Integrating Artificial Intelligence and Social Media for English as a Foreign Language (EFL) Learning: A Study on Meta-AI's Influence on Reading Comprehension

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Abstract

This study explores the integration of Artificial Intelligence (AI) and social media, particularly Meta-AI-enhanced WhatsApp, in enhancing reading comprehension among English as a Foreign Language (EFL) learners. Despite the growing use of AI and social media in education, there is a notable lack of empirical research examining their combined effect on language learning. To address this gap, a systematic review was conducted following the PRISMA 2020 framework. A total of 850 studies were initially identified from databases such as PubMed, Scopus, Web of Science, and Google Scholar. After applying strict inclusion and exclusion criteria, 140 studies were included in the review, with 20 selected for in-depth analysis. The findings reveal that Meta-AI-supported platforms provide personalized learning paths, adaptive feedback, and enhanced engagement, contributing significantly to the improvement of reading skills. However, challenges such as ethical concerns, reduced human interaction, and technology accessibility were also noted. This study offers valuable insights for educators and policymakers on effectively integrating AI and social media tools into EFL instruction, suggesting that technology-enhanced environments can surpass traditional methods in promoting reading comprehension and learner motivation.

Keywords: Artificial Intelligence, English as a Foreign Language (EFL) Learning, Reading Comprehension, Meta-AI, PRISMA, Social Media Integration

1. INTRODUCTION

The educational sector has experienced a significant increase in artificial intelligence (AI) technology implementation particularly in English as a Foreign Language (EFL) during the recent years [1]. Artificial Intelligence presents four applications to advance language acquisition through the development of chatbots along with adaptive assessment methodologies and personalized learning environments supported by predictive analytics. This article assesses the influence of AI on EFL classes through an analysis of its pros and cons [2]. An examination followed about how AI technology strengthens foreign language practice

combined with feedback which leads to better educational results for language learners.

The integration of Artificial Intelligence (AI) and social media platforms in educational environments has been a transformative force in recent years, particularly in the field of language learning [61, 65]. One of the primary drivers of this transformation is the evolving theoretical understanding of how technology can enhance the learning process [66]. Key educational theories, such as constructivism and social constructivism, emphasize active, learner-centered approaches to learning, where learners are seen as knowledge constructors rather than passive recipients [67]. These theories suggest that learners acquire language most effectively when they are actively engaged in social interactions and when learning is contextualized in real-world experiences [21]. This aligns with the capabilities of AI-enhanced platforms like Meta-AI-integrated WhatsApp, which offer personalized learning experiences and facilitate interactive communication, thus supporting language acquisition through engaging, contextual conversations [68].

The impact of social networking sites encompasses broad changes within social structures together with English language acquisition and education as well as interpersonal relations [28]. Multiple research studies confirm how these different social media platforms have developed a digital educational environment for modern teaching practices [3]. Social media platforms provide users with easy and convenient ways to network through individual communication and interaction processes. Social networking established itself as an international phenomenon that led to major educational and learning changes during the current pandemic [4]. Students will evaluate how social media networks impact English language learning throughout the COVID-19 period in this study [62].

The digital revolution, particularly the amalgamation of AI and social media, has transformed instructional methodologies and created novel opportunities for language education [63]. The potential of AI to customize learning and increase interactivity offers unparalleled chances for improving English language proficiency through these platforms [3]. Despite the prevalent utilization of social media applications in daily communication and their increasing significance in education, a deficiency persists in empirical research investigating the influence of AI-enhanced social media on language acquisition, particularly among non-English major undergraduates in various scenarios.

Social media, particularly messaging platforms such as WhatsApp, play a pivotal role in language acquisition by fostering social interactions in authentic contexts [64]. Drawing from Vygotsky's theory of social interaction and the Community of Practice framework, this study explores how social media platforms create environments where learners collaborate, share knowledge, and build linguistic

skills within communities. Vygotsky's work emphasizes the importance of social interaction in cognitive development, where learning is viewed as a collaborative process [59]. In this study, Meta-AI-enhanced WhatsApp allows learners to engage in conversational practice and receive real-time feedback, thus facilitating learning within a community of peers and instructors [60].

