

From Pedagogy to Research: Exploring ChatGPT's Transformative Role in Saudi EFL Educational Innovation and Scientific Research

Nasser Alqahtani¹, Khalid Khulaif Alshammari², Mohammad Jamshed³, Mohammad Rezaul Karim³

¹ Applied College, Shaqra University, Shaqra, Saudi Arabia

² Department of Languages and Translation, University College in Tayma, University of Tabuk, Tabuk, Saudi Arabia

³ English Department, Prince Sattam Bin Abdulaziz University, Al-Kharj 11942, Saudi Arabia

Correspondence: Mohammad Jamshed, English Department, Prince Sattam Bin Abdulaziz University, Al-Kharj 11942, Saudi Arabia.

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Abstract

AI-powered tools, particularly ChatGPT, are significantly transforming learning, pedagogy, and research globally. This study employed a mixed-methods approach to investigate the perspectives and experiences of Saudi EFL learners and instructors regarding the impact of ChatGPT on learning, engagement, assessments, academic research, and its integration into Saudi EFL classrooms. It combined quantitative data from Saudi EFL learners through a structured questionnaire with qualitative insights from EFL instructors to develop a comprehensive understanding. The quantitative analysis demonstrated a generally positive attitude among students towards integrating ChatGPT into English language learning. High mean values across all three domains indicate that ChatGPT is viewed as a versatile educational partner, improving learning, assessment, and research capabilities. In contrast, qualitative insights from EFL instructors echoed these findings, although they also expressed concerns about possible adverse effects on students' creativity and analytical skills. Despite these concerns, the overall findings suggest that ChatGPT is a significant educational partner that fosters student learning and pedagogical innovation. These findings support the role of AI-assisted instruction in improving English-language proficiency and promoting autonomous learning, aligning with Saudi Vision 2030, despite concerns regarding over-reliance and academic integrity.

Keywords: fostering autonomous learning, interactive engagement, pedagogical innovation, student empowerment, versatile educational partner

1. Introduction

The rapid expansion of artificial intelligence (AI) systems, particularly in language learning, has significantly innovated instructional practices globally. ChatGPT, a generative AI language model, has emerged as a focal point due to its capacity to enhance autonomous practice, collaborative instruction, and personalized feedback (Han & Li, 2024; Naznin et al., 2025; Abas et al., 2023). In English as a Foreign Language (EFL) contexts, where students often face challenges such as limited exposure to academic English and authentic speech, ChatGPT offers new avenues for improving teaching methodologies, evaluations, and research. Rahman and Watanobe (2023) discuss ChatGPT's potential benefits and risks from the perspectives of both instructors and learners. They emphasized that this technology could provide personalized feedback, improve accessibility, foster engaging interactions, facilitate instructional assessments, and offer innovative explanations of complex subjects.

Furthermore, Javaid et al. (2023) argued that the use of ChatGPT enabled instructors to adapt lessons to meet individual needs and abilities, enabling learners to progress at their own pace and address their weaknesses. This adaptability leads to a more effective and efficient instructional approach. Malik et al. (2023) further analyzed the implications of ChatGPT in higher education, outlining both positive and negative facets across instruction, research, and learner assessment. Their study, which included insights from twelve academics across North America, Asia, and Europe through semi-structured interviews, highlighted that ChatGPT enhanced learning effectiveness and fostered innovative thinking. Overall, the integration of ChatGPT into educational frameworks signifies a transformative shift in how language learning and teaching are approached, presenting both opportunities and challenges for educators and learners alike.

The utilization of ChatGPT in language instruction is gaining attention for its potential to transform traditional learning paradigms. ChatGPT-4 enhances students' English communication skills through customized lessons tailored to individual needs, interests, and communication modes, making language learning more engaging and effective (Wang, 2025). Technological integration and instructional innovations are transforming English as a Foreign Language (EFL) instruction in Saudi Arabia, notably through advancements in instructional design, exam preparation, and research. The use of digital resources and methods, such as AI tools like ChatGPT, significantly improves EFL learning outcomes, supported by the country's strong digital infrastructure and tech-savvy youth. Multiple studies have highlighted the transforming aspects of ChatGPT. For example, Aldowsari and Aljebreen (2024) found that a ChatGPT-based application significantly improved vocabulary learning in a quasi-experimental study involving 57 female participants, with positive student attitudes towards the tool. Similarly, Mugableh (2024) compared the effectiveness of ChatGPT-generated exercises to traditional methods in

enhancing vocabulary size and the strength of word families among EFL students. Results indicated that participants who used ChatGPT exercises outperformed those who used conventional exercises. Additionally, Ali (2023) investigated faculty perceptions of ChatGPT in EFL education at the University of Bisha, noting a generally favorable view among 58 faculty members regarding its educational benefits, while also highlighting concerns about potential issues such as plagiarism and student dependency on such technologies, with perceptions remaining consistent across gender. This highlights the potential and challenges of integrating AI in EFL instruction.

