

The Use of ChatGPT in Academic Writing: A Systematic Literature Review of EFL and Higher Education Contexts

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Abstract

The rapid advancement of artificial intelligence (AI) technologies has significantly transformed higher education and English as a Foreign Language (EFL) learning, particularly in academic writing. Among the most influential recent developments is ChatGPT, an AI-powered chatbot developed by OpenAI that has increasingly been integrated into educational contexts to support writing, language learning, and research activities. Despite the growing body of literature on ChatGPT in education, limited systematic review studies have examined its role in academic writing among postgraduate TESOL students in Saudi Arabia. Therefore, this study aimed to systematically review the existing literature related to ChatGPT, academic writing, artificial intelligence, and EFL higher education contexts. The study was guided by the following research question: How do MA TESOL students in Saudi Arabia perceive the use of ChatGPT for academic writing, and what challenges are associated with its use?

The study adopted the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework to ensure transparency and methodological rigor. Relevant

studies were retrieved from Scopus, Web of Science, and Google Scholar. Following identification, screening, eligibility assessment, and quality evaluation procedures, 91 studies were included in the final synthesis. The findings revealed that ChatGPT supports EFL learners in improving grammar, vocabulary, coherence, idea generation, and organization of academic writing. The review also highlighted several challenges, including plagiarism, academic integrity concerns, overreliance on AI-generated content, misinformation, and reduced critical thinking. The study concludes that ChatGPT can effectively support academic writing when integrated responsibly within higher education environments.

Keywords: ChatGPT, academic writing, artificial intelligence, EFL learners, higher education

1. Introduction

The rapid advancement of artificial intelligence (AI) technologies has transformed numerous sectors, including higher education, language learning, and academic research. Among the most influential recent developments is ChatGPT, a large language model developed by OpenAI, which has attracted widespread attention because of its ability to generate human-like responses and assist users in a variety of academic and linguistic tasks. Since its public release in 2022, ChatGPT has increasingly been integrated into educational contexts, particularly in English as a Foreign Language (EFL) instruction and academic writing support (Sundar & Mok, 2023). The emergence of this technology has initiated extensive discussions concerning its pedagogical value, ethical implications, and impact on students' writing practices and learning experiences.

Academic writing is widely recognized as one of the most demanding skills for postgraduate students, especially for learners who use English as a second or foreign language. It requires mastery of linguistic accuracy, critical thinking, argument development, organization, coherence, and discipline-specific conventions (Hyland, 2019; Manchón & Matsuda, 2016). Researchers such as Swales (2001), Ferris (2009), and Hyland (2014) emphasize that academic writing extends beyond grammar and vocabulary to include the ability to communicate ideas effectively within scholarly communities. In addition, academic writing involves synthesizing knowledge, evaluating sources critically, and presenting evidence-based arguments within socially and academically accepted frameworks (Hyland & Hyland, 2019; Lea & Street, 1998). For Saudi EFL postgraduate students, these challenges become more complex because of linguistic, rhetorical, and genre-specific difficulties associated with writing in English (Al Mahmud & Rahman, 2023; Khadawardi, 2022). Previous studies conducted in the Saudi context indicate that postgraduate learners frequently struggle with academic vocabulary, source evaluation, argument construction, and maintaining an appropriate academic writing style (Ibrahim AlHashemi et al., 2017; Alharbi, 2019).

The integration of AI technologies into EFL education has introduced new opportunities for enhancing language learning and academic writing development. AI-powered tools provide learners with immediate feedback, adaptive learning experiences, personalized support, and interactive engagement (Hol & Aydin, 2020; Zhang, 2022). In EFL contexts, AI technologies have increasingly been recognized as valuable tools for improving learners' language proficiency, communication skills, and writing abilities (Moybeka et al., 2023; Sumakul et al., 2022). Within academic writing contexts, ChatGPT has demonstrated the ability to assist students in brainstorming ideas, improving grammar and coherence, organizing arguments, generating outlines, refining academic tone, and reducing writing anxiety (Huang & Tan, 2023; Giglio & Costa, 2023). For non-native English speakers, these capabilities are particularly beneficial because they help reduce linguistic barriers and support the writing process more efficiently (Amano et al., 2023; Hwang et al., 2023).

Several studies have highlighted the effectiveness of ChatGPT in supporting EFL learners through conversation practice, vocabulary development, reading comprehension, and writing

assistance (Abdaljaleel, 2024; Alrasheedi, 2023). ChatGPT has also been viewed as a collaborative educational tool capable of functioning alongside educators in facilitating learning experiences (Jeon & Lee, 2023). Furthermore, scholars such as Tseng and Warschauer (2023) argue that integrating AI tools into education may prepare students for future academic and professional environments where collaboration with AI technologies becomes increasingly necessary.

Despite these advantages, the growing reliance on ChatGPT in higher education has raised substantial concerns regarding academic integrity, plagiarism, ethical awareness, overdependence on AI-generated content, and the possible decline of students' creativity and critical thinking skills (Alrasheedi, 2023; Stepanechko & Kozub, 2023; Niloy et al., 2024). Scholars have argued that excessive dependence on AI-assisted writing tools may weaken students' engagement with the writing process and reduce opportunities for meaningful learning experiences (Barrot, 2023; Tseng & Warschauer, 2023). In addition, issues related to bias, misinformation, reliability, and the ethical implications of AI-generated responses continue to generate debate within educational institutions (Hasanein & Sobaih, 2023). Concerns have also been raised regarding students' potential loss of academic voice and originality due to superficial interaction with AI-generated texts (Wang, 2024).

Although previous studies have explored the effectiveness, opportunities, and challenges associated with ChatGPT in educational settings, limited attention has been directed toward postgraduate TESOL students in Saudi Arabia. Existing research within the Saudi context has primarily focused on undergraduate learners and general EFL populations rather than MA TESOL students who engage intensively in academic writing and research activities (Alharbi, 2019; Ali & Zayid, 2022). Moreover, limited systematic review studies have synthesized the existing literature concerning postgraduate students' perceptions of ChatGPT and the challenges associated with its use in academic writing. Therefore, the current study seeks to address this gap by systematically reviewing the literature related to ChatGPT, academic writing, artificial intelligence, and EFL higher education contexts.

This study adopted the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework to ensure transparency, methodological rigor, and systematic synthesis of the existing literature (Page et al., 2021). Through a systematic review, the research examines the opportunities, pedagogical value, ethical implications, and challenges associated with the use of ChatGPT in academic writing among EFL learners, with particular emphasis on MA TESOL students in Saudi Arabia.

The significance of this study is both theoretical and practical. Theoretically, the study contributes to the growing body of literature on AI-assisted learning and academic writing by examining ChatGPT through the lens of constructivist learning theory and Vygotsky's concept of the More Knowledgeable Other (MKO). The study extends current discussions concerning how AI technologies can function as supportive educational tools that facilitate scaffolding, learner autonomy, and knowledge construction in academic writing contexts. In addition, it contributes to second-language writing research by exploring how postgraduate EFL learners interact with AI technologies during the writing process.

