table Shows the Search Items and Keywords used in All Three Databases to Identify TheArticles*

Search items/ keywords				
English	AND	ChatGPT	AND	English
Impact	AND	ChatGPT	AND	teaching
ChatGPT	AND	AI-based tools	AND	learning

Addressing the criteria, the search items and keywords in Table 1 and Table 2, all articles found that fit the inclusion and exclusion criteria were identified and recorded while others were eliminated and excluded from the list.

**Phase II : Screening Phase**

During the Phase II, the articles were further screened by the titles. The title of each article was carefully selected to align with the keywords that were employed. The abstract of each article was also quickly skimmed and scanned to ensure that every article selected met the predetermined inclusion and exclusion criteria. The articles which are not able to fulfil the requirements for the titles and abstracts were eliminated. Then, the duplicate articles were eliminated from all three databases in order to narrow down the list of articles.

**Phase III: Eligibility Phase**

The third phase is the eligibility phase in which the articles were screened to check and evaluate their eligibility to be relevant to this study. The articles which only matched all the inclusion and exclusion criteria were allowed to proceed to the last stage. This phase was important to make sure that all identified articles were pertinent to addressing the research questions in this study.

**Phase IV : Exclusion Phase**

Phase IV is the last phase in this study, for all the articles that encounter the eligibility criteria to be chosen for analysis and review. Those articles that did not meet the criteria were excluded such as the articles which are from books and book chapters, articles with limited access and articles that are not published within 2022 to 2023. This selection process is illustrated in the flowchart as shown below in Figure 1.

