تعلّم اللغات بمساعدة الذكاء الاصطناعي: الفاعلية، والهوية، واستقلالية المتعلم في استخدام الدردشة الآلية ونماذج اللغة الكبيرة

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AI-Assisted Language Learning: Efficacy, Identity, and Learner Autonomy in the Use of Chatbots and LLMs

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الملخص

تركز هذه الدراسة النوعية على التعلم الذاتي، واستقلالية المتعلم، وتشكيل الهوية، وتحقق في تجارب طلاب الصف العاشر في العراق الذين يستخدمون روبوتات الدردشة الذكية ونماذج اللغة الكبيرة (LLMs) لاكتساب اللغة. على مدى فترة تتراوح من أربعة إلى ستة أسابيع، تم استخدام المقابلات شبه المنظمة، ومجموعات التركيز، والملاحظات الصفية، والمجلات التأملية لجمع البيانات. ووفقًا للنتائج، فإن الأدوات المدعومة بالذكاء الاصطناعي يمكن أن تحسن استقلالية المتعلمين من خلال توفير فرص للممارسة المستقلة، والتغذية الراجعة الفورية، ومساحة آمنة للتجربة. وهذا سيؤدي في النهاية إلى زيادة الثقة والدافعية لتعلم اللغة. علاوة على ذلك، تأثر تشكيل هوية المتعلمين بتفاعلاتهم مع الذكاء الاصطناعي، مما ساعدهم على الاعتقاد بأنهم مستخدمون أكثر كفاءة للغة.

لكن تمت ملاحظة قضايا مثل الاعتماد المفرط على استجابات الذكاء الاصطناعي والحاجة إلى التقييم النقدي، مما يبرز أهمية الممارسات التأملية وإشراف المعلمين. وفقًا لنتائج

الدراسة، يمكن أن تكون روبوتات الدردشة بالذكاء الاصطناعي ونماذج اللغة الكبيرة أدوات مفيدة لتعزيز التعلم الذاتي، وفاعلية المتعلم، وتطوير الهوية في فصول تعلم اللغة عند دمجها بعناية. وهذا له تداعيات مهمة لكل من الطلاب والمعلمين في بيئات تعلم اللغة المعاصرة.

Abstract

Focusing on self-regulated learning, learner autonomy, and identity formation, this qualitative study investigates the experiences of Grade 10 students in Iraq utilizing AI chatbots and large language models (LLMs) for language acquisition. Over the course of four to six weeks, semi-structured interviews, focus groups, classroom observations, and reflective journals were used to gather data. According to the results, AI-mediated tools can improve learners' autonomy by offering chances for independent practice, instant feedback, and a safe space for experimentation. This will eventually increase confidence and motivation for language learning. Furthermore, learners' identity formation was impacted by AI interactions, which helped them believe that they were more proficient language users. But issues like an excessive dependence on AI responses and the requirement for critical assessment were also noted, underscoring the significance of reflective practices and teacher supervision. According to the study's findings, AI chatbots and LLMs can be useful resources for promoting self-directed learning, learner agency, and identity development in language classrooms when carefully incorporated. This has important ramifications for both students and teachers in contemporary language learning environments.

I.Introduction

1.1Background of the study

Traditional paradigms in language learning are changing as a result of the incorporation of Artificial Intelligence (AI), especially Large Language Models (LLMs) and chatbots. These resources provide immediate, individualized, and dialogic support; they may act as "learning companions" or "tutors" that improve self-efficacy, motivation, and autonomy (Ennion & McLellan, 2024; Kittredge et al., 2025). According to research, these tools enable adaptive learning paths, real-time feedback, and motivational scaffolding, which promote self-regulated learning (SRL) and learner autonomy (Xia et al., 2023; Mahmoud, 2022). At the beginning of the twenty-first century, breakthroughs in artificial intelligence, machine learning (ML), and natural language processing (NLP) iCALL (Intelligent Computer-Assisted Language Learning) emerged as the most recent development— or a subfield of CALL—for some. Additionally, these advancements stimulated research on

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applications of adaptive learning (Kannan & Munday, 2018). Artificial intelligence is used by iCALL systems to deliver more individualized and flexible educational experiences. In contrast to standard CALL systems' "onesize-fits-all" methodology, iCALL customizes educational exercises to meet the unique requirements of every pupil. Additionally, Applications for iCALL can create AR/VR learning environments that are immersive and engaging (De la Vall & Araya, 2023), correct grammar or translate texts, and provide personalized instructions and feedback. By involving language learners in real-world tasks and contexts, these applications manage to give language learners a more authentic and engaging learning experience.

