Assessing the Role of AI Chatbots in Enhancing Arabic and English Learning within Kuwait's Bilingual Education System

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Abstract

The bilingual education system, where Arabic and English are used throughout the primary, secondary, and higher education in Kuwait, is the key to achieving both global competence and cultural and linguistic identity. Although this system has strengths, it has issues to do with the lack of individualized language use, limited classroom time, and lack of feedback opportunities, especially when it comes to second language acquisition. The recent developments in the sphere of artificial intelligence (AI), namely chatbots driven by AI, offer some perspective of overcoming these drawbacks, through adaptive, interactive, and learner-driven language assistance. This paper evaluates the use of AI chatbots in improving the acquisition of both Arabic and English languages in Kuwait, which has a bilingual education system. Based on the available literature and the contextual analysis, the study examines the way AI chatbots can facilitate personal practice, learner autonomy, and the development of listening, speaking, reading, and writing skills in a balanced manner. Also, the paper considers the pedagogical advantages, practical issues, and general implications of inclusion of chatbot technologies, paying specific focus to technological preparedness, the views of educators, and the student involvement and achievement. The results are expected to be useful in the context of making informed choices about the successful implementation of AI chatbots in the bilingual education system and in the context of the creation of supportive, inclusive, and culturally sensitive language learning experiences in Kuwait.

Keywords

Artificial intelligence, AI chatbots, bilingual education, Arabic language learning, English language learning, educational technology.

1. Introduction

The The education environment in Kuwait has become more accommodative to bilingual education where Arabic and English are used as leading language throughout the school life of the various levels of education. This bilingual structure is exemplified by bilingual schools, including Kuwait Bilingual School and Al Ghanim Bilingual School, which offer educational programs based on the use of both English and Arabic to promote globalization and at the same time ensure the preservation of cultural and linguistic traditions (Marta Maria Tryzna & Hussain Al Sharoufi, 2017)[1]. At the university level, schools like the American University of Kuwait provide higher education programs based on the use of both English and Arabic in their learning programs in order to foster globalization as well as uphold cultural and linguistic heritage.(Wright, 2024)[2].

Along these language goals, Kuwait has indicated an increasing interest in educational technologies and AI adoption, inspired by national digital transformation policies and investment outlooks, which project a significant expansion in EdTech adoption measures in schools and universities(StratosEdge Trek, 2025)[3]. Intelligent tutoring systems and chatbots are some of the AI-based tools that are in the ascendancy in the global arena providing adaptive and interactive learning experiences that learners can get in relation to their needs. Studies have indicated that AI-based chatbots could offer personal feedback, adaptive learning experiences, and more interaction with the learner and thus could be good candidates to supplement language acquisition processes outside of the classroom setting (Liu et al., 2025)[4].

The processes provoke the necessity of the critical analysis of how AI chatbots can be utilized in the context of Kuwaitian bilingual education to promote learning the Arabic and English languages, considering the pedagogical objectives, the needs of learners, and the socio-technological landscape.

1.1 Problem Statement

Although language objectives of the Kuwaiti bilingual education system are evident, there are still some difficulties to offer students the regular and individual practice opportunities, particularly, even during non-timetable lessons. Conventional teaching can also be based on rigid curricula and narrow classroom time, which might not be sufficient to meet the diversity of learners in terms of their understanding or learning levels especially in L2 situations.

In addition, as research shows, foreign language learners usually experience a lack of individual practice and feedback opportunities, which can become an obstacle to the balanced development of the four language areas: listening, speaking, reading, and writing. As a form of adaptive conversational agent, AI chatbots can provide learners with scalable, learner-focused support by complementing the already existing instructional support and offering immediate feedback to the learners based on their proficiency levels. The education efficiency, the correct pedagogic functions of such tools, and integration issues of such tools are not well studied, especially in bilingual environments where one has to support not only the well-known language but also the heritage language.

This disconnect explains why the research is necessary to explore how AI chatbots may facilitate differentiated learning processes, learner autonomy and balanced language acquisition both in Arabic and English, particularly in the rapidly changing educational technology landscape in Kuwait.

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1.2 Research Objectives

The major aims of this research are to: Assess how AI chatbots might help Arabic and English language education in the Kuwaiti bilingual education environment, how they can be used to improve individual practices, interaction and learner agency.