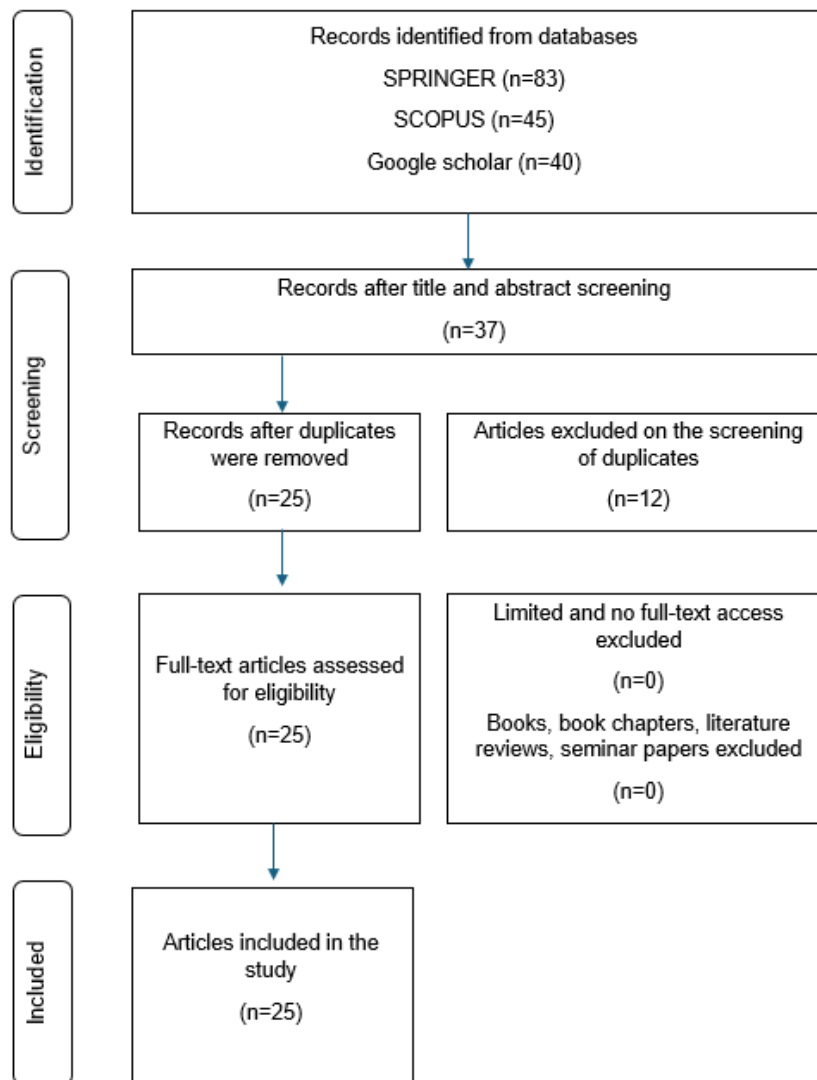


Figure 1: Figure shows the flowchart of the article screening and selection process

After the fourth-phase screening process, a total of 15 articles were selected. These comprised articles utilising various methodologies. Thirteen of the articles were classified as qualitative research papers, 6 articles were quantitative papers while the remaining 6 articles were classified as mixed-method research depicted in Table 3.



Table 3

Research Methodology	Quantity
Qualitative	13
Quantitative	6
Mixed	6

*Table Shows the Number of Articles Based on The Research Methodology Utilised*

### Findings and Discussion

For the purpose of the research, a total of 25 articles have been gathered, studied and collated. Remarkably, all of the articles used data from 2019 to 2023. By bringing the previously published research into line with current concerns and developments, this selection strategy aimed to confirm its relevance. Furthermore, it functions as a roadmap for the researcher so as to proficiently tackle the suggested research questions.

Table 4

*Table Shows The Details of Each Article, The Chatgpt and Other AI-Based Tools Used InEach Research and Their Relevant Impacts*

No.	Title/Author	Country	Research method	Research participants	Technology-based platforms	Relevant impacts
1.	Cultivating writing skills: the role of <a href="#">ChatGPT</a> as a learning assistant—a case study <a href="#">Nermin PınarÖzçelik</a> , <a href="#">Gonca Yangın Eksi</a>	Not specified	One-case shot pre-experimental	11 voluntary participants	<a href="#">ChatGPT</a>	Found beneficial for formal register knowledge, questioned its necessity for informal writing, effectiveness for neutral register unsure
2.	Artificial Intelligence in Global World: A Case Study of <a href="#">Grammarly</a> ase-Tool <a href="#">Sohaib Alam</a> , <a href="#">Mohammad Usama</a> , <a href="#">MdMoshabbir Alam</a> , <a href="#">Ismat Jabeen</a>	Saudi Arabia, India	Case Study	ESL learners at <a href="#">Darul Uloom Nadwa</a>	<a href="#">Grammarly</a>	Improved writing skills, enhanced engagement and motivation among learners.
3.	An Intervention Study on the Use of Artificial Intelligence Multiple authors	Not specified	Intervention study	Various	Various AI tools including <a href="#">ChatGPT</a>	Personalized education, enhanced learning outcomes, increased motivation and engagement.
4.	Benefits and Challengesin ESL Classroom Not explicitly mentioned	Not specified	Literature review and analysis	ESL teachers and learners	Various AI tools including <a href="#">Grammarly</a>	Identified benefits such as personalized feedback, challenges including data privacy concerns.
5.	Impact of <a href="#">ChatGPT</a> on learning motivation J. K. M. Ali, M. A. A.	Yemen	Survey-based study	ESL learners	<a href="#">ChatGPT</a>	Increased learning motivation, improved engagement and interaction in learning activities.