This research investigates how the incorporation of Artificial Intelligence (AI) with social media platforms can boost language learning, aiming to offer valuable insights on utilizing technology to improve reading skills, essential for language mastery [4]. The project examines systems such as WhatsApp that integrate into everyday life, exploring how AI might tailor language learning to accommodate individual demands and learning styles, thereby enhancing the efficacy of language instruction [5]. The findings may inform educational policy and propose methods for integrating technology into language curriculum, addressing a deficiency in existing research and facilitating the development of future educational techniques [7]. This study may facilitate the development of innovative and more effective language learning methodologies to address the various requirements of contemporary learners by emphasizing the advantages of technology [27].

A significant research gap exists in the intersection of artificial intelligence (AI) and social media for English as a Foreign Language (EFL) learning, particularly regarding AI-enhanced platforms like WhatsApp. While AI-driven tools have shown promise in personalizing learning and improving language acquisition, there is a lack of empirical studies examining their effectiveness in real-world educational settings [6]. Existing research focuses on AI applications or social media separately, but few studies explore their combined impact on reading comprehension among non-English major undergraduate. This study addresses this gap by investigating Meta-AI's role in enhancing reading skills through WhatsApp, providing insights into AI-driven adaptive learning in digital environments. By combining AI with social media, this research addresses the gap in existing literature, where studies often focus on AI or social media separately [58]. The integration of these tools creates a dynamic learning environment that offers personalized feedback, adaptive learning paths, and increased learner engagement, thereby significantly enhancing the effectiveness of English as a Foreign Language (EFL) instruction [57]. This study aims to investigate how such integrated platforms can improve reading comprehension and overall language skills in EFL learners [56]. The following research objectives are determined to detect the EEL learners.

RO1: To evaluate the effectiveness of Meta-AI in improving English reading comprehension among EFL learners.

RO2: To compare the impact of Meta-AI-assisted learning with traditional reading instruction methods.

RO3: To identify potential challenges and limitations in using AI-driven social media tools for English language learning.

2.   MATERIALS AND METHOD

The chief learning objective in EFL education stands as English proficiency because both students and teachers desire it. Research into AI-mediated IDLE in EFL frequently investigates this outcome factor according to [9]. The experimental group that used Google Assistant for autonomous interactive tasks scored higher on an IELTS-graded speech assessment after a post-test [10]. The wide implementation of information technology has established a new educational model for improving postgraduate English education. The research investigates the new educational method for designing postgraduate English curricula using postgraduate English writings and readings as an example to enhance postgraduate English study results [6].
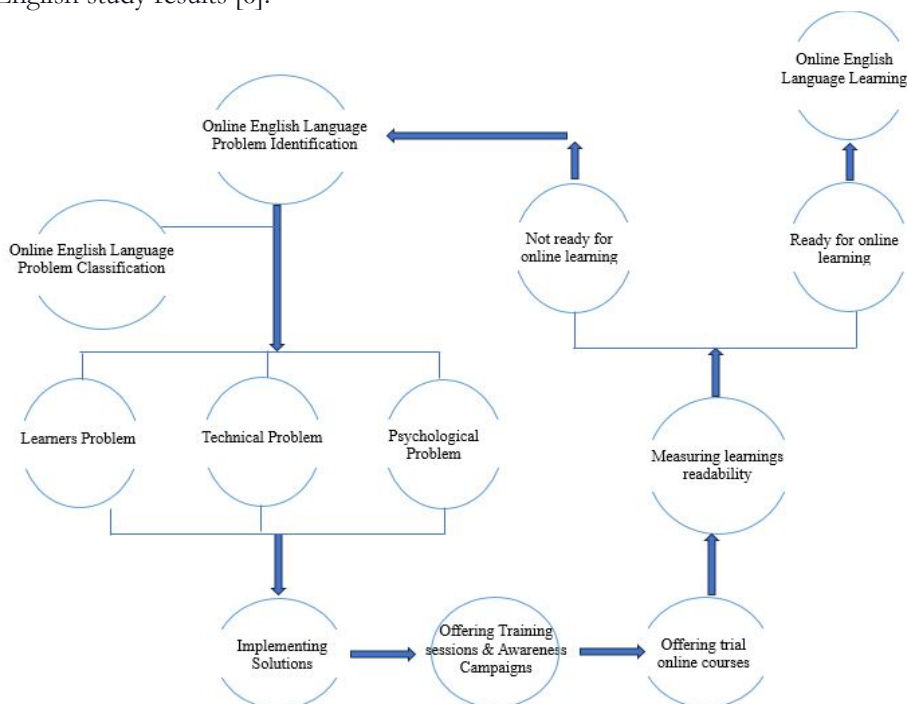
Figure 1. Steps of online English language learning process [8].