Practically, the findings of this review may benefit postgraduate students, TESOL instructors, curriculum designers, policymakers, and higher education institutions in Saudi Arabia. The study may provide guidance regarding the ethical and effective integration of ChatGPT into academic writing instruction while maintaining academic integrity and promoting critical thinking skills. Furthermore, the findings may assist educational institutions in developing policies and instructional frameworks that regulate the responsible use of AI technologies in academic environments. The current review is guided by the following central research question: How do MA TESOL students in Saudi Arabia perceive the use of ChatGPT for academic writing, and what challenges are associated with its use?

2. Materials and Methods

Systematic review studies are methodological approaches that utilize structured database searches to collect, evaluate, and synthesize previous research findings related to a specific topic or research problem. Unlike narrative reviews, which mainly provide descriptive summaries of existing knowledge without a clearly reproducible methodology, systematic reviews follow rigorous and transparent procedures that allow the review process to be replicated and verified by other researchers (Green et al., 2006; Grant & Booth, 2009). According to Robinson and Lowe (2015), conducting systematic reviews is essential for minimizing reviewer bias and improving the reliability and quality of research synthesis. Therefore, the current study attempts to contribute to the growing body of literature by conducting a systematic review of studies related to ChatGPT, artificial intelligence, academic writing, EFL learning, and higher education contexts, with particular emphasis on MA TESOL students in Saudi Arabia.

An effective systematic review involves several fundamental stages, including planning, conducting, evaluating, and reporting the review through an organized and transparent process. Such reviews rely on comprehensive database searches and rigorous selection procedures that enable other researchers to reproduce similar findings (Moher et al., 2009). Furthermore, systematic reviews utilize clearly defined inclusion and exclusion criteria, quality assessment procedures, and structured analytical frameworks to ensure methodological rigor and reliability. Despite the growing body of literature concerning artificial intelligence and ChatGPT in education, limited systematic review studies have synthesized the existing research related to postgraduate TESOL students' perceptions of ChatGPT and the challenges associated with its use in academic writing within the Saudi higher education context. Consequently, there remains a need for a comprehensive and systematic synthesis of the available literature to better understand the opportunities, benefits, and challenges associated with AI-assisted academic writing.

The current systematic review is guided by the following central research question: "How do MA TESOL students in Saudi Arabia perceive the use of ChatGPT for academic writing, and what challenges are associated with its use?" Accordingly, this study aims to address an important gap in the literature by systematically reviewing previous studies related to ChatGPT, academic writing, EFL learning, and artificial intelligence in higher education. The review seeks to provide a comprehensive understanding of the pedagogical value, ethical

implications, opportunities, and challenges associated with the use of ChatGPT in academic writing among postgraduate EFL learners. In addition, the study synthesizes empirical and theoretical contributions related to AI-assisted writing and highlights areas that remain underexplored in the literature, particularly within Saudi postgraduate TESOL contexts.

2.1 PRISMA

This systematic review followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, which provide a standardized framework to improve transparency, completeness, and methodological rigor in systematic reviews (Page et al., 2021). The use of PRISMA helps ensure that findings are reported clearly and consistently, thereby reducing the risk of bias and misinterpretation throughout the review process (Moher et al., 2009). Although originally developed for health research, PRISMA has been increasingly applied across diverse fields, including education, linguistics, and social sciences, where systematic syntheses are essential for evidence-based decision-making (Haddaway et al., 2018).

To further enhance reliability and methodological transparency, the current study adopted a structured and replicable review process guided by PRISMA principles. The framework was utilized throughout all stages of the review, including identification, screening, eligibility assessment, quality evaluation, and synthesis of studies related to ChatGPT, artificial intelligence, academic writing, EFL learning, and higher education. Applying the PRISMA framework contributed to minimizing selection bias and improving the credibility and consistency of the review findings. Furthermore, the framework supported the systematic organization and analysis of the included studies, thereby ensuring transparency and replicability throughout the review process. The protocol is publicly accessible via the INPLASY database and archived with the International DOI Foundation (<https://doi.org/10.37766/inplasy2022.5.0103>, accessed 1 May 2026), thereby ensuring transparency and replicability.

2.1.1 Resources

A comprehensive electronic literature search was conducted using major academic databases, including Scopus, Web of Science (WoS), and Google Scholar, to ensure broad coverage of both international and regional studies related to ChatGPT, artificial intelligence, academic writing, EFL education, and higher education contexts. Scopus served as the primary database for this review because of its extensive coverage of peer-reviewed journals across disciplines such as education, linguistics, artificial intelligence, psychology, and social sciences, which are directly relevant to the current study. The database includes thousands of high-quality indexed journals and provides access to recent empirical studies examining the use of AI technologies in educational environments.

The second database, Web of Science (WoS), was used to retrieve influential and high-impact studies related to academic writing, EFL learning, educational technology, and AI-assisted instruction. Managed by Clarivate Analytics, WoS offers multidisciplinary coverage and a strong citation indexing system that enabled the identification of foundational and

contemporary research related to ChatGPT and academic writing in higher education.

In addition to these international databases, Google Scholar was utilized to capture grey literature, conference proceedings, reports, and recently published studies that may not yet be indexed in traditional databases. This was particularly important because ChatGPT and generative artificial intelligence represent rapidly emerging research areas characterized by continuously evolving scholarly discussions.

This combined search strategy enabled the current review to integrate both international and regional scholarship, thereby providing a comprehensive understanding of the use of ChatGPT in academic writing among EFL learners. Through this approach, the review synthesized evidence from 91 studies addressing students’ perceptions, pedagogical opportunities, ethical concerns, and challenges associated with AI-assisted academic writing in higher education settings.

2.1.2 Systematic Review Process

The systematic review process consists of three key stages: identification, screening, and eligibility (see Figure 1).