Outline the pedagogical advantages, practical issues and general impacts of using AI chatbots in bilingual language education in Kuwait, focusing on technological preparedness, educator views, and student performance.

1. Literature Review

2.1 Artificial Intelligence Chatbots in Language Learning

Inclusion of AI-based chatbots in language teaching is a field that has received growing academic interest in the last decade. Studies always show that chatbots can be used to assist various areas of learning a foreign language especially in vocabulary acquisition, grammar and development of writing. The evidence presented in the journals of applied linguistics and educational technology suggests that chatbot-mediated communication can help learners gain repeated exposure to the structures of the target language, output and feedback, which are important in the process of second language acquisition (SLA) (Wiboolyasarin et al., 2025)[5].

The empirical evidence that was published in the Journal of Language and Linguistic Studies implies that chatbots can be efficiently used as the auxiliary learning devices because they provide controlled practice settings where the learners do not fear negative feedback (Lyu et al., 2024)[6].These are especially useful in EFL classrooms where the amount of time in the classroom can be low. Self-paced learning is also facilitated and made possible by chatbots, so that students can revisit the concepts of linguistics at their own pace to help build on retention and accuracy (Xiao et al., 2024)[7].

The research mentioned by Cambridge University Press & Assessment on meta-synthesis also reveals the pedagogical value of AI chatbots. Systematic meta-synthesis of articles that were published between 2010 and 2024 also revealed that the use of chatbots has a positive impact on interaction quality, communicative competence, learner motivation, and engagement in different educational situations (Koç & Savaş, 2024)[8]. The authors believe that conversational AI can be integrated with the interactionist theories of SLA because it supports meaning-oriented communication and negotiated interaction, even during asynchronous learning.(Ji et al., 2022)[9].

2.2 Attitudes and AI Chatbots Effectiveness

The perception of learners is an important factor that can define the effectiveness and the sustainability of AI-based learning tools. Several studies demonstrate a rather positive student attitude towards the use of chatbots in language learning, especially when accessibility, personalization and autonomy are regarded. According to the research published in Jurnal Sosial Sains dan Teknologi, students find chatbots useful in practicing sentence construction, developing vocabulary, and getting individual corrective feedback, and this aspect leads to increased conversational confidence (Huang et al., 2021)[10].

Nevertheless, there are also significant issues found in the literature concerning chatbot-mediated learning. Researchers and learners have raised a concern on ethical considerations, such as excess

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dependence on AI applications, chances of plagiarism, and the quality of processed answers (Hadinejad et al., 2025)[11]. Also, although chatbots are useful as aids to written and receptive language acquisition, various researchers believe that they are still weak in promoting higher order oral language acquisition, specifically that which depends on pragmatic competence, emotive nuance, and spontaneous negotiation of meaning, which can be traditionally acquired in the human-to-human interaction.

With these ambivalent perceptions to consider, it is evident that even though AI chatbots can be helpful as a complementary tool, they cannot be considered to replace a teacher, but instead, it is a pedagogical assistant that will provide an opportunity to learn outside the classroom.

2.3 Artificial Intelligence in Bilingual and Cross-Linguistic Reality

The use of AI chatbots in the context of bilingual and cross-linguistic education also brings new linguistic and technical challenges. The studies on Arabic chatbot development note the issues concerning the lack of quality annotated Arabic corpora, the variety of dialects, and language peculiarities between the Modern Standard Arabic and regional dialects (Alsaawi, 2025)[12]. The challenges may influence the accuracy of chatbots, the appropriateness in context, and trust in learners, especially in education.

In spite of those constraints, the literature underlines the potential of Arabic-enabled chatbots as an effective way to promote literacy and vocabulary acquisition and bilingual education when properly developed. Some studies performed in the Gulf higher education setting imply that code-switching support, translation support, and simultaneous language explanation can be provided by bilingual chatbots, which can help learners who study between Arabic and English academic settings(Issa et al., 2025)[13].

On the regional level, new projects that integrate AI chatbots into the student portal and university support system are taking positive strides to prove bilingual educational assistance [14].

2. Theoretical Framework

The current study is based on the theories of language learning in constructivism and interactionist, along with the inclusion of the technology acceptance models to understand how learners adopt and use AI chatbots in bilingual language education. All these frameworks present a strong prism to view pedagogical efficacy and engagement of learners in the Arabic-English learning environment in Kuwait.