An initiative is being developed to explore learning mediators from an educational perspective. Efforts to delineate its area from distinct "schools" of educational philosophy based on a model, alongside its emphasis on learning mediators as faculty fellows of the global university: what is their role in the educational process and how do they accomplish it? This research establishes a foundational distinction between pedagogical responsibilities for mediators, categorizing them as "simulated" versus "emergent." The former is modelled after several types of human educators, while the latter is novel and exclusive to online educational

processes [7]. It is established that there are ongoing advancements in innovative learning mediators.

2.1. Meta's AI-Enhanced WhatsApp

Meta-AI WhatsApp represents an innovative integration of artificial intelligence with the widely used messaging platform, WhatsApp, designed specifically to enhance educational experiences [9]. This AI-driven tool utilizes sophisticated algorithms to analyze users' interactions and tailor English language learning content according to individual proficiency levels. Functionally, Meta's AI-enhanced WhatsApp not only delivers personalized language exercises but also provides immediate feedback and corrections, significantly aiding in the improvement of reading skills [10]. Its interactive nature engages users in a conversational learning format, which simulates real-life communication scenarios, thereby promoting practical language use. English learners receive advantages from frequent practice and contextually relevant language exposure. The platform's advantages could be balanced by its dependence on digital interfaces, which could restrict personal interactions, and its privacy and data security concerns [11]. Its efficacy also depends on the learner's starting competency level and learning style, which might differ from the AI's teaching strategy.

2.2. Impact of AI on EFL/ESL Learners

The integration of Artificial Intelligence (AI) into English language learning (ELL) environments has yielded notable improvements across various educational contexts. AI tools significantly enhanced reading among university students, though they also warned of potential overreliance and ethical concerns [8]. Similarly, AI, when combined with the Production Oriented Approach, effectively improved English reading skills, especially for learners with higher initial proficiency. The broad application of AI in enhancing English multimodal production and online reading, indicating its capacity to adapt learning processes to individual needs [12]. Moreover, AI's role in refining English as a Foreign Language (EFL) writing evaluations, highlighting its potential to provide unbiased and consistent feedback. AI-assisted learning settings significantly enhanced reading proficiency and vocabulary retention, however concerns were raised over potential limitations in fostering independent problem-solving abilities [13]. The revolutionary influence of AI apps such as Quillbot, Grammarly, and ChatGPT on academic writing underscores the imperative for ethical issues in their use. Furthermore, the influence of AI-enhanced reading practices and feedback on Indonesian students' writing skills was examined, revealing that students' views about AI utilization were pivotal in mediating these effects. The ramifications of AI in EFL contexts, with the former examining its influence on the content and structure of students' writing and the latter assessing its effects on speaking anxiety and performance [14].

## 2.3.   Impact of Social Media Apps on ESL Learners

Social media networks significantly improved writing, reading, listening, and speaking skills among undergraduate students during the COVID-19 epidemic, highlighting their potential as an effective educational resource [11]. ELS promoted behavioral, social, and cognitive engagement in English learning more effectively than traditional techniques or WeChat. The pivotal influence of platforms like Facebook, Skype, and WhatsApp in language instruction, notwithstanding problems such as preserving academic integrity and regulating informal communications. YouTube serves as a commonly utilized tool for interactive and accessible language acquisition, promoting peer-to-peer interactions in collaborative English learning [9]. The efficacy of social media platforms such as Facebook and Instagram in fostering vocabulary development, emphasizing their motivational effects and advocating for their integration into formal educational environments. Facebook improved the English writing proficiency of undergraduate students in Pakistan through peer interaction and real-time feedback. Notable enhancements in the spoken proficiency of Iraqi university students using Skype, underscoring its capacity for interactive education [15]. WhatsApp has impacted the communication abilities of Malaysian university students, enhancing collaboration and interaction. An interactive WhatsApp bot markedly enhanced listening abilities among Omani EFL learners, facilitating learning outside traditional boundaries. Google Docs/Slides surpassed WhatsApp in facilitating collaborative writing for second-language learners, highlighting the significance of tool selection for particular goals [16].