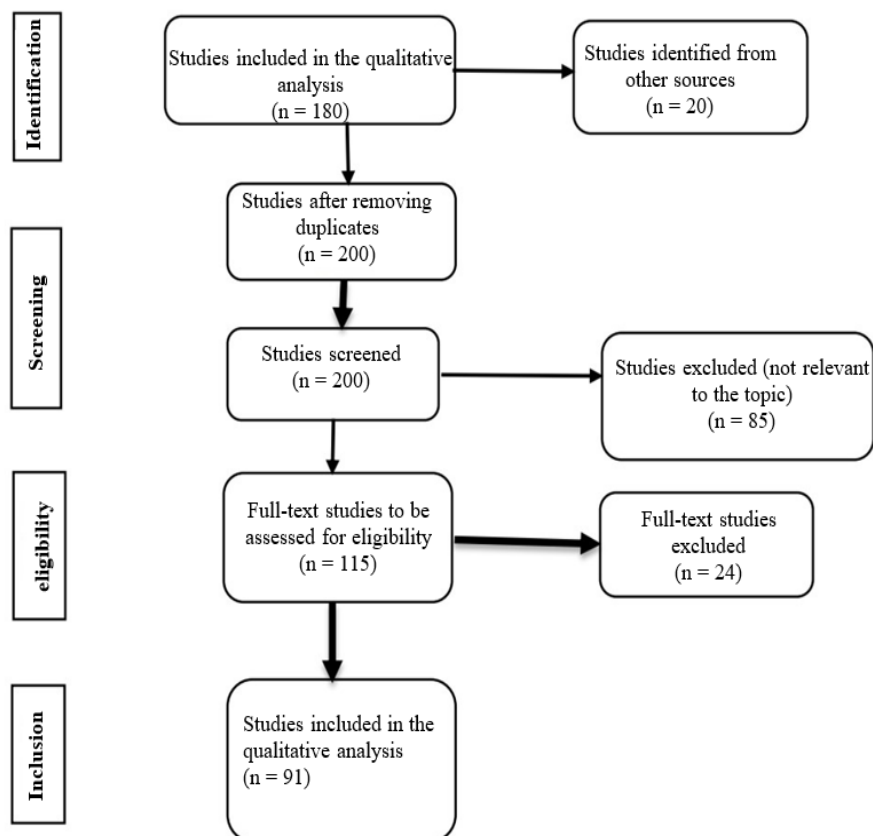


Figure 1. PRISMA (Preferred reporting items for systematic reviews and meta-analyses)

2.1.3 Identification

In the initial phase, relevant keywords for the search process were carefully identified in both English and Arabic to ensure comprehensive coverage of international and regional scholarship related to ChatGPT, artificial intelligence, academic writing, EFL learning, TESOL students, and higher education. This stage involved identifying synonyms, related terms, and variations of the major concepts, including “ChatGPT,” “Generative AI,” “Artificial Intelligence,” “AI-assisted writing,” “academic writing,” “EFL learners,” “TESOL students,” and “higher education,” in order to broaden the scope of the search and maximize the retrieval of relevant studies.

The keyword selection process was guided by the central research question: “How do MA TESOL students in Saudi Arabia perceive the use of ChatGPT for academic writing, and what challenges are associated with its use?” The search strategy was further refined through the review of related literature, database-generated keyword suggestions from Scopus and Web of Science, and previously utilized terms in studies examining AI-assisted writing and EFL education.

The finalized search strategy incorporated Boolean operators, phrase searching, truncation symbols, wildcard symbols, and field-specific search codes. The complete search strings applied across Scopus, Web of Science, Google Scholar, and Arabic databases are presented in Table 1.

Table 1. Research strings used in database searches

Database	Search String (Boolean Operators, Keywords, Truncation)	Filters Applied
Scopus	(“ChatGPT” OR “Generative AI” OR “Artificial Intelligence” OR “AI-assisted writing”) AND (“academic writing” OR “EFL writing” OR “TESOL students” OR “higher education”)	Years: 2017–2025; Language: English; Subject Areas: Education, Linguistics, Social Sciences, Computer Science
Web of Science (WoS)	TS=(“ChatGPT” OR “Artificial Intelligence” OR “Generative AI”) AND TS=(“academic writing” OR “EFL learners” OR “higher education”)	Timespan: 2017–2025; Language: English
Google Scholar (International)	allintitle: (“ChatGPT” OR “AI in education”) AND (“academic writing” OR “EFL” OR “higher education”)	Years: 2017–2025; First 200 results screened
Google (General Web Search)	“ChatGPT” + “academic writing” + “Saudi Arabia” / “EFL learners” (in English and Arabic)	Grey literature, reports, conference proceedings, dissertations
Arab Citation & Indexing Database (ArabBase / e-Marefa / Dar Al Mandumah)	(“ChatGPT” OR “Artificial Intelligence”) AND (“academic writing” OR “EFL learning” OR “higher education”)	Years: 2017–2025; Arabic and English

Accordingly, search strings for Scopus, Web of Science, Google Scholar databases were developed after identifying all relevant keywords in both English and Arabic. These databases were selected because of their advanced search functionalities, multidisciplinary coverage, and extensive indexing of peer-reviewed literature related to artificial intelligence, academic writing, EFL education, and higher education research.

The initial search process retrieved 200 studies from the selected databases. These studies formed the preliminary dataset for the systematic review and proceeded to the screening stage for further evaluation according to the inclusion and exclusion criteria.

2.1.4 Screening

The second stage of the systematic review process involved screening the records retrieved during the identification stage. In total, 200 studies were identified through database searches conducted across Scopus, Web of Science, Google Scholar, and selected Arabic databases.

During the screening stage, all retrieved records were reviewed based on their titles and abstracts to determine their relevance to the objectives of the current study. Studies were excluded if they were unrelated to ChatGPT, artificial intelligence in education, academic writing, EFL learning, or higher education contexts. In addition, studies that lacked relevance to the central research question, duplicated previously identified records, or focused on unrelated technological applications were removed.

As a result of the screening process, 85 studies were excluded because they did not meet the inclusion criteria or lacked sufficient relevance to the scope of the review. Consequently, 115 studies remained and proceeded to the eligibility stage for full-text assessment.

Table 2. Inclusion and exclusion criteria

Criteria	Included Studies	Excluded Studies
Document Type	Empirical research articles and systematic review studies	Conference abstracts, book chapters, editorials, and non-scholarly articles
Language	English publications	Publications in languages other than English.
Study Focus	ChatGPT, artificial intelligence, academic writing, EFL learning, higher education, TESOL students	Studies unrelated to AI-assisted writing, EFL education, or academic writing
Methodology	Empirical, theoretical, and systematic review studies with clear methodology	Studies with unclear methodology or insufficient academic relevance
Context	Higher education, EFL, TESOL, and academic writing contexts	Studies unrelated to educational or academic writing contexts

2.1.5 Eligibility

At this stage, the full texts of 115 studies were retrieved and carefully reviewed in detail. Each study was examined to verify its alignment with the established inclusion criteria, with

particular focus on studies investigating ChatGPT, AI-assisted academic writing, EFL learners, postgraduate education, and challenges associated with the use of artificial intelligence in higher education contexts. The evaluation process involved examining the title, abstract, methodology, findings, and overall relevance of each study to the objectives of the current review and the central research question. Studies were excluded if they lacked a clear focus on academic writing, did not address ChatGPT or artificial intelligence in educational settings, provided insufficient methodological detail, or presented findings unrelated to EFL or higher education contexts. As a result of the eligibility assessment, 5 studies were excluded due to insufficient relevance or methodological limitations. Consequently, 110 studies met the eligibility requirements and proceeded to the quality assessment stage, as illustrated in the PRISMA flow diagram.