1.1 Research Problem

The integration of AI, specifically ChatGPT, into Saudi Arabia's educational institutions aligns with Vision 2030, which aims to accelerate digital transformation and improve human capital to drive economic growth. While ChatGPT has the potential to improve teaching, examination, and research methods in English as a Foreign Language (EFL) education, its significance is not yet fully recognized. A comprehensive evaluation is needed to assess ChatGPT's capabilities as an educational tool, and Saudi educators and administrators need to understand its impact to implement AI effectively in EFL classrooms.

1.2 Research Purpose Statement

The study explores the potential of ChatGPT to enhance instructional methods, exam preparation, and research skills among Saudi EFL learners and instructors.

2. Literature Review

2.1 Theoretical Framework

The theoretical framework for ChatGPT's impact on English as a Foreign Language (EFL) education in Saudi Arabia incorporates Vygotsky's (1978) sociocultural theory, interactionist theory (Long, 1983; Gass, 2013), and Roger's (2003) innovation diffusion theory (IDT). ChatGPT acts as a digital tool that supports learners' zones of proximal development, enhances writing proficiency, and fosters self-regulated learning through continuous guidance and language modeling. Interactionist Theory (Long, 1983; Gass, 2013) highlights ChatGPT's role in facilitating interaction and providing instant feedback, thereby improving writing accuracy and coherence. On an institutional level, IDT explains how ChatGPT's benefits, such as personalized support and alignment with digital learning goals, encourage adoption among educators, particularly in the context of Vision 2030's digital transformation initiatives. Collectively, these theories illustrate ChatGPT's role in enhancing individual learning experiences and promoting systemic innovation in Saudi EFL education and research (Fig. 1).

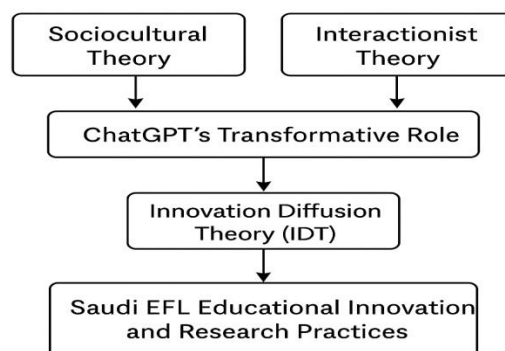


Figure 1. Conceptual model of the study

Saudi EFL instruction is transforming, leveraging technology-enhanced pedagogy, AI assessment tools, and ongoing research to address educational challenges. These modifications aim to modernize language instruction, improve test preparation, and create more interactive and practical learning environments in Saudi Arabia. For example, Wang and Fan (2025) conducted a meta-analysis of 51 research papers from November 2022 to February 2025 to evaluate ChatGPT's effects on students' educational achievement, cognitive perceptions, and higher-order thought processes. The analysis indicated that ChatGPT enhanced cognitive abilities and learning perceptions, with impacts varying by course type, learning model, and duration. Ashraf et al. (2025) explored Pakistani undergraduates' willingness to use ChatGPT for instruction and its effects on academic achievement using quantitative descriptive methods. They found significant positive correlations between ChatGPT use and improved academic outcomes, supporting its role in education. Vo and Nguyen (2024) examined English learners' perceptions of ChatGPT using Davis' Technology Acceptance Model and a questionnaire administered to 369 English majors. Results showed that ChatGPT is easy to use and effective for language acquisition, highlighting the need for teaching strategies that balance technology use and human interaction. Alotaibi et al. (2025) examined factors influencing ChatGPT usage among Saudi Arabian post-secondary students using a TAM questionnaire with 184 responses. They found that perceived usability and utility drove ChatGPT adoption, whereas perceived ease of use did not significantly influence user perceptions, underscoring the tool's advantages. Lastly, Liu and Zhang (2024) analyzed the demographics of Chinese higher education students using ChatGPT through semi-structured interviews and

grounded theory. Their findings aim to inform policy frameworks, improve resource distribution, enhance user experiences, and foster higher-order thinking skills amidst evolving technological landscapes.