2.4.   Methods

This study adopts a systematic review approach based on the PRISMA 2020 framework to investigate the integration of Artificial Intelligence (AI) and social media platforms—particularly Meta-AI-enhanced WhatsApp—in improving English as a Foreign Language (EFL) reading comprehension [16]. The goal was to comprehensively assess the effectiveness, advantages, and limitations of using AI-driven tools in conjunction with popular communication platforms in language education [17]. This methodology aligns with the core research objectives: (1) to evaluate the effectiveness of Meta-AI in enhancing EFL reading skills, (2) to compare Meta-AI-assisted learning with traditional reading instruction methods, and (3) to identify the challenges and limitations of using such AI-supported tools in real-world educational environments [35].

To gather relevant literature, a comprehensive search was carried out across several databases [34], including PubMed, Scopus, Web of Science, and Google Scholar, targeting publications related to AI, EFL learning, social media, and WhatsApp integration. A total of 850 records were initially identified: 210 from PubMed, 190

from Scopus, 160 from Web of Science, and 290 from Google Scholar. No studies were retrieved from academic registers in figure 2 [35]. Prior to screening, 200 records were removed—75 for duplication, 55 through automation tools as ineligible, and 70 for other reasons (e.g., poor relevance, outdated format). This resulted in 650 records for initial screening based on titles and abstracts [33].
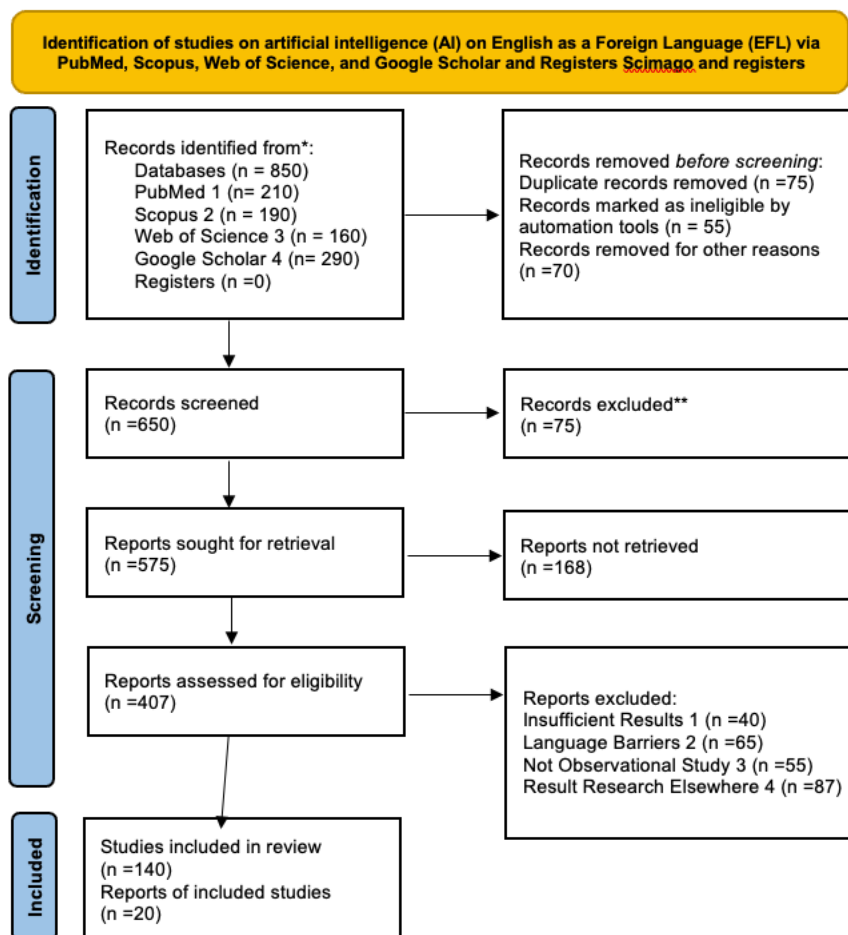
Figure 2. PRISMA Based Systametic Review

Out of the 650 screened records, 575 full-text reports were sought for retrieval, though 168 could not be accessed due to paywalls or incomplete documentation. From the remaining 407 reports assessed for eligibility, 247 were excluded based on predefined criteria: 40 due to insufficient results, 65 for language barriers, 55 for not being observational studies, and 87 for duplicate findings published elsewhere [53]. Ultimately, 140 studies were included in the review, among which 20 were prioritized for in-depth thematic analysis due to their strong relevance to

the research questions [33] and clear methodological soundness in figure 2. These studies provided empirical evidence of how AI tools such as Meta-AI can support adaptive learning [32], personalized feedback, and increased learner motivation through real-time social interaction [18].