2.1.6 Quality Assessment

To ensure the credibility, reliability, and methodological rigor of the included studies, a quality assessment process was conducted for all eligible articles. The evaluation focused on several criteria, including clarity of research objectives, appropriateness of the methodology, sample adequacy, validity and reliability of instruments, transparency of findings, and overall methodological quality. The assessment process also considered the extent to which each study contributed meaningful evidence related to ChatGPT, academic writing, EFL learning, and higher education contexts. Studies with weak methodological design, insufficient empirical evidence, lack of clarity in findings, or limited relevance to the objectives of the current review were identified during this stage. As a result of the quality assessment process, 19 studies were excluded because they did not meet the required quality standards for inclusion in the final synthesis. Consequently, 91 studies were retained for the final systematic review and qualitative synthesis. Therefore, the final sample of the current review consisted of 91 studies that met all inclusion, eligibility, and quality assessment criteria. These studies constituted the final body of literature used to examine MA TESOL students' perceptions of ChatGPT, its pedagogical value in academic writing, and the ethical and educational challenges associated with AI-assisted writing in EFL higher education contexts.

2.1.7 Data Extraction and Analysis

Following the quality assessment, the remaining studies underwent a systematic data extraction process to capture essential details such as author(s), year of publication, study context, research objectives, methodology, major themes, and principal findings related to ChatGPT, artificial intelligence, academic writing, EFL learning, and higher education. This process ensured consistency across the reviewed studies and facilitated effective comparison and synthesis of the literature. Once the data had been extracted, a thematic synthesis approach was employed, consistent with the integrative review method proposed by Whittemore and Knafl (2005). Through iterative analysis and careful examination of the reviewed literature, patterns, similarities, and differences across the studies were identified and categorized into major themes and sub-themes.

The thematic analysis revealed several dominant themes related to the current study. These themes included academic writing challenges among EFL learners, the pedagogical role of

ChatGPT in academic writing, the integration of artificial intelligence in EFL education, students' perceptions of ChatGPT, ethical concerns associated with AI-assisted writing, and the impact of ChatGPT on critical thinking, creativity, and learner autonomy. Additional sub-themes emerged, including grammar and vocabulary enhancement, academic integrity, plagiarism concerns, learner motivation, adaptive learning, writing anxiety reduction, and the role of ChatGPT as a "More Knowledgeable Other" (MKO) within constructivist learning environments.

Each theme and sub-theme was carefully defined and organized to ensure alignment with the central research question: "How do MA TESOL students in Saudi Arabia perceive the use of ChatGPT for academic writing, and what challenges are associated with its use?" The synthesis process provided a comprehensive analytical framework that facilitated interpretation of the findings and identification of gaps, opportunities, and challenges within the existing literature.

Table 3. Researched articles

Author & Date	Objective	Focus
Abdaljaleel et al. (2024)	Examine factors influencing university students' attitudes toward ChatGPT	Students' perceptions and acceptance of ChatGPT
Abkar Alkodimi & Al-Ahdal (2021)	Investigate writing instruction strategies in Saudi universities	Academic writing pedagogy
Ahmed (2023)	Explore the role of ChatGPT in Saudi EFL classrooms	ChatGPT integration in EFL
Aina & Joshua (2024)	Examine the impact of ChatGPT on higher education learning	AI in higher education
Ajlouni et al. (2023)	Investigate students' attitudes toward ChatGPT	Student acceptance of AI tools
Al Mahmud & Rahman (2023)	Explore academic writing challenges among Saudi graduate students	Saudi postgraduate academic writing
Albahiri & Alhaj (2020)	Examine technology integration in EFL classrooms	Technology-enhanced EFL learning
Albayati (2024)	Investigate perceptions and awareness of ChatGPT use	User acceptance of ChatGPT
Alhammad (2024)	Examine ChatGPT's role in literature appreciation	ChatGPT in Saudi EFL learning
Alharbi (2019)	Explore Saudi students' academic writing challenges	EFL academic writing difficulties
Ali (2023)	Investigate benefits and challenges of ChatGPT	Opportunities and risks of ChatGPT
Ali et al. (2023)	Examine ChatGPT's effect on learning motivation	Motivation and AI-assisted learning
Ali & Zayid (2022)	Identify research writing difficulties among Saudi students	L2 research writing challenges
Aljabr (2023)	Examine Saudi learners' awareness of ChatGPT	AI awareness in EFL
Aljindan et al. (2023)	Investigate ChatGPT performance in medical licensing exams	AI accuracy in education
Alkhaaldi et al. (2023)	Explore medical students' perceptions of ChatGPT	Student experiences with AI
Alqasham (2023)	Examine ChatGPT use patterns among Saudi EFL learners	AI-supported learning optimization
Alrasheedi (2023)	Investigate ethical awareness regarding ChatGPT use	Ethics and academic integrity

Author & Date	Objective	Focus
Alshahrani (2023)	Explore ChatGPT in blended learning	AI-supported blended learning
Alsied & Ibrahim (2017)	Explore challenges faced by EFL learners in writing	EFL writing challenges
Amano et al. (2023)	Investigate difficulties of non-native English scholars	Linguistic barriers in academia
Barrot (2023)	Examine ChatGPT's potentials and pitfalls in writing	AI-assisted second-language writing
Bhatia (2014)	Analyze genre in professional communication	Genre analysis in academic writing
Črček & Patekar (2023)	Explore university students' use of ChatGPT	AI use in higher education writing
Dudley-Evans (1995)	Discuss approaches to academic writing instruction	Academic writing pedagogy
Ferris (1995a)	Examine self-correction among ESL students	ESL writing correction
Ferris (1995b)	Explore self-editing strategies in writing	Writing revision skills
Ferris (2009)	Discuss teaching writing to diverse learners	Academic writing instruction
Ghorashi et al. (2023)	Investigate AI chatbots in medical education	Educational AI applications
Giglio & Costa (2023)	Explore AI for improving scientific writing	Non-native academic writing support
Guo et al. (2022)	Examine chatbots in argumentative writing	AI scaffolding in EFL writing
Hanauer et al. (2019)	Investigate linguistic injustice in research writing	Challenges for L2 researchers
Hasanein & Sobaih (2023)	Explore drivers and consequences of ChatGPT use	Higher education AI adoption
Hatmanto & Sari (2023)	Examine ChatGPT in English teaching	AI-supported language teaching
Hedge (2014)	Explain language teaching and learning processes	Academic writing process
Hol & Aydin (2020)	Investigate teachers' beliefs about technology	Technology integration in EFL
Holmes et al. (2019)	Explore AI promises in education	Artificial intelligence in learning
Huang & Tan (2023)	Investigate ChatGPT in scientific communication	AI-supported academic writing
Hwang et al. (2023)	Examine ChatGPT for non-native researchers	AI support for EFL scholars
Hyland (2014)	Discuss English for academic purposes	EAP foundations
Hyland (2019)	Examine second-language writing	L2 academic writing
Hyland & Hyland (2019)	Explore feedback in second-language writing	Writing feedback practices
Ibrahim AlHashemi et al. (2017)	Examine TESOL students' writing needs	Saudi postgraduate writing needs
Imran & Almusharraf (2023)	Conduct systematic review on ChatGPT in writing	AI writing assistant research
Irvin (2010)	Define academic writing	Nature and functions of AW
Jamal et al. (2023)	Explore ChatGPT integration in medical education	Curriculum adaptation to AI
Jeon & Lee (2023)	Examine collaboration between teachers and ChatGPT	Human-AI interaction in education
Khadawardi (2022)	Explore Saudi learners' perceptions of AW challenges	Academic writing difficulties
Khuder & Harwood (2015)	Investigate L2 writing processes	Writing process analysis
Koka et al. (2023)	Explore linguistic changes in Saudi social media	Language and digital communication
Kroll (1990)	Discuss second-language writing	Foundations of L2 writing
Labaree (2009)	Define academic writing style	Scholarly writing conventions