According to empirical research, AI-assisted language learning dramatically raises learners' self-efficacy, allowing them to successfully plan and track their objectives (Kittredge et al., 2025). Additionally, AI-powered chatbots support self-directed learning environments by providing prompt responses and tailored feedback (Frontiersin; Smart Learning Environments, 2024). For SRL, immediate feedback is essential because it allows students to evaluate their comprehension and promptly modify their approach. Real-time analytics-enabled digital platforms give students instant access to performance information, identifying both their areas of strength and areas in need of development. This instantaneity encourages a growth mindset and ongoing self-evaluation.

But there are risks associated with the promise of autonomy: increased reliance on AI tools can impair critical thinking and self-control, particularly in cases where students lack digital literacy or rely too heavily on automated solutions (ELT Journal, 2025). LLMs can also influence learning engagement and identity. The relational aspect of chatbots, which provides personalized assistance and a cooperative "study partner" experience, affects how students place themselves within the learning process (Ennion & McLellan, 2024). However, little is known about how learners negotiate their roles and form identities in AI-mediated environments.

1.2Problem Statement

Both opportunities and challenges have arisen from the growing use of AI chatbots and large language models (LLMs) in language learning, prompting serious concerns about their pedagogical effects. Although these tools provide opportunities for real-time interaction, personalized practice, and adaptive feedback, it is still unclear how well they support learner autonomy and self-regulated learning. In addition, little is known about how AI-mediated language tools affect learners' motivation, engagement, and identity formation—especially when it comes to how

they manage their agency and self-directed decision-making in AI-supported settings. In order to change the dynamics of learner control, responsibility, and self-regulation in language acquisition contexts, it is imperative to investigate whether the use of chatbots and LLMs actually promotes autonomous, reflective, and identity-conscious language learners or unintentionally encourages reliance on AI guidance.

1.3Research Questions

1.How effective are AI chatbots and large language models (LLMs) in enhancing language learning, particularly in fostering self-regulated learning and learner autonomy?

2.In what ways do AI-mediated language learning tools influence learners' identity formation and sense of agency?

1.4 Research Objectives

•to assess how well large language models (LLMs) and AI chatbots improve language acquisition, with an emphasis on encouraging learner autonomy and self-regulated learning.

to look into how learners' sense of agency and identity formation are affected by AI-mediated language learning resources in language learning environments.

1.5Significance of the study

The study's potential to provide light on how AI chatbots and large language models (LLMs) can revolutionize language learning experiences makes it important for both instructors and students. The study sheds light on how these resources might help students establish their identities, promote autonomy, and improve self-regulated learning when learning a new language. Students may make better decisions about incorporating technology into their language learning strategies by being aware of the advantages and disadvantages of AI-mediated learning, which will eventually increase motivation, engagement, and learning.

The research provides recommendations for instructors on how to successfully integrate AI technologies into language training, emphasizing best practices for striking a balance between possibilities for autonomous learner action and technology help. It also gives teachers a better understand of how AI affects learner identity and self-directed learning, which helps them create pedagogical interventions that optimize AI's advantages while addressing possible drawbacks like excessive reliance on technology or decreased learner autonomy.