	Shamsan, T. A. Hezam, A. Mohammed					
6.	AI in the Foreign Language Classroom: A Pedagogical Overview of Automated Writing Assistance Tools by <a href="#">WaelAlharbi</a>	Not specified	Literature Review	Not specified	<a href="#">Grammarly</a> , <a href="#">Google Translate</a>	<ul style="list-style-type: none"> <li>- Learners' engagement in AI systems may vary widely</li> <li>- Human-machine relationship influences technology use</li> <li>- Long-term benefits of writing assistance tools require further research</li> <li>- Emotions like mistrust and anxiety can impact students' motivation for using technology</li> <li>- AI-powered writing assistance technologies have strengths and limitations</li> <li>- Recommendations for educators on using AI-powered tools effectively</li> <li>- AI-powered writing assistance tools are crucial for understanding current trends</li> </ul>
7	Challenges and Benefits in Software Programming for Higher Education	Brazil	Likert Scale Questionnaire	40 students in computer science and technology	<a href="#">ChatGPT</a> , All language tools	Divided opinions on <a href="#">ChatGPT's</a> impact on learning process, concerns about over-reliance and hindering learning experiences, potential for aiding understanding but lacking explanations, impact on critical thinking and problem-solving skills

8.	Benefits of integrating AI technology with English classroom <a href="#">Shaojie Liu</a>		Qualitative research	English classroom students and teachers	AI-based educational tools and platforms	Enhanced engagement, personalized learning, improved language proficiency, increased accessibility to learning resources, and effective feedback mechanisms
9.	<a href="#">ChatGPT: Bullshit spewer or the end of traditional assessments in higher education?</a> Jürgen Rudolph, Samson Tan, Shannon Tan	Not specified	Desktop analysis approach	Not specified	<a href="#">ChatGPT</a> , <a href="#">GPT-3</a> , <a href="#">WebGPT</a> , <a href="#">Elicit</a>	Impact on academic writing, plagiarism detection, idea generation in finance research, assistance in literature synthesis, data identification, potential violation of privacy and freedom of movement
10.	Deep Transfer Learning & Beyond: Transformer Language Models in NLP	Not specified	Generative pre-training of a language model on unlabeled text	Not specified	Transformer models, language modeling, machine translation, discourse coherence	Significant improvements in natural language understanding tasks
11.	Integrating <a href="#">ChatGPT</a> into EFL Writing Instruction: Benefits and Challenges <a href="#">Baskara, F. R.</a>	Indonesia	Mixed Methods	University Students	<a href="#">ChatGPT</a>	Positive impact on students' English writing abilities, potential for generating authentic and credible material for social science subjects, limitations in accuracy for programs like IT, Math, and business
12.	Generative Artificial Intelligence and <a href="#">ChatGPT</a> in Language Learning: EFL Students' Perceptions of Technology Acceptance <a href="#">Anh Vo</a> and <a href="#">Huong</a>	Vietnam	Quantitative approach with a questionnaire	369 English-major students in Vietnam	<a href="#">ChatGPT</a>	Positive attitudes towards <a href="#">ChatGPT</a> in language learning, neutral opinions on usefulness, recommendation for balanced use with human interaction

13.	An Exploratory Study of EFL Learners' Use of <a href="#">ChatGPT</a> for Language Learning Tasks: Experience and Perceptions. <a href="#">Yangyu Xiao</a> , <a href="#">Yuying Zhi</a>	China	Qualitative Study (semi-structured interviews)	Five undergraduate students from diverse majors (Marketing, Translation, Data Science) at a Chinese university	<a href="#">ChatGPT 3.5</a>	<a href="#">ChatGPT</a> serves as a valuable learning partner, helps in completing language-related tasks, provides immediate feedback, and supports personalized learning experiences. Students exhibit critical judgment in evaluating and modifying <a href="#">ChatGPT</a> 's outputs, which offsets potential threats to academic integrity.
14.	The use of <a href="#">ChatGPT</a> in teaching and learning: a systematic review through SWOT analysis approach. <a href="#">Duong Thi Thuy Mai</a> , <a href="#">Can Van Da</a> , <a href="#">Nguyen Van Hanh</a>	Vietnam	Systematic Review	Not applicable	<a href="#">ChatGPT</a>	Strengths, Weaknesses, Opportunities, Threats
15.	Impact of the Implementation of <a href="#">ChatGPT</a> in Education: A Systematic Review. <a href="#">Marta Montenegro-Rueda</a> , <a href="#">José Fernández-Cerero</a> , <a href="#">José María Fernández-Batanero</a> , <a href="#">Eloy López-Meneses</a>	Spain	Systematic Review	12 studies from various countries	<a href="#">ChatGPT</a>	Positive impact on teaching-learning, need for teacher training
16.	<a href="#">ChatGPT</a> as a Tool for Developing Paraphrasing Skills Among ESL Learners. Various	Not specified	Experimental	ESL learners	<a href="#">ChatGPT</a>	Improved paraphrasing skills, increased engagement