Author & Date	Objective	Focus
Lea & Street (1998)	Explore academic literacies approach	Academic writing literacy
Leleparý et al. (2023)	Examine GPT opportunities and challenges	AI in language learning
Lesia Viktorivna et al. (2022)	Explore fears related to AI in language learning	AI concerns in education
Levy & Ransdell (2013)	Discuss theories and methods of writing	Writing as cognitive process
Lin & Morrison (2021)	Explore postgraduate academic writing challenges	Engineering and L2 writing
Manchón (2009)	Examine writing in foreign language contexts	Foreign language writing
Manchón & Matsuda (2016)	Discuss second and foreign language writing	L2 writing development
Matsuda (1998)	Situate ESL writing cross-disciplinarily	ESL writing research
Maxwell-Reid & Kartika-Ningsih (2020)	Examine L2 argumentative writing	Academic discourse structure
Mohammed et al. (2023)	Explore ChatGPT use among Arab postgraduates	AI use in postgraduate education
Mohsen (2021)	Compare L1 and L2 writing processes	Writing process research
Moybeka et al. (2023)	Explore AI implications for EFL motivation	AI and learner motivation
Niloy et al. (2024)	Investigate ChatGPT's effect on creativity	AI and creative writing
Ortega (2020)	Discuss English dominance in science	Linguistic inequality
Piaget (2013)	Explain constructivist learning theory	Cognitive constructivism
Polypörtis & Pahos (2024)	Explore students' adoption of ChatGPT	Technology acceptance
Putra et al. (2023)	Examine ChatGPT and higher-order thinking	Critical thinking and AI
Sobaih et al. (2024)	Investigate ChatGPT acceptance in Saudi universities	AI adoption in Saudi higher education
Stepanechko & Kozub (2023)	Explore teachers' ethical concerns about ChatGPT	Ethics and AI use
Stojanov (2023)	Examine ChatGPT as a More Knowledgeable Other	Constructivist perspective
Su et al. (2023)	Investigate collaboration with ChatGPT in writing	Argumentative writing and AI
Sumakul et al. (2022)	Explore AI in EFL classrooms	Opportunities and threats of AI
Sun & Hoelscher (2023)	Discuss educational implications of ChatGPT	Faculty adaptation to AI
Sundar & Mok (2023)	Explain ChatGPT and its functions	Overview of ChatGPT
Suraworachet et al. (2023)	Explore analytics feedback in writing	Feedback and student engagement
Švab et al. (2023)	Discuss AI challenges in publications	Academic publishing and AI
Swales (2001)	Examine EAP linguistic research	Academic discourse
Swales (2014)	Explore genre analysis in research settings	Genre-based writing
Torrance & Thomas (1994)	Examine doctoral writing development	Postgraduate writing skills
Tseng & Warschauer (2023)	Explore AI-writing tools in education	AI-human collaboration
Vygotsky (2012)	Explain sociocultural learning theory	Zone of Proximal Development
Wang (2024)	Explore students' AI-assisted writing experiences	Generative AI in writing
Wang & Calyano (2015)	Examine ethics education and gender	Ethical judgment
Wen-Chi & Škultéý (2023)	Explore ChatGPT in English learning	AI-supported language interaction
Widdowson (1978)	Discuss language as communication	Writing and communication
Woolston & Osório (2019)	Examine challenges for non-native researchers	English dominance in academia
Zhang (2022)	Explore technology-based education in EFL	Educational technology
Zhao et al. (2024)	Examine digitization of writing through ChatGPT	AI and digital writing transformation

3. Results and Discussion

This section presents and discusses the findings derived from the systematic review of the selected studies concerning academic writing, artificial intelligence, and the use of ChatGPT in EFL and higher education contexts. The reviewed literature reveals a growing scholarly interest in examining how AI-powered technologies influence academic writing practices, language learning experiences, and pedagogical approaches within higher education institutions. Through the PRISMA-guided review process, the included studies provided comprehensive insights into the opportunities, benefits, and challenges associated with integrating ChatGPT into academic writing instruction, particularly for EFL learners and postgraduate students.

The findings of the reviewed studies indicate that academic writing remains one of the most complex skills for postgraduate learners because it requires linguistic competence, critical thinking, argument construction, coherence, organization, and discipline-specific conventions. Within EFL contexts, these challenges become more pronounced for non-native English speakers, including Saudi postgraduate students, who frequently encounter difficulties related to vocabulary selection, source evaluation, rhetorical organization, and maintaining an appropriate academic style. At the same time, the emergence of AI technologies and ChatGPT has introduced new possibilities for supporting learners through personalized feedback, writing assistance, language enhancement, and interactive learning experiences.

The reviewed studies further demonstrate that ChatGPT has increasingly been perceived as a supportive educational tool capable of improving students' writing performance, reducing writing anxiety, and facilitating idea generation and language development. Nevertheless, the literature also highlights major concerns associated with the use of ChatGPT in academic writing, including plagiarism, academic dishonesty, overreliance on AI-generated content, ethical challenges, misinformation, and the potential decline of students' creativity and critical thinking abilities.

Accordingly, the discussion is organized into several thematic sections that reflect the major trends identified in the reviewed literature. These themes include academic writing for graduate students, academic writing in the Saudi context, the role of technology and AI in EFL education, the pedagogical role of ChatGPT in academic writing, previous studies on AI-assisted writing tools, and the ethical and educational challenges associated with the use of ChatGPT in higher education contexts.

3.1 Academic Writing for Graduate Students.

Academic writing has captured the interest of numerous researchers, including Dudley-Evans (1995), Ferris (2009), Hyland (2014), Matsuda (1998), and Swales (2001), among others. These scholars have approached academic writing from various perspectives. For instance, Swales (1990) and Bhatia (2014) focused on genres, while Ferris (1995a & b) delved into feedback.

Regarding the purposes of academic writing, Torrance et al. (1994) described it as a “complex combination” involving the generation and selection of ideas to create a coherent

text. Torrance et al. (1994) assert that the primary purpose of academic writing is to contribute to new knowledge. Irvin (2010) contends that academic writing serves to “demonstrate knowledge and proficiency with certain disciplinary skills of thinking, interpreting, and presenting”. In this definition, Irvin emphasizes the importance of understanding the audience and their expectations for achieving success in writing tasks.