This systematic review responds to the increasing interest in AI-driven personalized education, especially during and after the COVID-19 pandemic, which saw a rise in digital platforms for remote learning [31]. By merging AI capabilities with the widespread use of social apps like WhatsApp, learners can benefit from adaptive reading tasks, conversational practice, and continuous support tailored to individual learning styles [43]. The PRISMA-based methodology ensures a structured, transparent, and replicable process of identifying relevant studies, eliminating bias, and synthesizing findings [30]. Overall, the methodology supports the study's aim of offering educators and policymakers evidence-based insights into how emerging technologies can be effectively integrated into EFL instruction to enhance reading comprehension and learner engagement [34].

3.   RESULTS AND DISCUSSION

The major objective of evaluating AI's impact on language learning outcomes is to determine the degree to which AI applications enhance learners' proficiency and linguistic development [17]. Researchers evaluate learners' language competency prior to and following engagement in AI-based interventions, contrasting their progress with that of students who underwent traditional classroom instruction [29]. The performance, fluency, accuracy, and overall language proficiency of language learners are evaluated through summative and formative assessments. Furthermore, the evaluation considers factors such as learner satisfaction, engagement, and motivation. Researchers' analyses collected data to enhance understanding of AI's efficacy in improving language learning outcomes and its potential advantages over conventional teaching techniques [9].

3.1.   Strategies for Integrating AI in EFL

AI technology ought to be implemented in EFL classes through the subsequent methodologies. Initially, equilibrate artificial intelligence with conventional pedagogical approaches. While AI presents various advantages, human interaction remains the most effective method for learning [18]. To guarantee that students possess sufficient opportunities for direct engagement and cooperation, classroom activities may be enhanced by AI technology [2]. Secondly, educator's ought to counsel pupils regarding the use of AI. This entails providing users of the AI platform with explicit guidance, aid in optimal utilization, and fostering learner autonomy and accountability. Ultimately, educators ought to emphasize examination and analysis [19]. Although AI can offer rapid solutions and feedback,

students must possess the ability for autonomous study, critical analysis, and information assessment. This can be achieved by assigning research-based tasks, promoting critical thinking, and instructing on the effective utilization of AI resources [20].

3.2. Professional Development for Teachers in AI Implementation

Educators must acquire adequate professional development in AI implementation to effectively integrate AI technology in EFL classrooms. Initially, educators must receive training on artificial intelligence techniques and technologies [21]. This training may encompass workshops, webinars, and seminars that familiarize educators with the functionalities and applications of AI systems in language acquisition. Educators must get the technical expertise necessary to navigate AI platforms proficiently and seamlessly integrate them into their teaching methodologies. Secondly, instructors ought to receive training on ethical considerations and data privacy [22].

In this paper authors must recognize the implications of utilizing AI technology, including the importance of protecting learner data and addressing algorithmic biases. Teachers should be informed of the optimal techniques for safeguarding data protection, obtaining consent, and maintaining equity and inclusion in AI-driven initiatives. Finally, professional learning groups, conferences, and online forums can facilitate educator collaboration and the sharing of best practices [23]. This allows educators to share effective techniques, learn from each other's experiences, and jointly explore the practical implementation of AI technology in the EFL classroom. By adhering to these recommendations, educators may effectively integrate AI technology into the EFL classroom, maximizing their benefits while mitigating their disadvantages and ensuring students have a balanced and enriching experience [24].

The examination of reading skill enhancements in an educational context utilizing Meta-AI combined with WhatsApp compared to traditional teaching techniques demonstrated notable disparities in the effectiveness of these strategies. The experimental group employing Meta-AI technology demonstrated significantly greater enhancements in reading skills than the control group utilizing conventional teaching approaches [15]. This indicates that the integration of sophisticated technological tools in instructional methodologies, such as Meta-AI, improves student engagement and significantly promotes language proficiency. The significant improvements in the experimental group, especially in reading skills, underscore the benefits of an interactive and technology-enhanced educational setting [3] [24]. These findings underscore the possibility of incorporating novel instructional tools to markedly enhance learning outcomes compared to traditional techniques [21]. The study's findings indicate that the experimental group utilizing Meta-AI combined with WhatsApp had much greater

improvements in reading skills than the control group applying traditional teaching methods.