17.	Exploring the Application of <a href="#">ChatGPT</a> to English Teaching in a Malaysia Primary School. <a href="#">Yihan Lou</a>	Malaysia	Qualitative Research	English teachers at a primary school in Malaysia	<a href="#">ChatGPT</a>	<a href="#">ChatGPT</a> aids in designing and preparing teaching content, improves teaching effectiveness and efficiency, addresses vocabulary and grammar difficulties, boosts student motivation and confidence
18.	Exploring Applications of <a href="#">ChatGPT</a> to English Language Teaching: Opportunities, Challenges, and Recommendations. <a href="#">Ilka Kostka</a> , <a href="#">Rachel Toncelli</a>	USA	Qualitative research	Not specified	<a href="#">ChatGPT</a>	Enhances teaching roles, supports instructional material creation, raises concerns on academic integrity
19.	The impact of <a href="#">ChatGPT</a> on foreign language teaching and learning: Opportunities in education and research. <a href="#">Wilson Cheong Hin Hong</a>	Macao, China	Literature review and discussion of anecdotal evidence	Not specified	<a href="#">ChatGPT</a> , <a href="#">OpenAI</a> , <a href="#">Google Translate</a> , <a href="#">Grammarly</a> , <a href="#">Quillbot</a> , <a href="#">Turn-it-in</a>	Enhanced teaching and assessment, personalized learning, authentic language use, ethical concerns
20.	A Study on Analyzing the Role of <a href="#">Chatgpt</a> in English	Not provided in the snippets	Not provided in the snippets	Not provided in the snippets	<a href="#">ChatGPT</a>	Personalized assistance, improved engagement, academic integrity challenges, need for strategic implementation
21.	A Study on the Utilization of <a href="#">OpenAI ChatGPT</a> as a Second Language Learning Tool. <a href="#">Sunyoung Kim</a> , <a href="#">Joobo Shim</a> , <a href="#">Jaechang Shim</a>	Korea	Case study using a virtual learner persona	Virtual learner persona (Korean Junior University student)	<a href="#">ChatGPT</a>	Enhanced learning experiences, facilitation of supportive learning environments, identification of areas for improvement

22.	CHATGPT IN ENGLISH ASA SECOND LANGUAGE EDUCATION: A REVIEW	Country X	Literature Review	Various studies	ChatGPT	Personalized Learning, Skill Improvement, Support Tool for Practicing Language, Immediate Feedback, Lesson Planning
23.	Integrating ChatGPT into English Language Education	Country Y	Mixed Methods	Teachers and Students	ChatGPT	Personalized Learning, Skill Improvement, Support Tool for Practicing Language, Immediate Feedback, Lesson Planning, Over-reliance on AI, Limitations in Understanding Context, Ethical Implications, Teacher and Student Perceptions
24.	Investigating the Implementation of ChatGPT in English Language Education: Effects on Student Motivation and Performance Levels. Mohammad Yusuf Afkarin, Candra Hadi Asmara	Indonesia	Mixed Methods	35 seventh-semester English education students	ChatGPT	Higher motivation and GPAs, Improved Comprehension, Independent Learning, Increased Academic Efficiency
25.	AI in the Foreign Language Classroom: A Pedagogical Overview of Automated Writing Assistance Tools Wael Alharbi	Saudi Arabia	Systematic review	Not specified	Automated Writing Evaluation tools, Automated Writing Corrective Feedback tools, AI-powered machine translators,	AI-powered writing assistance tools improve students' writing by offering human-like sentence completion, text generation, and immediate corrective feedback. These tools also face scrutiny regarding their impact on authentic learning and academic honesty.