2.2 ChatGPT Usage for Language Instruction

Research indicates that aligning instructional methods with student needs and technology is vital for effective language teaching among Saudi EFL teachers (Alghamdi, 2021). Farhi et al. (2023) examined the use of ChatGPT among students in the UAE, collecting data from 388 individuals across two colleges in Al Ain city, using Yamane's sampling formula. Their findings indicated that students perceived ChatGPT as an innovative tool that offers various benefits. Notably, route analysis confirmed that ChatGPT significantly influenced students' anxiety levels, while also altering their ethical perspectives regarding academic integrity. The implications suggest that integrating ChatGPT into educational settings yields both positive and negative consequences for academic honesty. In parallel, Mogavi et al. (2023) conducted a qualitative content analysis across four major social networking platforms to understand the user experience (UX) and perceptions of early adopters of ChatGPT across various educational domains. The results revealed a predominant use of ChatGPT in higher education, K-12 settings, and professional development. Similar to Farhi et al., this study also noted the dual impact of ChatGPT on educational integrity, underscoring the necessity for realistic recommendations to guide employers in making informed decisions and implementing appropriate regulations. Further, Han and Li (2024) explored the application of ChatGPT alongside instructor feedback within Chinese tertiary English as a Foreign Language (EFL) education. Involving four language instructors and 102 students from two undergraduate programs, this study focused on using ChatGPT responses to assess students' essays. The insights revealed that ChatGPT-supported feedback effectively addressed various errors while fostering constructive discussions, signaling the potential of AI-assisted feedback to enhance L2 writing pedagogy. In an extensive systematic review, Naznin et al. (2025) evaluated 26 articles to assess ChatGPT's applications in academic writing, personalized instruction, and code generation. Through a comprehensive examination of databases, including Scopus and IEEE Xplore, the researchers identified key themes that illustrate how ChatGPT enhances personalized education by adjusting delivery methods, improves academic writing by identifying and revising content issues, and assists with coding by providing clarifications and reusable code snippets.

Lastly, Shloul et al. (2024) examined the impact of activity-driven learning using ChatGPT on academic performance, providing a comparative analysis with traditional learning methods. Their findings highlighted that engaging students in active learning strategies fostered improved student engagement, heightened excitement, and enhanced critical thinking skills. Moreover, the use of activity-driven methods was shown to boost student achievement through increased active participation and applied learning experiences.

2.3 ChatGPT Usage for Exam Preparation

Saudi EFL exam preparation is increasingly influenced by AI tools that could assist learners in preparing for exams. Assessment of AI tools suggests a growing enthusiasm in using AI to enhance exam preparation strategies; however, pedagogical issues persist (Aldowsari & Aljebreen, 2024). Samardžija et al. (2024) conducted a qualitative study on the use of ChatGPT by first-year college students for preparing for business and IT exams, involving 71 participants in the spring of 2024. The research uncovered six distinct ways students utilized ChatGPT for exam preparation, highlighting a significant shift towards digital learning tools and the growing potential of e-learning in higher education. In another study, Chaiban et al. (2024) evaluated the effectiveness of a specific ChatGPT version on written medical proficiency exams across various subspecialties. Their literature review, sourced from databases such as CINAHL, PubMed, and Web of Science, established a methodological framework, revealing ChatGPT's positive impact on medical specialty examinations and suggesting further exploration of its potential to help medical students pass diverse examinations.

Additionally, Alkhateeb et al. (2025) examined how Saudi university EFL instructors employed AI for exam preparation, grounded in the TPACK and UTAUT models. This evaluation included tools such as ChatGPT, ExamSoft, Quizlet, Quizbot, GEMINI, and Gemini AI, and found ChatGPT increasingly favored for generating aligned exam questions that integrate technological, pedagogical, and content knowledge. Lastly, Rivera-Rosas et al. (2024) investigated student experiences with ChatGPT in generating multiple-choice questions (MCQs). Feedback from 55 generated MCQs showed that 89% of students found the questions clear and concise, 91% appreciated the easy wording, and 76% deemed them simple. The results indicated that ChatGPT can assist instructors in creating effective MCQs and in enhancing students' syntactic understanding during assessments.

2.4 ChatGPT Usage in Research

The integration of ChatGPT into research and education is viewed as beneficial for enhancing learning, improving research efficiency, and improving user satisfaction. Research indicates that students favor its educational use, which aligns with the Technology Acceptance Model (TAM), suggesting growing acceptance of ChatGPT as a valuable tool (Tiwari et al., 2023). Chinonso et al. (2023) conducted a comprehensive review assessing the potential and limitations of ChatGPT for educational and research applications. Their findings demonstrated that ChatGPT provided rapid, instantaneous responses to search queries and excelled at generating text that mimics conversational replies. However, they pointed out significant challenges, particularly the inadequacy of citation and referencing, and recommended that users cite and reference ChatGPT-generated responses. Following this, Sok and Heng (2024) explored the integration of ChatGPT within higher education through a literature review and document analysis of articles published since 2022, identifying both opportunities and challenges. The identified benefits included innovations in assessments, instructional support, enhancements in remote learning, and developments in research, improved academic writing, and boosted administrative productivity. Conversely, challenges were highlighted, encompassing issues related to academic integrity, security concerns, potential over-reliance on AI, challenges in learning

assessments, and accuracy of information. In a qualitative study conducted by Chiu (2023), the impact of GenAI was examined from the perspectives of 88 educators and school administrators. Focusing on learning, teaching, assessment, and administration, participants provided insights through surveys and focus groups on tools such as ChatGPT and Midjourney. The thematic analysis yielded four primary themes and 12 subthemes, leading to three practical recommendations: addressing 'know-it-all' attitudes, seeking new knowledge, and promoting interdisciplinary teaching.