Academic writing, therefore, serves as a platform for knowledge dissemination, collaboration, problem-solving, and cultural preservation. It involves contextualizing ideas, synthesizing existing scholarship, and presenting arguments based on evidence rather than personal preconceptions. By adhering to these principles, writers contribute to the ongoing scholarly conversation and advance our understanding of various subjects.

According to Widdowson (1978), writing involves creating accurate sentences that can be transcribed onto paper with proper grammar. While Widdowson (1978) emphasizes the linguistic aspect and considers writing as encoding spoken language using written symbols, this perspective does not fully address the multifaceted nature of writing, which extends beyond mere grammatical knowledge to effectively express ideas on paper.

Similarly, Levy and Randsell (2013) characterize writing as a sophisticated endeavor. They highlight that writers engage in a multifaceted process, transforming abstract ideas into coherent text. This process involves not only crafting sentences but also addressing organizational structure, mechanics, and overall effectiveness. The intricate nature of writing necessitates cognitive efforts to produce a meaningful and well-constructed piece of written work.

According to Labaree (2009), Academic Writing refers to “a style of expression that researchers use to define the intellectual boundaries of their disciplines and their specific areas of expertise...designed to convey agreed meaning about complex ideas or concepts for a group of scholarly experts”.

English academic writing (AW) presents a challenge for writers, particularly for English as a foreign language (EFL) writers. It is a process that demands certain strategies to compose a well-written piece of writing that can be categorized as academic. The composition process, as outlined by Hedge (2014), encompasses a number of stages, including goal definition, idea generation, information organization, language selection, drafting, and critical evaluation through reading, reviewing, revising, and editing. Several scholars define academic writing as the construction of well-organized sentences within paragraphs to convey specific ideas (Hyland, 2019; Kroll, 1990; Manchon & Matsuda, 2016). Hyland and Hyland (2019) emphasize the social context of writing, arguing that it can only be fully understood within a societal framework, not solely from an individual perspective. Manchon and Matsuda (2016) and Lea and Street (1998) highlight the critical role of information literacy in academic writing. Learners must locate and assess relevant sources to structure their arguments and integrate their own perspectives to develop a distinct voice. Since academic writing arises from the author’s cognitive processes, it is essentially a mental activity (Manchon, 2009). Considering these diverse perspectives, it can be inferred that academic writing is a multifaceted endeavor, that demands not only a profound understanding from educators but

also the development of specific skills by learners.

3.2 Academic Writing Studies in Saudi Context

For Saudi postgraduate students, developing strong academic writing skills is essential, as these skills are a key factor in achieving success not only in their current studies but also in their future endeavors. Within higher education, students are required to have advanced communication skills, particularly in critical analysis and constructing arguments. This involves grasping the nuanced vocabulary relevant to their academic field. Furthermore, students must adopt a formal and complex writing style characteristic of academic discourse. Despite the arguments proposed by (Hyland, 2016; Maxwell-Reid & Kartika-Ningsih, 2020) that the challenges that L1 writers face in their English academic writing is similar to the L2 writers. Other researchers, however, insist that L2 writers face greater challenges when it comes to academic writing (Alsied & Ibrahim, 2017; Hanauer, Sheridan, & Englander, 2019; Lin & Morrison, 2021). Several studies investigated the challenges that postgraduate students face with academic writing. According to Al Mahmud and Rahman (2023), Saudi graduate students face linguistic, rhetorical, and genre-specific problems. The most significant difficulty lay in translating complex information into clear and syntactically sophisticated sentences. In addition, they argue that Saudi postgraduate students face difficulty in creating their research arguments, which in turn made them feel less confident in their abilities to evaluate sources and write literature reviews. Khadawardi (2022) Argues that Saudi learners find AW challenging, especially when they have to use English AW terminology and finding appropriate sources. These findings are consistent with (Ibrahim AlHashemi et al., 2017) who note that Saudi postgraduate students face difficulties in choosing field related vocabulary.

3.3 The Role of Technology in EFL Education

The use of technology in teaching methods has brought about revolutionary shifts throughout history, and language instruction is no exception. With the introduction of digital technologies, traditional methods once limited to textbooks and classroom interactions - have changed, changing the field of language learning experiences (Zhang, 2022). The area of language education is dynamic and always changing to meet the demands of learners. As a result, technology has been gradually included into pedagogical techniques to improve their effectiveness. Technology has emerged as a vital ally in the field of teaching English as a foreign language (EFL), providing opportunities for teachers and students to investigate cutting-edge approaches. This shift, from traditional pedagogies to a more dynamic and technologically advanced approach, is nicely captured by Zhang (2022).

Artificial Intelligence (AI) stands out among the many technical developments as a powerful force that has the potential to transform EFL training. Through personalized, flexible, and engaging learning experiences that accommodate different learning preferences, artificial intelligence (AI) adds a fresh perspective to language acquisition (Hol & Aydin, 2020). Personalized learning experiences have a lot of potential, particularly when it comes to meeting the various requirements and preferences of English as a foreign language learner. AI's capacity to provide real-time feedback, adaptive learning pathways, and personalized material delivery has the potential to completely transform EFL training. AI-driven solutions,

in contrast to conventional techniques, are able to assess each learner's unique learning patterns, pinpoint strengths and shortcomings, and dynamically modify the learning path to maximize results (Albahiri & Alhaj, 2020). This flexibility allows for the different rates at which language learners advance, guaranteeing that every student gets individualized attention, which is an essential component of EFL instruction.

AI technologies' interactive features make language learning even more enjoyable. A dynamic and engaging environment is created by conversational bots, language processing algorithms, and virtual instructors, which encourage active engagement and the development of language skills (Zhang, 2022). This change in emphasis from passive receipt to active participation is consistent with modern educational philosophies that prioritize learner-centered methodologies. But as AI integration in EFL teaching picks up steam, it is critical to find a balance between welcoming innovation and resolving any possible drawbacks.

3.4 AI in EFL Education

The introduction of AI into EFL classrooms signals a new period of revolutionary change, one that will be characterized by breakthroughs that guarantee better education. In recent years, AI applications have become more popular, drawing the attention of educators who are excited about the possibility of a paradigm shift in the way we educate. In order to accommodate a variety of learning styles, AI may provide immediate feedback, adaptive learning pathways, and individualized information (Moybeka et al., 2020). The widespread educational environment has seen an upsurge in investigation due to the attraction of such technological breakthroughs.

With the introduction of AI, EFL classrooms will be able to provide students with more personalized and interactive learning experiences, marking a significant break from traditional methods. A feature of AI-driven technologies, instant feedback systems remove the time limits of conventional evaluations. Students with a range of skills may benefit from this real-time responsiveness because it enhances their grasp of linguistic subtleties and allows them to study at their own speed (Sumakul et al., 2022). By adjusting learning routes based on each student's unique set of abilities and shortcomings, adaptive learning paths greatly expand AI's potential. This flexibility becomes an invaluable resource for non-native English speakers, whose background in language may vary greatly from that of their native peers.