3.3. Meta-AI-Driven Strategies for Reading Enhancement of EFL

Scientists have conducted research about how well AI programs work for EFL educational courses. Research investigations examine how AI affects language learning abilities that include speaking and listening which are combined with reading and writing [28]. Research studies have analyzed personal learning systems in addition to adaptive testing environments and several other technological solutions [25]. The collected data from learners focuses on their performance alongside their engagement and satisfaction to identify substantial outcomes about AI's effectiveness in language learning and educational results. Auxiliary research helps us identify optimal AI uses in EFL courses via thorough assessment of its performance [29].

1) Personalized Reading Paths: Comparative research has been conducted to evaluate the efficacy of AI relative to traditional EFL teaching methodologies. These studies investigate the differences in learning processes and outcomes between pupils utilizing AI applications and those receiving traditional classroom instruction [9]. Researchers compare students' motivation, engagement, information retention, and overall language proficiency. These studies underscore the unique advantages of AI, including tailored learning experiences, adaptive assessments, and rapid feedback, by assessing the strengths and weaknesses of both techniques [26].

2) AI-Powered Adaptive Feedback: Although social media positively influences language competency and acquisition, numerous academics express greater concern regarding the detrimental effects online networking platforms may have on learners' interlanguage, particularly in relation to uneven spelling and breaches of grammatical conventions. "Internet language is frequently condemned for its perceived lack of correctness and coherence compared to other forms of communication, and for disrupting adjacency." The impact of social media on the learning process of Pakistani students has been documented. Likewise, Facebook serves as a detrimental learning distraction for Saudi pupils [8].

3) Data-Driven Insights for Educators: Reading habits and comprehension development are analyzed by AI, which provides education professionals with actionable data that may be used to modify educational tactics. Effective educational decision-making necessitates superior data, actionable insights, and pragmatic tactics. In addition to academic data, schools must gather and assess a comprehensive array of essential information, encompassing academic achievement and attendance [27]. Administrators require user-friendly solutions to distill extensive data and analytics into comprehensible dashboards.

4) Speech and Text Assistance: Automatic speech recognition (ASR) and text-to-speech (TTS) are two examples of speech and text support technologies that can be utilized in the context of English as a Foreign Language (EFL) [28]. These technologies provide essential tools for enhancing speaking abilities, pronunciation, and general language proficiency. Text-to-speech and speech recognition technologies are utilized in order to enhance reading comprehension, fluency, and pronunciation [4].

5) Gamification and Interactive Learning: Gamification, which integrates gaming elements into educational contexts, along with interactive learning platforms, markedly improves EFL (English as a Foreign Language) instruction by increasing student engagement, motivation, and, consequently, language acquisition. Empowers English as a Foreign Language (EFL) students by providing them with interactive exercises, stories, and quizzes driven by artificial intelligence (AI) [29].

Artificial intelligence (AI) has been included into English as a Foreign Language (EFL) through many advanced technologies that possess the capacity to revolutionize language training entirely. One such tool is AI-driven chatbots, such as ChatGPT, which enable language learners to engage and receive prompt feedback [20]. These chatbots simulate real conversational scenarios, providing students with readily available practice opportunities and tailored language assistance. Adaptive testing is a distinct application of AI commonly utilized in EFL classes [30]. Adaptive testing systems utilize AI algorithms to assess learners' competency levels and tailor the testing procedure to their specific needs. These systems offer a more precise evaluation of learners' language competencies by adaptively altering content and the complexity of test items based on learners' responses [18].

Table 1. Advantages of AI in EFL Learning

Advantages	Description	Reference
Personalized Learning Experiences	The ability to offer each student tailored learning experience is a major advantage of employing AI in EFL. AI algorithms that examine student data, including performance, interests, and learning preferences, can customize materials and activities for individual students. This tailored approach enables students to engage with resources pertinent to their needs, interests, and learning styles.	[17], [31]

Advantages	Description	Reference
Enhanced Language Practice and Feedback	Chatbots and other AI tools in EFL schools are expected to enhance language practice and feedback. These AI-driven chatbots enable students to engage in immersive, authentic language dialogues, facilitating the refinement of their speaking and listening skills in a secure environment.	[32]
Adaptive Testing	AI-driven adaptive testing provides substantial advantages in EFL classrooms due to its capacity to tailor assessments for individual pupils. These methods guarantee that the evaluation accurately represents the students' proficiency by adaptively modifying the difficulty and content of the test questions based on their responses.	[33], [34]
Availability of Language Resources	Students enrolled in EFL programs utilizing AI benefit from an abundance of linguistic resources. Digital resources, including interactive exercises, authentic texts, multimedia materials, and language learning programs, are available on AI-enabled platforms.	[9], [11]