Additionally, three policy implications emerged: revisions to assessment methods, the integration of AI education into curricula, and the establishment of professional standards. Lastly, Farrokhnia et al. (2023) applied a SWOT analysis framework to evaluate ChatGPT, uncovering strengths such as its advanced natural language capabilities, real-time, personalized responses, and the potential to enhance information access while reducing teaching workloads, thereby increasing efficiency. However, the analysis also revealed weaknesses, including limited understanding, difficulty assessing output quality, inherent biases, and a lack of higher-order thinking skills. Strzelecki (2023) investigated predictors of ChatGPT adoption among higher education students, using a model grounded in established technology adoption theories. Analyzing data from 534 students at a Polish state university using partial least squares structural equation modeling, the study found that habit emerged as the strongest predictor of behavioral intention, followed by performance expectancy and hedonic motivation, with behavioral intention serving as the primary determinant of actual usage behavior, alongside personal innovativeness. In addition to these studies, Khlaif et al. (2023) evaluated the quality of AI-generated research articles using ChatGPT, focusing on their impact on research framework, data analysis, and literature reviews. Four articles and fifty abstracts were generated and assessed by 23 reviewers, revealing high-quality outputs when detailed prompts were used. However, concerns regarding ownership and integrity were noted, particularly in literature reviews. These studies highlight that ChatGPT is increasingly recognized as a valuable research tool, contributing to literature retrieval, language editing, and user behavior analysis. Its adoption is driven by perceived usefulness, system quality, and user satisfaction, all of which are essential to its ongoing integration into research workflows.

3. Methodology

3.1 Research Questions

1. How do Saudi EFL learners view ChatGPT for learning and engagement?
2. How do Saudi EFL learners view ChatGPT exam and assessment usage?
3. How do Saudi EFL learners view ChatGPT for academic research purposes?
4. How do EFL instructors view the integration of ChatGPT into Saudi EFL classrooms?

3.2 Research Design

This section outlines a mixed-methods approach to studying the perspectives and experiences of Saudi EFL learners and instructors. While the quantitative data was collected from students using a questionnaire, qualitative data was taken from the instructors for their insights. This dual approach facilitates a comprehensive analysis by incorporating both students' observations and educators' perspectives (Creswell et al., 2003). This method effectively addresses research questions through diverse viewpoints and provides in-depth insights, leading to a more nuanced understanding of the educational context. The following (Fig. 2) illustrates the research design employed.

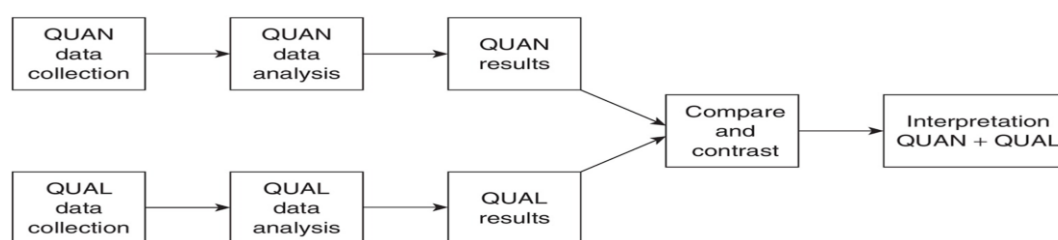


Figure 2. Data analysis design (Alammari, 2024)

3.3 Participants' Description

The study participants comprise both students and teachers. The student participants are at different stages of their undergraduate education and have studied English as a required course in their school curriculum. As they are native Arabic speakers, they study English as a foreign language. They are in the 18- to 24-year-old age group. A simple random selection process was used to select 283 students. The study also selected 19 English language instructors from various pedagogical backgrounds in Saudi Arabia, each with a range of teaching experience, academic qualifications, and familiarity with ChatGPT in EFL classrooms. The participants, from different regions of Asia and Africa, teach English as a second/foreign language to diverse age groups, contributing valuable insights to the study. Demographic details of the respondents are summarized in the following table.

Table 1. Demographic description of the student participants

variables	frequency	percentage
gender (students)		
male	154	54.40%
female	122	43.10%
not specified	7	2.50%
level/year of the study		
6th to 8th Level	66	23.30%
4th to 5th Level	82	29%
1st to 3rd Level	135	47.70%
gender (teacher)		
male	11	57.90%
female	8	42.10%
AI-powered tools experience		
1-3 years	9	47.40%
3-6 years	8	42.10%
6-9 years	2	10.50%
Use/Familiarity with ChatGPT		
0-1 year	4	21.10%
1-2 year	12	63.20%
2-3 year	3	15.80%

3.4 Data Collection Instruments

A thorough review of previous studies was conducted to develop a suitable questionnaire. While some of the items were self-designed, others were taken from the existing studies (Zaiarna et al., 2024; Xiao & Zhi, 2023; Yan, 2023). The questionnaire contains 18 items, with six items each representing pedagogy, exam/test preparation, and research. The study participants were requested to rate their responses/opinions on a 5-point Likert scale (5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, and 1 = strongly disagree). The instructors were separately requested to respond to open-ended questions and share their comments/suggestions.