3.5 ChatGPT

OpenAI, the parent company of ChatGPT, developed a large language model (LLM) embodied in an AI chatbot that can have ongoing, transparent conversations with people. When users type inquiries into ChatGPT, the LLM responds with answers derived from its sophisticated machine-learning algorithms and natural language processing. It can handle a wide range of tasks, including writing code, translating across languages, writing poetry, and even completing academic papers. The language model is designed to comprehend both spoken and written forms of human language. The term "GPT" refers to "Generative Pre-trained Transformer," and since its formal public launch on November 30, 2022, the bot

has been trained using a vast quantity of data to increase its accuracy over time. GPT-3.5, the free version, and GPT-4, the paid version, are the two engine versions that ChatGPT has released (Sundar & Mok, 2023).

ChatGPT has been adopted as an effective tool in EFL teaching and learning as it helps in several areas including conversation practice, writing assistance, language comprehension and vocabulary expansion. According to Abdaljaleel (2024), the tool has capability of simulating natural conversation interactions that develop opportunities for learners to practice how to listen and speak and its effectiveness on that matter is enhanced by the low-pressure environment. Secondly, the tool can help learners to perform their learning tasks including reports, essays and emails. Alrasheedi (2023) also notes that ChatGPT can assist EFL learners to improve their vocabulary and grammar. When the students have access to tool that enables them to understand how to work on their tasks in the English language in their homes and other environments, they feel comfortable using that tool and can advance their language skills exponentially. There is also the element of language comprehension whereby ChatGPT enables EFL students to generate questions and text passages to enhance their reading comprehension skills. Abdaljaleel (2024) notes that use of ChatGPT enables EFL students to improve skills in English comprehension and reading skills. The students can interact with the technological tool to practice how to answer questions and read topics in diverse genres and contexts. The value of the tool is also emphasized by Alrasheedi (2023) who argues that it can enhance vocabulary comprehension because it gives students access to new vocabulary words based on contextualized explanations and explanations. When an EFL student asks ChatGPT for synonymns or definitions, the tool generates answers to those queries in real-time manner and helps the students to enhance their verbal knowledge and vocabulary. Another element covered is on linguistic and cultural exchange whereby Abdaljaleel (2024) mentions that ChatGPT can enable EFL students to learn customs and cultural practices of other nations despite their language backgrounds because ChatGPT responds well to any queries that the students have as long as they key in the appropriate words in their queries.

3.6 Previous Studies on AI-tools in Academic Writing

Nowadays, many scholars and students are integrating AI tools in their academic writing. These tools offer learners an interactive environment to enhance their writing abilities, obtain quick feedback, and polish their academic projects (Suraworachet et al., 2023). The integration of these tools in higher education resulted in a paradigm shift in approaching AW. These tools, such as ChatGPT, provide writers with instant feedback on grammar and style, enabling learners to learn from their mistakes while correcting them (Kushmar et al., 2022). In their article, Tseng and Warschauer (2023) highlight the dilemma posed by AI-writing tools like ChatGPT for second language learners. While these tools may risk diminishing essential learning experiences, an outright ban would deprive students of valuable opportunities to learn how to effectively collaborate with AI in their academic and professional endeavors. The authors advocate for an approach that embraces partnership rather than competition, encouraging educators to work alongside AI tools to enhance student learning. In AW, writers are required to understand a wealth of information, complex concepts, and theories in a way that is comprehensive for readers. Furthermore, acquiring

proficiency in the formal language and specialized vocabulary required for scholarly writing can pose a significant challenge, particularly for those new to the field. Upholding scholarly honesty by accurately referencing and citing sources is essential; however, this process can be difficult and complex, especially for writers who are not native speakers of the language (Morris, 2018).

To date there has been an agreement on the effectiveness of ChatGPT in EFL teaching and learning as it helps in several areas including conversation practice, writing assistance, language comprehension and vocabulary expansion. Huang and Tan (2023) stress the role played by ChatGPT in enhancing the efficiency and the quality of writing by assisting in developing outlines, details, while maintaining a good academic tone. It was also found by Svab et al. (2023) that ChatGPT makes the writing process less challenging and time consuming. In a medical context, Ghorashi et al. (2023) conducted a study to investigate the use of AI chatbots for research and tutoring purposes. Interestingly, they revealed that AI chatbots helped develop students' comprehension and retention.

In a similar vein, Jeon and Lee (2023) examined the interaction between artificial intelligence and human educators. Based on empirical research, ChatGPT and teachers were identified as potential collaborators in education. Throughout their study, they stressed the importance of leveraging the AI capabilities of ChatGPT in academic settings. The study by Sun and Hoelscher in 2023 examines the swift emergence of ChatGPT and its ethical considerations within the academic sphere. It provides guidance for educators on how to adeptly incorporate ChatGPT into teaching methodologies, underscoring the necessity of fostering critical thinking and ethical decision-making among students.

Amano et al. (2023) draws our attention to the language barrier that non-native speakers are faced with when writing academic papers. This challenge, also observed by Woolston & Osorio (2019), Ortega (2020), and Mohsen (2021) consumes considerable time, effort, and potentially financial resources. As a result, non-native writers often find themselves at a disadvantage compared to their native English-speaking counterparts. ChatGPT offers valuable assistance by rephrasing existing text, correcting grammar errors, enhancing readability, and even providing translation services. Moreover, when users provide input, ChatGPT selectively utilizes it to improve content structure, eliminate redundancies, ensure coherent transitions between paragraphs, and correct spelling and grammatical errors. These capabilities are particularly beneficial for non-native English writers.

Giglio & Costa (2023) presents an interesting argument on the usefulness and the effectiveness of using ChatGPT to improve the coherence and the overall quality of AW of non-native English speakers. Additionally, Hwang et al. (2023) noted that LLMs such as ChatGPT has proven its effectiveness in significantly assist non-native English speakers English AW. As LLMs continue to develop and refine their capabilities, their potential to augment the research workflow of non-native English-speaking scholars is likely to increase. However, a critical understanding of the limitations and potential drawbacks associated with LLM utilization is crucial. By employing these tools judiciously, researchers can leverage their power to enhance the quality and efficiency of the manuscript writing process,

ultimately contributing to the advancement of scientific knowledge. Nevertheless, it is imperative to acknowledge that overdependence on LLMs could potentially impede researchers' ability to not only refine their English language proficiency but also deepen their comprehension of their specific domain of expertise.