Table 4 summarised the type of research method each of the articles used, countries the articles were published in, participants engaged in each study, ChatGPT and other AI-based tools used and the relevant impacts of the stated tools on the participants.

Table 4 also shows that numerous researches were conducted on a variety of AI-based tools to identify their influence on various users, mostly learners of languages. Artificial intelligence (AI) agents can improve L2 learners' communication and aid in the advancement of their speaking skills (Chen & Hwang 2020) as cited by Hanna (2022). In the field of English language education, technology-based learning is becoming more and more prevalent since it may intrigue and inspire learners while also giving them chances to further develop their language skills.

As shown in Table 4, in the column labelled 'Relevant impacts', using various tools for AI-based learning can benefit English language learners in a number of ways. Though a wide range of AI-based tools such as OpenAI, Quillbot, Grammarly, Google Translate, Elicit and etc were researched in the articles used, ChatGPT was the popular choice amongst the researchers. Nevertheless, students can improve their English language proficiency and have fun while studying using a variety of engaging options offered by AI-based learning on different platforms. In the 25 articles, several themes emerged when classifying the impacts of AI-based learning on students. Themes are recurring subjects or ideas identified through article analysis. These themes serve as the primary focus for discussing the positive aspects and effects of using an AI-based learning approach. The identified themes, including Improved Engagement and Motivation, Personalized Learning, Challenges and Concerns and Improved Writing Skills and the frequency of each theme being discussed in each article was recorded

**Table 5**

*Table shows the impacts of ChatGPT and other AI-driven tools in ESL teaching and learning synthesised from 25 articles. The impacts were categorised into four themes.*

<i>Articles</i>	<i>Author</i>	<i>Personalized Learning</i>	<i>Improved writing skills</i>	<i>Challenges and concerns</i>
<b>1</b>	<b>Cultivating writingskills: The role of ChatGPT as a learning assistant—a case study</b> Nermin Punar Özçelik, Gonca Yangın Ekşi	/		
<b>2</b>	<b>Artificial Intelligence in Global World: A Case Study of Grammarly as e-Tool</b> Sohaib Alam, MohammadUsama, Md Moshabbir Alam, Ismat Jabeen	/		

**3** An Intervention Study on the Use of Artificial Intelligence /

Multiple authors

**4** Benefits and Challenges in ESL Classroom /

Not explicitly mentioned

**5** Impact of ChatGPT on learning motivation /

J. K. M. Ali, M. A. A. Shamsan, T. A. Hezam, A. Mohammed

**6** AI in the Foreign Language Classroom: A Pedagogical Overview of Automated Writing Assistance Tools /

Wale Alharbi

**7** Challenges and Benefits in Software Programming for Higher Education /

**8** Benefits of integrating AI technology with English classroom / /

Shaojie Liu

**9** ChatGPT: Bullshit spewer or the end of /

	<b>traditional assessments in higher education?</b>	
	<b>Jürgen Rudolph, Samson Tan, Shannon Tan</b>	
<b>10</b>	<b>Deep Transfer Learning &amp; Beyond: Transformer Language Models in NLP</b>	/
<b>11</b>	<b>Integrating ChatGPT into EFL Writing Instruction: Benefits and Challenges</b>	/
	<b>Baskara, F. R.</b>	
<b>12</b>	<b>Generative Artificial Intelligence and ChatGPT in Language Learning: EFL Students' Perceptions</b>	/
	<b>Anh Vo &amp; Huong Nguyen</b>	
<b>13</b>	<b>An Exploratory Study of EFL Learners' Use of ChatGPT for Language Learning Tasks</b>	/
	<b>Yangyu Xiao, Yuying Zhi</b>	
<b>14</b>	<b>Duong Thi</b>	/
	<b>The use of ChatGPT in teaching and learning: a systematic review through SWOT analysis approach</b>	
	<b>Thuy Mai,</b>	