3.5 Validity

To validate the questionnaire designed to integrate ChatGPT into English Language Teaching (ELT), a thorough validation process was conducted. The questionnaire was first evaluated by a diverse panel of experts, comprising experienced ELT educators, advanced research scholars, and ChatGPT users. Their feedback led to substantial revisions, improving the questionnaire's relevance and effectiveness. Subsequently, a pilot study was conducted with six English language instructors, whose insights further enhanced the questionnaire's content quality.

3.6 Reliability Analysis

All values exceed 0.70, indicating that the items are highly consistent with one another (Nunnally & Bernstein, 1994). The item-total correlations ranged from 0.60 to 0.79, indicating that each statement contributed significantly to the overall construct. For the internal consistency, Cronbach's α coefficients were determined:

Table 2. Reliability statistics

Construct	α	Reliability level
Learning & Engagement (1–6)	0.89	Excellent
Exam & Assessment (7–12)	0.85	Very Good
Academic & Research (13–18)	0.87	Excellent
Overall Scale (1–18)	0.91	Excellent

3.7 Data Analysis and Interpretation

The study used a mixed-method approach to examine EFL learners' and language professionals' perspectives on ChatGPT for pedagogical and research purposes. Quantitative data were collected via Google Forms and analyzed in SPSS using descriptive statistics, including mean and standard deviation. Qualitative responses were edited for clarity and coded to identify trends in educators' experiences. Thematic analysis yielded insights into ChatGPT's effectiveness and pedagogical implications for language teaching. The following criteria will serve to explain and categorize the degrees or levels of opinions or perspectives.

Table 3. Assumed scale/criteria for measuring the degree/level of positive/negative attitude

Mean square	Level
3.1 – 4.50	High
1.51 – 3.00	Moderate
1.00 – 1.50	Low

4. Result

4.1 Quantitative Findings

In learning, assessment, and research functions, all three domains are consistently recognized and viewed favorably. The "Learning & Engagement" category had the highest mean score (3.90), suggesting that collaborative learning environments and language-improvement contexts significantly support learners. The slightly lower mean for "Exam Support" (3.76), on the other hand, suggests moderately good results that might be due to differences in students' test-related anxiety levels. Participants showed positive attitudes towards integrating ChatGPT into English learning and academic tasks, with a mean score of 3.89 and a narrow range of 3.61 to 4.20, indicating strong consistency in their perceptions. ChatGPT is viewed as an effective educational partner that enhances engagement, assessment preparedness, and research productivity. These findings support its role in personalized learning and academic innovation in Saudi EFL higher education, aligning with Vision 2030's digital transformation and AI-driven education goals.

Table 4. Statistical summary of the findings

Constructs	Items	Mean range	Overall mean	Level
1. Learning & Engagement	1–6	3.72 – 4.20	3.90	High
2. Exam & Assessment Use	7–12	3.61 – 3.93	3.76	High
3. Academic Research Use	13–18	3.75 – 4.07	3.89	High

Table 5. Statistical analysis of EFL learners' perspectives on ChatGPT as a learning and engagement tool

Constructs	SA	A	N	D	SD	Mean	Level
1	139(49.1%)	85(30%)	48(17%)	5(1.8)	6(2.1%)	4.2	High
2	111(39.2%)	85(30%)	59(20.8%)	21(7.4%)	7(2.5%)	3.96	High
3	99(35%)	110(38.9%)	53(18.7%)	15(5.3%)	6(2.1%)	3.99	High
4	95(33.6%)	67(23.7%)	84(29.7%)	25(8.8%)	12(4.2%)	3.73	High
5	87(30.7%)	85(30%)	69(24.4%)	31(11%)	11(3.9%)	3.72	High
6	89(31.4%)	95(33.6%)	70(24.7%)	20(7.1%)	9(3.2%)	3.83	High

Table 5 presents findings indicating that students found ChatGPT's support significantly beneficial for improving their English skills, with mean ratings ranging from 3.72 to 4.20 ($M = 3.90$, $SD = 0.17$). Notably, Item 1 received the highest average rating of 4.20, reflecting strong consensus on its effectiveness in fostering educational engagement and motivation among learners. In contrast, Item 5 reported a mean of 3.72, suggesting a more moderate yet positive perception of ChatGPT's role in enhancing English writing skills. Overall, the majority of participants expressed agreement or strong agreement with ChatGPT's positive influence on grammar, classroom engagement, and overall English proficiency. The findings collectively underscore ChatGPT's ability to facilitate a personalized, interactive learning experience in English. The statistical findings illustrate that students regard ChatGPT as an effective and interactive AI tool for education, notably enhancing engagement, grammar comprehension, writing skills, and overall English proficiency. The consistently high mean values underscore its potential in EFL classrooms, aligning with current research on AI-mediated language learning within the Vision 2030 digital education framework. This analysis answers the first research question.