In the United States, Wang (2024) conducted a study using a phenomenological research approach to explore how six students—both native and non-native English speakers—approached writing in a first-year class at a higher education institution. Her research focuses on the pressing necessity to explore how students interact with ChatGPT across various stages of their writing processes. Additionally, she investigates students' perspectives on the advantages and obstacles associated with generative AI. The study revealed that, while utilizing ChatGPT for brainstorming and organizing ideas, students addressed both global (e.g., argument, structure, coherence) and local writing issues (e.g., syntax, diction, grammar). However, they also expressed various ethical and practical concerns about ChatGPT's use. In line with prior research (e.g., Guo et al., 2022; Holmes et al., 2019), this study corroborates that student generally had favorable encounters with generative AI-assisted writing. These AI tools have facilitated faster writing, alleviated cognitive burden and anxiety, and provided timely feedback. For non-native speakers, who, according to Khuder and Harwood (2015), tend to focus on sentence-level adjustments such as addressing grammatical and lexical issues during the writing process, these tools can be particularly beneficial. In contrast, experienced writers often engage in continuous refinement and revision of their ideas throughout the writing process.

3.7 Challenges of Using ChatGPT in Academic Writing

Although AI has enormous potential, it must be carefully examined because of ethical issues, data privacy issues, and the possibility of prejudices being perpetuated in the created information (Albahiri & Alhaj, 2020). Harnessing the advantages of AI technology without sacrificing the integrity of education requires ensuring their appropriate and fair implementation. In the end, technology—especially artificial intelligence—has a revolutionary impact on EFL instruction. Technology is a change agent, from its historical development in language education to its ability to completely transform teaching strategies. AI will play a significant role in determining the direction of EFL education since it offers the possibility of customized, adaptive, and interactive learning experiences. However, navigating the ethical and successful integration of AI in language learning contexts requires a thorough awareness of the issues and obstacles.

Almost every paper that has been written on ChatGPT includes a section relating to the challenges it imposes. Alrasheedi (2023) conducted a study exploring the ethical awareness among Saudi EFL students using ChatGPT in a Saudi university. He explains that even though students in education institutions who use ChatGPT are aware of the ethical implications of using the AI tool, they continue to utilize it in their academics. Interestingly, in this study, female participants demonstrated greater ethical awareness compared to their male counterparts. This result is consistent with prior research indicating gender-related differences in ethical judgment across various fields and situations (Wang & Calvano, 2015).

While ethical principles and academic integrity are significant factors in assessing the suitability of AI tools for academic contexts, concerns persist regarding potential inconsistencies and biases associated with their use. According to Hasanein and Sobaih (2023), employing ChatGPT increases the risk of bias. The researchers highlight that this bias may arise due to AI tools relying on online sources without always verifying their quality. Consequently, the reliability and accuracy of data obtained through ChatGPT, or similar AI tools may be compromised. The existence of prejudicial perspectives, stereotypes, and racial bias are among the problematic elements that could result from internet sources and cause the ChatGPT responses to be not only unreliable but also unethical and socially unacceptable.

The research by Majeed et al. (2023) highlights the growing use of ChatGPT and other AI tools, which brings both opportunities and challenges. While these tools can enhance productivity, they also raise concerns about academic integrity. Specifically, students in the Middle East and other regions have been using ChatGPT to present work as their own, leading to plagiarism and academic misconduct. Alrasheedi (2023) and Alhammad (2024) have also identified loopholes that allow students to exploit AI tools for cheating and plagiarism. As educators, it is essential to address these issues and find a balance between leveraging AI for productivity and maintaining academic honesty.

Studies have identified a correlation between the use of ChatGPT and the decrease in students' creativity, critical thinking, productivity, academic writing abilities, and analytical skills (Stepanechko et al., 2023; Mohammed et al., 2023; Niloy et al., 2024; Črček & Patekar 2023a; Putra et al., 2023) Interestingly, non-native English students were faced with two dilemmas; the first is the risk of losing their voice and identity due to their superficial engagement with the writing process, stressing their concerns about AI overshadowing their voice (Wang, 2024). Moreover, this study reveals that students themselves are aware of the potential learning loss resulting from AI adoption. These results confirm the argument proposed by Barrot (2023a) and Tseng and Warschauer (2023) that AI tools have the power to “rob” students of fundamental learning experiences.

In the light of these accumulated studies, it can be inferred that ChatGPT has the potential to defect fundamental skills that students need in their academic writing, if not destroy them. Hence, action is needed to investigate these drawbacks and overcome them.

4. Conclusion

This systematic literature review examined the use of ChatGPT in academic writing within EFL and higher education contexts, with particular emphasis on MA TESOL students in Saudi Arabia. Guided by the central research question—“How do MA TESOL students in Saudi Arabia perceive the use of ChatGPT for academic writing, and what challenges are associated with its use?”—the study synthesized findings from 91 studies using the PRISMA framework to ensure methodological rigor, transparency, and systematic analysis of the existing literature.

The findings indicate that MA TESOL students and EFL learners generally perceive ChatGPT as a valuable educational tool that can support various aspects of academic writing. The

reviewed studies consistently demonstrated that ChatGPT contributes to improving grammar, vocabulary, coherence, idea generation, organization of arguments, and academic style (Huang & Tan, 2023; Giglio & Costa, 2023). In addition, the tool appears to reduce writing anxiety and provide immediate feedback that assists learners throughout the writing process, particularly among non-native English speakers who often experience linguistic and rhetorical challenges in academic writing (Amano et al., 2023; Hwang et al., 2023). Within the Saudi context, these advantages are especially important because postgraduate students frequently struggle with academic vocabulary, source integration, research argumentation, and discipline-specific writing conventions (Al Mahmud & Rahman, 2023; Ibrahim AlHashemi et al., 2017).

The review further revealed that ChatGPT aligns with constructivist perspectives of learning and Vygotsky's concept of the More Knowledgeable Other (MKO), as the technology can function as a supportive scaffold that facilitates learner autonomy, interaction, and knowledge construction during academic writing tasks (Vygotsky, 2012; Stojanov, 2023). Several studies emphasized that AI-assisted writing tools may enhance engagement, motivation, and accessibility in EFL learning environments while enabling students to interact more actively with academic content (Jeon & Lee, 2023; Tseng & Warschauer, 2023).

However, despite these positive perceptions, the findings also identified significant challenges associated with the use of ChatGPT in academic writing. Ethical concerns related to plagiarism, academic dishonesty, overreliance on AI-generated content, and the weakening of students' critical thinking and creativity emerged as recurring themes across the reviewed literature (Alrasheedi, 2023; Niloy et al., 2024; Stepanechko & Kozub, 2023). The studies also highlighted concerns regarding misinformation, bias, reliability of AI-generated responses, and the potential loss of students' authentic academic voice (Hasanein & Sobaih, 2023; Wang, 2024). These findings suggest that although ChatGPT offers considerable pedagogical value, excessive dependence on AI technologies may negatively affect students' independent learning processes and long-term academic development.

The review therefore concludes that ChatGPT has substantial potential to support MA TESOL students in Saudi Arabia in developing their academic writing abilities when used responsibly and ethically. Nevertheless, the integration of AI technologies into higher education requires balanced pedagogical approaches that encourage critical thinking, originality, and academic integrity while benefiting from the supportive functions of AI-assisted learning tools. The findings also highlight the need for universities.

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