	<p>Can Van Da, Nguyen Van Hanh</p>
<p>15</p>	<p>Impact of the Implementation of ChatGPT in Education: A Systematic Review Marta Montenegro-Rueda, José Fernández-Cerero, José María Fernández-Batanero,</p>
<p>16</p>	<p>Eloy López-Meneses ChatGPT as a Tool for Developing Paraphrasing Skills Among ESL Learners</p>
<p>17</p>	<p>Exploring the Application of ChatGPT to English Teaching in a Malaysian Primary School Yihan Lou</p>
<p>18</p>	<p>Exploring Applications of ChatGPT to English Language Teaching: Opportunities, Challenges Ilka Kostka, Rachel Toncelli</p>
<p>19</p>	<p>The impact of ChatGPT on foreign language teaching and learning:</p>



**Opportunities in  
education**

**Wilson Cheong Hin  
Hong**

**20**

**A Study on Analyzing  
the Role of ChatGPT in  
English**

**Shim**

**Sunyoung Kim,  
Joobo Shim, Jaechang**

**/**

**21**

**A Study on the  
Utilization of OpenAI  
ChatGPT as a Second  
Language Learning  
Tool**

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**/a Second Language  
Education: A Review**

**ChatGPT in English as**

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**Investigating the  
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**/Implementation of**

**Mohammad Yusfi  
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Assistance Tools

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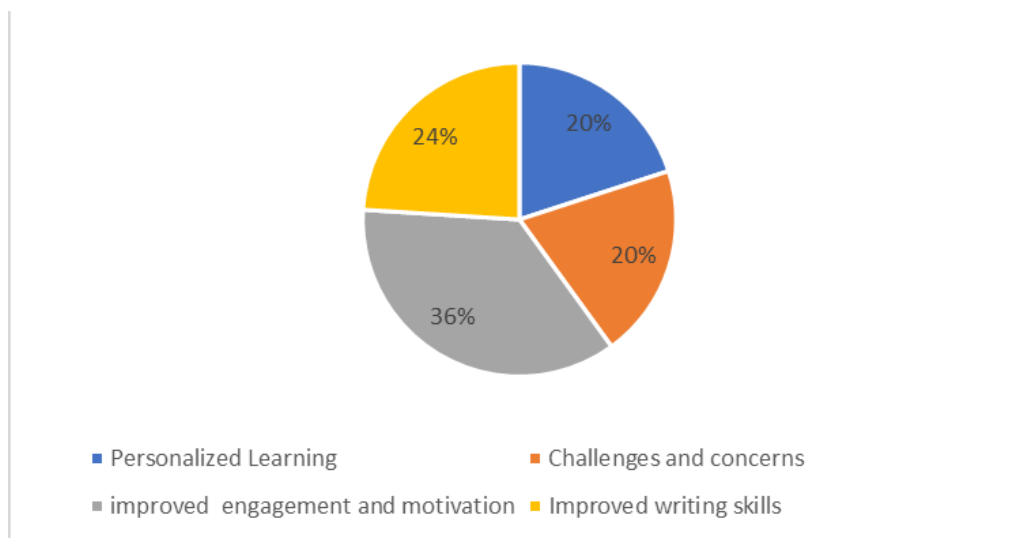


Figure 2: Figure shows the frequency of studies discussing the impacts of using ChatGPT and other AI-driven tools in ESL teaching and learning

Table 5 shows the list of articles studied in this systematic literature review and how frequently the four common themes emerged were discussed in the articles. Meanwhile, Figure 2 above shows the percentage of articles that have studied the four emerging themes. As mentioned earlier, improved engagement and motivation, personalized learning, challenges and concerns, and improved writing skills are the four main themes. Generally, the findings showed that improved engagement and motivation was the most recurrently discussed theme or impact. 9 out of 25 articles (36%) have actively highlighted how AI tools such as ChatGPT and Grammarly

enhance learners' engagement and motivation. Amongst the 9 articles, article *no.16* in particular has emphasised that ChatGPT has explicitly increased learner engagement, motivation, improved interaction in learning activities as well as enhanced participation of the students.