Table 6. Statistical analysis of EFL learners' perspectives on ChatGPT as an exam and assessment tool

Constructs	SA	A	N	D	SD	Mean	Level
7	89(31.4%)	95(33.6%)	65(23%)	20(7.1%)	14(4.9%)	3.79	High
8	92(32.5%)	75(26.5%)	52(18.4%)	44(15.5%)	20(7.1%)	3.61	High
9	85(30%)	85(30%)	70(24.7%)	32(11.3%)	11(3.9%)	3.71	High
10	103(36.4%)	96(33.9%)	59(20.8%)	14(4.9%)	11(3.9%)	3.93	High
11	88(31.1%)	79(27.9%)	74(26.1%)	34(12%)	8(2.8%)	3.72	High
12	88(31.1%)	89(31.4%)	71(25.1%)	27(9.5%)	8(2.8%)	3.78	High

Table 6 presents data indicating that students perceive ChatGPT as beneficial for exams and assessments, illustrated by mean scores ranging from 3.61 to 3.93 ($M = 3.76$, $SD = 0.10$). Notably, Item 10 achieved the highest average score ($M = 3.93^*$), reflecting strong appreciation for ChatGPT's enhancements in assessment performance. Conversely, Item 8 received the lowest mean score ($M = 3.61^*$), yet still demonstrated a positive attitude among students. More than two-thirds of participants responded affirmatively, agreeing or strongly agreeing that ChatGPT assists them in studying, revising, and improving their writing and grammar skills. Overall, students consider ChatGPT a valuable academic resource that builds confidence, alleviates test anxiety, and fosters learning. The statistical results show that students consider ChatGPT a valuable educational assistant for exam and assignment preparation, indicating improved test readiness, writing performance, and self-assessed language skills, thus highlighting its transformative role in higher education. This analysis addresses the second research question.

Table 7. Statistical analysis of EFL learners' perspectives on ChatGPT as an academic and research tool

Constructs	SA	A	N	D	SD	Mean	Level
13	99(35%)	86(30.4%)	58(20.5%)	26(9.2%)	14(4.9%)	3.81	High
14	106(37.5%)	100(35.3%)	54(19.1%)	15(5.3%)	8(2.8%)	3.99	High
15	92(32.5%)	83(29.3%)	68(24%)	28(9.9%)	12(4.2%)	3.75	High
16	97(34.3%)	95(33.6%)	60(21.2%)	23(8.1%)	8(2.8%)	3.88	High
17	118(41.7%)	96(33.9%)	48(17%)	13(4.6%)	8(2.8%)	4.07	High
18	100(35.3%)	90(31.8%)	60(21.2%)	23(8.1%)	10(3.5%)	3.87	High

The findings in Table 7 revealed that students strongly supported ChatGPT for academic writing and research. The mean response value is 3.89 (SD = 0.11), suggesting strong support for its academic use. Item 17 received the highest mean score of 4.07, suggesting that participants perceive ChatGPT as highly advantageous for future research and professional growth. However, Item 15, despite a high average grade of 3.75, shows student variation in how well the tool identifies references and improves ideas. Over two-thirds of participants believed that ChatGPT promotes writing, creativity, and academic research. These data show ChatGPT's relevance in research innovation and student writing. The findings imply that students highly value ChatGPT as a valuable tool for enhancing research, academic writing, and innovation. The consistently high mean scores across various items reflect a robust acceptance of AI-assisted learning in fostering academic and professional research skills. This suggests that ChatGPT is viewed not merely as a writing assistant but also as a potential collaborator in generating creative and scholarly ideas. This analysis addresses the third research question.

4.2 Qualitative Findings

The qualitative data offered rich, comprehensive perspectives into how EFL teachers and instructional professionals viewed ChatGPT's pedagogical and educational implications. A thematic content analysis of responses from 19 EFL instructors and learners in Saudi Arabia explored the implications of integrating ChatGPT into education. Following Braun and Clarke's (2006) framework, the data were coded to uncover four primary themes and subthemes, highlighting various perspectives on ChatGPT's potential as an instructional tool and its limitations.