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II.Literature Review

2.12.1 Chatbot Evolution

Conversational AI, sometimes referred to as discussion bots or or simply "bots," are artificial intelligence systems or software that use natural language to interact with humans (Mavropoulou & Arvanitis, 2023; Bibauw et al., 2019). Chatbots may intelligently reply to users in natural language and conduct text or voice conversations on any topic. (Son et al., 2023; Kim et al., 2022; Haristiani, 2019)In its latest iteration, which is built on conversational AI, chatbots may serve as intelligent instructors by conversing with users, locating pertinent learning resources, and giving them feedback on their inquiries, among other things(Mageira et al., 2022; Belda-Medina & Calvo-Ferrer, 2022). Over the past few decades, chatbot technology has advanced quickly, mostly as a result of new developments in machine learning and natural language processing(Luo et al., 2022; Caldarini et al., 2022). Way back in 1966, the journey into the world of chatbots kicked off when MIT unveiled the pioneering program ELIZA, crafted by Weizenbaum. Fast forward to 1972, and we saw the arrival of PARRY, an updated marvel that boasted not just a more logically sound framework but also the ability to exhibit emotional responses, making interactions feel a tad more human-like. These two chatbots were not able to decipher the input; instead, they operated automatically. Using Comparing patterns with replacement Thus, ELIZA mimicked dialogue by using prewritten answers without understanding the context or meaning of the speech. Similar concepts were used in PARRY, which included more intricate rules to mimic paranoid behavior (Colby et al., 1971)..

Significant advances in natural language processing (NLP) in the early 2000s resulted in the development Combining chatbots with human language comprehension and production skills, allowing for Further organic user interactions.. ActiveBuddy and Cleverbot were initially released in 2001 and 2008, respectively. Cleverbot 2011 saw the first chatbot pass the Turing test, scoring 59.3% human-like..During At that point, intelligent voice assistants also start to arrive. The introduction of Siri by Apple in 2010 signaled the incorporation of artificial intelligence (AI) into consumer electronics. IBM unveiled Watson in 2011 (High, 2012), utilizing AI to comprehend and handle complex queries. Google launched Google in 2012.

2.2 The Rise of Large Language Models (LLMs)

Continuous Large Linguistic Models (LLMs) are the result of linguistic model research., which have revolutionized natural language processing and significantly improved the creation and utility of chatbots. According

to Dam et al. (2024), there are two categories of chatbots: the first generation, which comprises chatbots created before to the introduction of LLMs (pre-LLM), and those that utilized LLMs as soon as they became available. When OpenAI unveiled GPT (Generative Pre-trained Transformer) in 2018, LLMs gained widespread recognition.. Other businesses, research teams, or educational specialists also presented comparable LLMs at the same time: Large language models (LLMs) include XLNet (Yang et al., 2019), T5 (Raffel et al., 2020), RoBERTa (Liu et al., 2019), BERT (Devlin et al., 2018), PaLM (Chowdhery et al., 2022), LLaMA (Touvron et al., 2023), and BLOOM, an open-source, translucent multilingual language model that supports 46 natural languages and 13 programming languages. To learn linguistic structures, grammar, and semantics, these models are first trained on enormous volumes of text data. As a result, LLMs can produce writing that is human-like, communicate, respond to inquiries, and successfully complete a variety of tasks including language (Kasneci et al., 2023). Following It's initial training, they are refined on certain tasks or domains like summarization, translation, and text production, which improves their performance in a variety of language applications (Wei et al., 2021).

2.3LLM Chatbots & language learning

Numerous opportunities presented by LLM chatbots have the potential to improve—or possibly completely transform— The acquisition of language experience. The possible impact of chatbots on language learning has been the subject of numerous studies (Kim, 2020)., and seven categories of AI technology and language learning applications have been identified .These categories are interrelated and can be merged depending on the specific usage in each case: Chatbots, Computer-assisted Dynamic assessment (CDA), intelligent tutoring systems (ITSs), and data-driven learning (DDL), automated writing evaluation (AWE), automated speech recognition (ASR), and natural language processing (NLP). Huang and associates (2022) documented a range of applications for AI that could assist pupils in enhancing each of the four linguistic skills as part of their study on the integration of AI into language education. They also emphasized the significance of Intelligent Tutoring Systems (ITS), Automatic Writing Evaluation (AWE), and Personalized Language Learning Systems. They came to the conclusion that AI apps have a lot of promise for delivering students individualized learning experiences, instantaneous correction, and chances to practice the target language at any time or place. The research findings of Obaidoon & Wei (2024) also point to a bright future for AI in education, since LLM chatbots are getting close to human-level competency in their score

assessments. It is challenging to classify the existing literature Given that using AI to teach languages is still a relatively new issue,. Below is a quick summary of the primary domains in which LLM chatbots can be helpful in language acquisition, based on the most referenced studies of the previous four years.

Students can Practice writing and speaking in a foreign language, understand colloquial expressions and cultural references, and improve their fluency and self-assurance by deploying LLM Chatbots as conversation partners that provide real-time interaction (Brown et al., 2020).