3.4. Advantages of AI in EFL Learning

Students are more inclined to sustain motivation and progress in their language acquisition by receiving material and exercises that are pertinent and suitable for their proficiency level in table 1. Furthermore, AI-driven systems can furnish pupils with customized feedback, highlighting areas for enhancement and providing targeted coaching [55]. This immediate and comprehensive feedback promotes more efficient learning and assists pupils in promptly rectifying their deficiencies[48]. AI-driven chatbots offer students authentic language usage experiences by simulating real-world communication scenarios, hence improving their understanding and communication efficacy across diverse contexts [56, 57]. EFL learners may enhance their language skills through personalized assistance by utilizing AI for practice and feedback [47], so augmenting both their competence and confidence in language proficiency in the table 1.

Educators may choose a tailored methodology to guarantee that students are appropriately challenged, so averting demotivation from excessively difficult content or disengagement from simplistic tasks [58]. The adaptive characteristics of AI-driven testing enhances assessment precision and enables educators to

deliver more effective and tailored training to facilitate language acquisition in the EFL context in the table 1 [59]. These materials are always available and from any location, allowing students to engage in independent study beyond the confines of the traditional classroom [54]. The extensive array of linguistic resources enriches the learning experience, enabling students to explore diverse topics and contexts, so fostering a more profound understanding of the language and its culture in the table 1 [46].

Table 2: Disadvantages of AI in EFL Learning

Disadvantages	Description	Reference
Limited Human Interaction	The positive aspects of AI applications in language acquisition and evaluation exist despite their potential to reduce face-to-face contact between students in EFL courses. For students to conduct meaningful authentic dialogues they require direct contact with both professors and their peers.	[14], [35]
Risk of Overdependence	Excessive EFL reliance on AI tools leads to automatic help which might produce passive student learning through systems. Passive learning behavior develops when Artificial Intelligence systems predetermine information and deliver automated response systems to students.	[36], [37]
Ethical Concerns	Developments in artificial intelligence for EFL create major moral problems in securing student information and maintaining their privacy rights. AI-Based systems conduct data collection operations on learner data through both performance assessment and personal information acquisition.	[38], [39]
Technological Limitations and Accessibility	While using AI in English as a Foreign Language (EFL) there are two main problems with technology limitations and accessibility challenges. The infrastructure needed by AI systems for operation mostly depends on reliable internet connections and proper technology, yet these requirements do not exist equally throughout all educational facilities.	[39], [40]

3.5.   Disadvantages of AI in EFL Learning

The ability of AI chatbots to mimic verbal exchanges extends only to limited degrees as they lack full understanding of human interaction complexity [45]. The delivery of complete foreign language education requires an appropriate blend between artificial intelligence applications and person-to-person contact for educational success in Table 2. The development of education requires alignment between AI-based initiatives and student-led investigation along with autonomous reasoning to provide complete learning experiences [39]. Security measures to protect student privacy must be established because unlawful access to personal information and data breaches must be avoided. Requirements for ethical use of AI systems require avoidance of system-generated biases because they could cause unintentional social injustices during operation [38]. Lack of technological access between students creates gaps which prevents pupils from enjoying AI-based educational products and digital learning experiences [37]. AI system integration needs both teachers and learners to undergo a learning process which involves spending effort to adapt their methods of instruction and familiarize themselves with new educational tools in the Table 2.

3.6.   Future Trends in AI for EFL

As it evolves, AI technology possesses considerable potential to provide novel options in EFL education. Advancements in natural language processing and generation will enable AI systems to understand and generate language more akin to that of humans [41]. Consequently, AI chatbots will possess enhanced capabilities, facilitating more intricate and interesting conversations with kids. Furthermore, it is expected that adaptive and personalised learning platforms would advance significantly. These platforms will employ AI algorithms to deliver tailored activities, tests, and material based on the specific needs of individual learners [20] [42]. Future developments in AI-driven EFL instruction will significantly influence educators and learners. Students will acquire enhanced access to personalised and adaptable learning possibilities customised to their own needs, preferences, and learning styles [36]. AI technology can enhance the efficacy of language acquisition by providing constant feedback, tracking progress, and offering personalised recommendations [16]. Nonetheless, forthcoming AI advancements in the EFL classroom present challenges and concerns that warrant consideration [35]. Educators must get the requisite skills and knowledge to effectively integrate AI technology into their instructional methodologies[10].