Main theme	Subthemes	Frequency (19)	Interpretive Label
1. Pedagogical empowerment and language acquisition	Personalized feedback, adaptive practice, Targeted vocabulary/grammar skill development, speaking & emotional skills, classroom innovation Instant feedback and analytical understanding, Innovation in EFL lessons	16	Transformative EFL pedagogical tool
2. Professional development and instructional support	Rapid access to lesson plans and teaching resources Technology-enabled coaching and scaffolding Lifelong learning and digital literacy Customized and organized lesson planning Reduced teacher workload, enabling student-centered tasks	16	Teacher empowerment and instructional enhancement
3. Innovation and collaborative learning	New techniques and innovative teaching methods, Critical thinking through evaluating ChatGPT's feedback, Increased classroom creativity and experimentation	16	Catalyst for innovation, creativity, and collaboration
4. Human touch, reliability, and ethical concerns	AI unreliability & misinformation, Loss of creativity, Academic integrity issues, Overreliance concerns, Necessity of teacher guidance and monitoring	12	Controlled integration & human oversight, ethical AI integration

Theme 1: Pedagogical empowerment and language acquisition

The findings show that 16 of 19 respondents view ChatGPT as a significant empowerment tool for EFL learning, emphasizing its important role in language acquisition and instruction, as well as its transformative potential. Responses highlighted specific contributions of ChatGPT to language skill development, including the provision of personalized feedback and tailored practice, facilitation of targeted vocabulary and grammar enhancement, improvement of speaking skills along with emotional intelligence and confidence, and the offering of instant feedback alongside creative instructional materials. One of the respondents [EFL 7] said that ChatGPT provided teachers with swift access to lesson plans and resources, enhanced professional development, assisted in lesson planning, customized tasks based on student skill levels, and clarified complex topics with educational examples and feedback, promoting technology use to boost digital literacy and versatility in the classroom. Thematic interpretation indicates that teacher respondents view ChatGPT as a transformative tool, improving learner autonomy, engagement, and skill integration, corroborated by a mean score of 3.90, which shows strong alignment between quantitative and qualitative data.

Theme 2: Personalized feedback and interactive learning

A strong subtheme emerged, highlighting ChatGPT's capacity to provide personalized feedback, customized language practice, and focused skill development. Participants likened ChatGPT to a virtual tutor that adjusts to the unique linguistic levels and requirements of individual learners, delivering immediate feedback on vocabulary, grammar, and writing skills. Respondents noted that this level of adaptability fosters

self-directed learning and enables learners to recognize and address their weaknesses swiftly. ChatGPT integration in EFL classrooms "offers multiple instructional advantages for EFL lessons. Offering immediate feedback on vocabulary, grammar, and language usage encourages independent learning and language exposure outside of class. ChatGPT fosters customized instruction by tailoring responses and promoting interactive practice." Both students and instructors noted that ChatGPT effectively fosters essential qualities for sustainable language learning in digital contexts. Key attributes highlighted include learner autonomy, metacognitive awareness, and analytical understanding. These findings suggest that integrating ChatGPT into educational frameworks can enhance language acquisition and skill development among learners.

Theme 3. Innovation, Efficiency, and Student Empowerment

Another key theme in the document is the impact of ChatGPT on pedagogy, highlighting its role in fostering innovation and efficiency in English as a Foreign Language (EFL) classrooms. Respondents noted that ChatGPT enables creative and technological advances, allowing teachers to automate routine tasks and focus on student-centered activities, thereby enhancing the educational experience. For example, EFL Instructor 19 noted that ChatGPT supports lesson development and customization, enabling more engaging teaching methods. Additionally, participants recognized ChatGPT's contribution to increasing technology awareness, providing visual aids, and improving resource accessibility, which aligns with Saudi Arabia's Vision 2030 educational transformation towards personalized AI-assisted learning. However, some concerns were raised about potential drawbacks. EFL Instructor 13 acknowledged both the benefits and disadvantages of ChatGPT, while EFL Instructor 16 warned that excessive reliance on the tool could hinder critical thinking, creativity, and research skills. This overdependence might lead to superficial learning and academic passivity, prompting instructors to encourage the use of ChatGPT to support rather than replace essential educational functions. The qualitative analysis demonstrates that ChatGPT has improved classroom engagement, facilitated self-directed learning, and enhanced teaching efficiency. Nonetheless, respondents emphasized the importance of human oversight, critical reflection, and AI literacy for effective integration. The document concludes that advancements in language education should maintain a balance between technological innovation and essential human qualities, such as empathy, judgment, and creativity. This analysis addresses the fourth research question.

5. Discussion

The study revealed a positive impact of ChatGPT on learning, engagement, assessments, academic research benefiting academic literacy. About 80% of students found it useful for grammar and writing, receiving personalized feedback and motivation. Key advantages included better exam preparation, reduced anxiety, and support for self-regulated learning. EFL instructors noted enhanced classroom engagement and instructional efficiency but stressed the importance of human oversight and AI literacy. The findings highlighted ChatGPT's significant impact on EFL education, rooted in Vygotsky's (1978) sociocultural theory, which underscores the importance of interactive dialogue for enhanced learning. The interactionist view (Long, 1983; Gass, 2013) advocates genuine meaning negotiation, which promotes feedback and improves accuracy in grammar and communication. Additionally, Roger's (2003) innovation diffusion theory highlights ChatGPT's advantages and compatibility, which account for its swift acceptance among Saudi EFL students. This conjunction of theories reveals students' positive views across various aspects, positioning ChatGPT as a crucial educational tool for integrating technology with language skill enhancement.