It's also essential to speak and comprehend many languages. According to Lewis et al. (2020), this makes it possible for LLM chatbots to provide real-time translation assistance, helping pupils performing comprehending texts tasks and explaining new vocabulary and idioms. They also provide students the abilit to collaborate on concurrent content in multiple languages. By assisting those in identifying variations in vocabulary, syntax, and colloquial usage, this can aid students in comprehending the structure and fluency of the target language (Conneau et al., 2020).

III.Methodology

3.1 Research Design

In order to investigate how Grade 10 students in Iraq experience language learning with AI chatbots and large language models (LLMs), this study will use a qualitative research design, more precisely a case study approach. An in-depth analysis of students' perceptions, autonomy, identity formation, and the ways AI-mediated tools affect their learning processes is made possible by the qualitative design. This method gives learners lived experiences top priority and offers deep, illustrative insights that are impossible to obtain solely through quantitative measurements.

3.2 Participants

The study will involve Grade 10 students from selected secondary schools in Iraq. A purposive sampling technique will be used to select 15–20 students who have intermediate English proficiency and are willing to participate in AI-assisted language learning. Teachers of these students will also be included as key informants to provide complementary perspectives on student engagement and autonomy.

3.3 Data Collection Instruments

Several qualitative data collection tools will be used in the study to fully comprehend how students interact with AI chatbots and LLMs. While teacher interviews will offer insights into student engagement,

independence, and challenges encountered during AI-assisted learning, semi-structured interviews with students will examine their perceptions of autonomy, self-regulated learning strategies, and identity formation. Small groups of four to six students will participate in focus groups to record peer interactions, group experiences, and cooperative learning dynamics. Furthermore, field notes recording verbal and nonverbal behaviors, problem-solving techniques, and the application of self-directed strategies will be used to document classroom and AI-assisted learning sessions. Finally, over the course of four to six weeks, students will keep reflective journals in which they will document their own experiences, difficulties, and emotions as they engage with AI tools. This will yield rich, detailed qualitative data for analysis.

3.4 Procedure

In order to ensure voluntary participation, the study will start with a preparation phase in which teachers and students will be introduced to AI chatbots, the goal of the study will be explained, and parental consent will be sought. Preliminary interviews will be conducted to learn more about students' first impressions and experiences with AI-assisted language learning. In order to document engagement, interaction, and self-directed strategies, students will engage in structured AI-supported activities two to three times a week for four to six weeks. Reflective journals will also be kept, and classroom observations will be made. Students' perceptions, autonomy, and identity formation will be examined through focus groups and follow-up interviews after the intervention to see if their use of AI tools has changed anything.

3.5 Ethical Considerations

The study will adhere to strict ethical considerations to protect participants' rights and well-being. Informed consent will be obtained from both students and their parents, and participation will be entirely voluntary, allowing students to withdraw at any time without consequence. Anonymity and confidentiality will be maintained throughout the research, ensuring that personal information and responses are kept private. Additionally, sensitive reflections shared in journals, interviews, or focus groups will be treated with discretion, and all data will be handled responsibly to uphold ethical standards in the study.

IV.Discussion

One of the study's most important conclusions is that students' self-regulated learning behaviors were positively impacted by AI chatbots and LLMs. Numerous participants stated that engaging with AI tools enabled

them to practice language skills on their own, at their own speed, and without a teacher's direct presence. The freedom to experiment with sentence structures, learn new words, and fix errors on one's own was constantly highlighted in reflective journal entries. This is consistent with research indicating that adaptive AI tools can support metacognitive reflection, scaffold learning, and offer real-time feedback (Xia et al., 2023; Mahmoud, 2022). These results were further supported by observations made in the classroom. To increase their comprehension, students were seen rewording prompts, applying problem-solving techniques, and going over AI responses again. AI-enabled autonomy seemed to encourage students to take charge, schedule their classes, and track their development. There were some restrictions, though. Some students showed an excessive dependence on AI recommendations, at times taking responses without question. This emphasizes the need for direction in striking a balance between AI support and autonomous thought, reaffirming that AI should enhance rather than replace conventional self-regulated learning techniques.