3.7.   Research implications and recommendations

The research findings in this study have significant implications for the integration of AI and social media in EFL learning [39]. The results highlight the potential of

AI-enhanced platforms, such as Meta-AI WhatsApp, to improve reading comprehension among non-English major undergraduates [43]. They suggest that AI-driven personalized learning can be a valuable supplement to traditional teaching methods, offering adaptive content and real-time feedback [28]. For educators, the study underscores the need for professional development in AI-assisted teaching to maximize its benefits while addressing limitations, such as over-reliance on technology and ethical concerns related to data privacy [32]. Institutions should consider incorporating AI-based tools into their language curricula, ensuring they complement face-to-face instruction rather than replace it. From a policy perspective, this research advocates for the inclusion of AI in language education policies, promoting accessibility and digital literacy among students [44]. Future research should explore AI's impact on long-term language acquisition and its applicability across diverse educational contexts, ensuring that technological advancements align with pedagogical effectiveness and student learning needs [45].

The current study has significant limitations. Initially, data were obtained from only four classes, therefore constraining the scope of the investigation. The data was gathered during mid-semester [46]. Consistent reflections throughout the year may uncover additional insights. Third, all enquiries and reflections were composed by students in English. If let to write, individuals may more effectively express their emotions [47].

This study highlights the potential of integrating Artificial Intelligence (AI) and social media to enhance English as a Foreign Language (EFL) learning, particularly through Meta-AI-enhanced platforms like WhatsApp [16]. The findings emphasize AI's ability to personalize learning paths, provide adaptive feedback, and increase learner engagement, significantly improving reading comprehension [17]. Meta-AI platforms offer a tailored, interactive learning environment that fosters active learning and social interaction, aligned with constructivist theories of language acquisition. For educators and policymakers, the research suggests that AI and social media tools can surpass traditional methods, particularly for non-English-major learners, by boosting motivation and proficiency [19]. However, the study also identifies challenges, including ethical concerns, reduced human interaction, and accessibility issues, which must be addressed to ensure equitable implementation [49]. Finally, the study calls for more empirical research into the combined impact of AI and social media on language learning, an area that remains underexplored in educational contexts.

4. CONCLUSION

This study illustrates that the integration of Meta-AI with WhatsApp markedly improves reading skills in language learners relative to traditional teaching techniques. The experimental group's significant improvements in reading proficiency underscore the efficacy of interactive, adaptive, and technology-enhanced learning environments. Artificial Intelligence presents both advantages and disadvantages in English as a Foreign Language instruction. AI tools that offer customized learning, enhanced language practice, targeted feedback, and precise assessments encompass chatbots, adaptive testing, and tailored learning experiences. Nonetheless, there are concerns over the absence of human interaction, the risk of dependency, ethical dilemmas, and technological limitations. Ongoing research and development are crucial for maximizing AI's potential in English as a Foreign Language (EFL).

Artificial intelligence can enhance language acquisition by offering personal support, tailored learning experiences, and immersive practice opportunities. In the EFL context, educators can leverage AI technology to enhance student empowerment and facilitate language development by achieving a balance between AI utilization and human interaction. Notwithstanding the promising results, this study has inherent limitations. The intervention's brevity may have hindered the assessment of Meta-AI integration's enduring impact on reading and language skills. Secondly, the study exclusively comprised first-year undergraduate non-English majors, constraining its relevance to different age demographics or educational contexts.

One AI platform (WhatsApp) obstructs comprehension of how other AI-integrated applications can operate in similar contexts. Finally, external factors such as students' prior exposure to English and technical ability were not thoroughly investigated, which may affect outcomes. The integration of AI and social media, particularly Meta-AI-enhanced platforms like WhatsApp, offers personalized learning experiences that significantly improve EFL learners' reading comprehension. Educators and policymakers are encouraged to adopt AI-driven tools for more engaging, adaptive, and effective language instruction, especially in non-English-major contexts. Challenges such as ethical concerns, reduced human interaction, and accessibility need to be addressed to ensure equitable and effective use of these technologies in education.

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