Multiple studies (Faisal, 2024; Jamshed et al., 2025; Altamimi, 2025) are consistent with our findings. These studies demonstrate the significant potential of AI tools in enhancing education in Saudi Arabia, particularly in research, writing, and language learning. AI is shown to improve learning experiences and customize EFL courses, fostering engaging environments and innovative teaching methods that increase student motivation and learning. Li et al. (2024) found that ChatGPT supported self-directed language learning, content generation, and enhanced teacher workflows through its multifaceted roles. ChatGPT improved academic productivity, creativity, honesty, and ethical decision-making by fostering responsible AI implementation among instructors, scholars, and policymakers in higher education (Malik et al., 2023). Similarly, Baig and Yadegaridehkordi (2024) evaluated the incorporation of the generative AI model ChatGPT into higher education from a constructivist learning theory perspective. It summarized five advantages: enhancing adaptive learning, customizing feedback, promoting research, optimizing administrative duties, and supporting new evaluations. Mohebi (2024) argued that integrating ChatGPT into education revolutionized traditional teaching methods, enhancing student learning by fostering inquiry and providing instant feedback. In language learning, ChatGPT serves as a digital language companion, helping learners understand complex linguistic nuances through real-time interaction. In a quantitative analysis, Sandu et al. (2024) emphasized ChatGPT's significant role in delivering personalized, on-demand support, which is essential for users who appreciate its flexibility and responsiveness, thereby fulfilling a crucial need in educational environments. Tabib and Alrabeei (2024) conducted a literature review examining the applications of the ChatGPT AI tool in education, highlighting its potential to enhance students' learning experiences by fostering cognitive and metacognitive development. It also underscored the necessity of a guided approach to optimize the tool's effectiveness in the learning process.

However, studies have acknowledged ChatGPT's advantages while highlighting specific challenges and adverse impacts. For example, Palmer and Stevens (2025) noted, while acknowledging the positive aspects, that ChatGPT posed challenges, including possible hindrance to critical thinking, risks of teacher redundancy, concerns about information accuracy, and ethical issues in educational contexts. Mohebi (2024) also reported that 75% of studies recognize the significance of ChatGPT, citing challenges in pedagogical integration (31.25%) and student engagement (15.63%). To utilize ChatGPT effectively for a collaborative and inclusive educational future, institutions must address these challenges. Baskara et al. (2023) noted that ChatGPT enhanced academic discourse and research efficiency, promoting critical thinking, but also raised concerns about technical issues, inaccuracies, and potential overreliance. The study called for a balanced

perspective on AI in professional development within higher education, weighing its benefits and drawbacks. In another study by Alharbi and Al-Ahdal (2025), respondents highlighted concerns about over-reliance on AI, citing risks such as decreased critical thinking, intellectual complacency, and diminished human interaction in education. Alshammari (2024), while acknowledging the stimulating and motivational impact of ChatGPT on learners, noted that they faced challenges such as dependency on technology and occasional misinformation. The analysis of these findings emphasizes the effective, guided use of ChatGPT, highlighting its role as a complement to human instructors rather than a replacement for them.

6. Conclusion

This study examined the perspectives of Saudi EFL learners and instructors regarding the impact of ChatGPT on various learning aspects, including engagement, assessments, academic research, and its integration in EFL classrooms in Saudi Arabia. Participants recognized ChatGPT as a helpful tool that enhanced learning, assessment, and research productivity. This positive outlook is supported by high mean scores across three key learning and engagement, exam and assessment, and research activities, all of which underscore the strong acceptance of AI-mediated learning. Although perceptions of exams received slightly lower scores, they remained largely positive, indicating that factors such as individual test anxiety may play a more significant role in shaping these views than the tool's effectiveness. Qualitative analysis further underlined ChatGPT's advantages, including its ability to deliver personalized feedback, assist in academic tasks, and refine instructional methodologies. Overall, the collective findings suggest transformative potential for ChatGPT in EFL teaching and learning in Saudi higher education. Its integration promises to foster more interactive, efficient, and innovative educational environments, aligning with the goals of Saudi Vision 2030, which emphasize digital transformation and the pursuit of high-quality, technology-enhanced education. The study's limitations include the scope of participants and the setting. Future research should involve more students and diverse regions to enhance the reliability and validity of findings.

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Authors' contributions

Dr. Nasser Alqahtani and Dr. Mohammad Jamshed conceptualized and prepared the manuscript, while Dr. Khalid Khulaif Alshammari and Dr. Mohammad Rezaul Karim revised the manuscript, and all writers approved the article, contributing equally to the work.

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