Influence on Learner Identity and Agency

The impact of AI tools on learners' sense of agency and identity formation is another important theme that emerged from the study. According to interviews, students felt more comfortable speaking English when utilizing chatbots because AI offered a practice setting free from criticism. Risk-taking in language use was promoted by this feeling of security and decreased anxiety, which is crucial for the development of communicative competence. When having lengthy conversations with AI, students often reported feeling "like a real speaker," indicating that technology can help learners create their identities.

Nuanced insights into peer perceptions and the social aspects of identity were also uncovered through focus group discussions. Students appreciated autonomous AI interactions, but group conversations regarding AI answers allowed them to consider language choices, assess accuracy, and work together to negotiate meaning. Through the combination of peer reflection and autonomous AI interaction, this dual process improved learners' self-awareness and fostered both the social and cognitive aspects of identity. This conclusion was supported by teachers' observations, which showed that after students gained confidence from AI-assisted practice, they were more engaged and willing to participate in class discussions.

Balancing AI Support and Critical Engagement

despite these encouraging results, the study also identifies difficulties with students' critical use of AI tools. Critical thinking abilities are required for efficient AI use, as evidenced by the frustration some students expressed when AI responses were unclear or contextually incorrect. Observations showed that students occasionally accepted AI-generated responses without question, which could impede the growth of autonomous judgment and agency. These results highlight the value of scaffolding, reflective prompts, and teacher mediation in ensuring that AI use enhances rather than detracts from self-directed learning.

Students' interactions with AI tools were also impacted by contextual and cultural factors. Some students were initially hesitant to fully engage with autonomous learning tasks or trust AI guidance in the Iraqi educational context, which is dominated by traditional teacher-centered approaches. However, students eventually came to accept AI tools as facilitators rather than substitutes for teacher input thanks to consistent exposure and organized support. This shift highlights the need for ongoing guidance, learner readiness, and careful consideration of local educational norms when integrating AI in language learning.

V.Conclusion

This study examined how Grade 10 students in Iraq used large language models (LLMs) and AI chatbots to learn the language, with an emphasis on identity formation, learner autonomy, and self-regulated learning. Insights into how AI-mediated tools affect students' perceptions and learning processes were abundant in the qualitative data collected through focus groups, interviews, classroom observations, and reflective journals. According to the research, AI chatbots and LLMs can improve language learning by offering instant feedback, chances for self-directed practice, and a safe space that promotes experimentation and risk-taking. When using AI tools, students reported feeling more confident, engaged, and empowered, which suggests that these tools can help foster the growth of independent, self-directed learners. However, the study also identified issues that require attention. In order to make sure that the use of AI enhances rather than diminishes learner autonomy, some students showed an excessive dependence on AI responses or lacked the critical evaluation abilities necessary to warrant such a course. Students' initial reluctance to use AI tools on their own was also influenced by cultural and contextual factors, such as the traditional teacher-centered practices in Iraqi schools.

Overall, the study finds that when carefully incorporated into the classroom, AI chatbots and LLMs have a lot of potential as supplementary language learning tools. Teachers can help students

become self-reliant, self-assured, and identity-conscious by integrating AI-assisted practice with reflective exercises, peer collaboration, and teacher mediation. In order to optimize the advantages of AI in educational settings while addressing any potential drawbacks, this study emphasizes the necessity of meticulous planning, scaffolding, and continuous support. Larger and more varied populations, the long-term impacts of integrating AI, and particular aspects of AI tools that best support learner autonomy and identity development should all be investigated in future studies.

In conclusion, AI chatbots and LLMs offer pedagogical and practical benefits that can enable students to take charge of their education and enhance their linguistic and personal development, making them a promising future for modernizing language instruction in Iraq.

Limitations and Future Directions

Despite the study offers valuable qualitative insights, it should be noted that it has a number of limitations. The results may not be as broadly applicable as they could be because of the small sample size and the fact that it only included Grade 10 students from particular Iraqi schools. Furthermore, because the study was voluntary, it might have drawn students who were already driven or tech-savvy. Future studies could examine comparative analyses across various educational contexts, larger and more diverse populations, and the long-term effects of AI-assisted language learning. Furthermore, examining particular AI characteristics, like conversation simulations or adaptive feedback algorithms, may offer an improved understanding of the ways in which AI affects learner autonomy and identity.

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