Next, the findings from the articles showed that improved writing skills had the second highest percentage (24%) as the impact of using ChatGPT and other AI-driven tools in ESL teaching and learning. This theme was identified in 6 articles, emphasising the benefits of AI tools in improving writing skills, including paraphrasing and formal writing. Article no.1 especially, stresses on how the use of ChatGPT impacts the learners with a better engagement with writing tasks and increased confidence in writing. A large language model (LLM) is a kind of machine learning system that is trained on a large corpus of text and learns on its own to produce sophisticated and presumably intelligent writing. ChatGPT is one such LLM (van Dis et al. 2023, as cited in (Punar Ozcelik & Yangın Eksi 2024). Hence, it is proven to have impacted the learners' improved writing skills.

In addition, the findings from the article showed that personalised learning and challenges and concerns are two themes which have a similar percentage (20%) where each theme was discussed in 5 out of 25 reviewed articles respectively. Although the theme 'Personalised Learning' was not candidly mentioned in the articles, it encompasses personalised education, individualised feedback and tailored learning experiences. Based on Peterson (2017, as cited in Xiao & Zhi 2023), technology gives learners a sense of agency and autonomy that lets them take control over their education. On the other hand, the theme 'Challenges and Concerns' focuses on various issues such as data privacy, ethical concerns, over-reliance on AI and academic integrity. According to Kelly (2023 as cited in Mai D.T.T et al 2023), many educators and educational institutions have raised concerns about ChatGPT's impacts on learners and the inherent risk of assignment cheating. These challenges show how crucial it is to have strong regulations and give significant thought to how to integrate ChatGPT and other AI-driven tools in a way that supports educational integrity and addresses ethical concerns effectively.

### **Conclusion**

This systematic literature review has reviewed 25 research papers that examined how learners responded to technology-based learning, especially AI-based teaching and learning in an evolving educational environment. The findings discovered that the impacts of using ChatGPT and AI-driven tools in ESL Teaching and Learning are improved engagement and motivation, personalised learning, improved writing skill and challenges and concerns. Thanks to AI, learning experiences for learners have been enhanced since learning materials can now be tailored and personalised to each learner's requirements and skills (Chen et al. 2020). Similarly, this systematic literature review has concluded that the use of ChatGPT and other AI-driven tools in classrooms has positively impacted ESL teaching and learning.

### **Recommendations**

These are few recommendations for future researchers who are interested to do further study in this area. Firstly, researchers should consider widening the range of articles and include research papers from diverse linguistic and cultural contexts in order to obtain more

comprehensive findings on the impact of using ChatGPT and other AI-based tools in teaching and learning. Besides, the reliability, validity and accuracy of this study could be enhanced by utilising a larger set of databases. Longitudinal studies must be carried out to understand the long-term impacts of using ChatGPT and other AI-based tools on learner engagement and learning. Policymakers and educators should work together to come up with guidelines and references to blend ChatGPT and other AI-based tools in language learning and teaching that optimizes its potential at the same time fixing its flaws. Finally, issues related to academic honesty and data privacy should be further deep dived in studying the impact of using ChatGPT and other AI-based tools in education.

### Limitations

There are few limitations while conducting this systematic review of the impacts of using ChatGPT and other AI-based tools in ESL teaching and learning. First of all, the articles used for this review are taken from the year of 2022 to 2023 which may not reflect the latest discoveries and developments in AI technology especially in the year 2024. Besides, this study was limited by the exploration of only three databases for research articles. This study could not access a larger dataset to review and analyze additional articles due to accessibility restrictions. Last but not least, viewpoints of educators especially teachers who have not been familiar with ChatGPT and other AI-based tools guidelines to be implemented in language learning may not be taken into account.

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