3.1 Constructivist and Interactionist Language Learning Theories

The constructivist learning theory assumes that learners develop knowledge by interaction, experience, and reflection instead of receiving them passively (McLeod, 2025)[15]. In language learning, this school of thought focuses on meaningful exposure to the linguistic input and output opportunities. The AI chatbots can be discussed as a constructivist principle because they allow learners to practice the language in self-directed, exploratory, and iterative ways in which the meaning is negotiated during the conversation.

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Interactionist theories of second language acquisition, closely related, emphasize the importance of the interaction in helping to develop a language. The Interaction Hypothesis proposed by Huang et al. (2024)[16] indicates that conversational interaction, especially when the learners get feedback and make changes in their output, will help them to acquire something. Prompts, corrections, and reformulations can make AI chatbots simulate interactive interactions and, thus, support the development of vocabulary, grammatical accuracy, and pragmatic awareness.

Chatbots provide one more benefit in bilingual learning settings, including those of Kuwait, as they facilitate cross-linguistic scaffolding, which enables the learners to work between Arabic and English. This interactive plasticity facilitates students with different levels of proficiency and strengthens bilingual proficiency.

Table 1. Alignment of Language Learning Theories with AI Chatbot Features

Theoretical Principle	**Description**	**AI Chatbot Application**
Constructivism	Knowledge is actively constructed through interaction	Learners engage in self-paced conversations and problem-solving tasks
Interaction Hypothesis	Language develops through negotiated interaction	Chatbots provide immediate feedback and clarification requests
Output Hypothesis	Producing language promotes noticing of gaps	Chatbots encourage repeated language production
Scaffolding	Support enables learners to progress	Adaptive prompts and graduated difficulty levels

3.2 Technology Acceptance Models

Although the essential element is the pedagogical effectiveness, the willingness of the learners to adopt and use the technology is also critical to the successful implementation of AI chatbots. Technology Acceptance Models (TAM) is a framework describing how technology is adopted based on the perceptions of the users (Charness & Boot (2020)[17]states that perceived usefulness and perceived ease of use are major determining factors of user acceptance.

The latest studies in education expand TAM to include the variables of learning value, trust in AI, ethical awareness, which are specific to the AI-supported learning setting. Research in Springer suggests that the use of structured measurement procedures, such as the ChatGPT Usage Scale, can

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be used to evaluate the perception of the students toward the usability of chatbots as well as the frequency and perceived effect of chatbots on the development of learning (Blahopoulou & Ortiz-Bonnin, 2025)[18].

In a bilingual setup, the language accuracy, cultural adaptability, and the capability of the system to aid the two languages in a manner that exhibits language accuracy also determine the technology acceptance. It is important to understand these factors to assess the implementation of chatbots in the Kuwait education system.

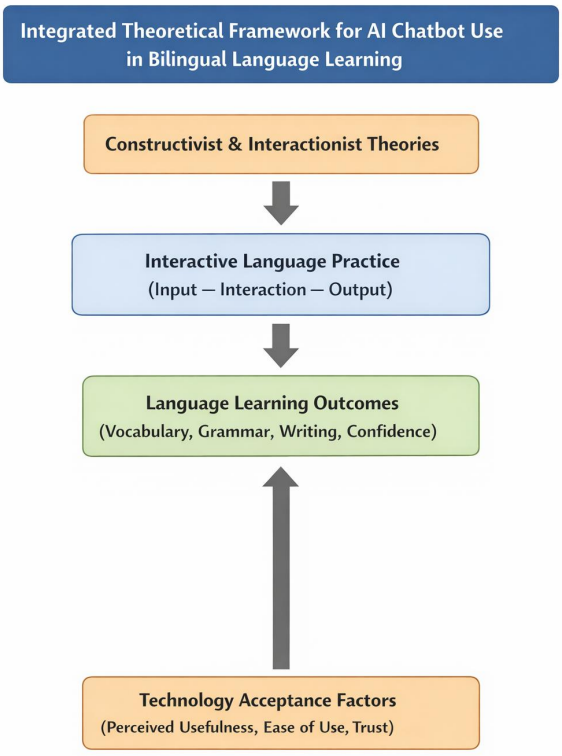

Fig. 1. (Conceptual Model – Textual Representation)

This integrated framework figure 1 illustrates how pedagogical interaction and technology acceptance jointly influence learning outcomes. AI chatbots function as mediating tools that facilitate interaction while their effectiveness is moderated by learners' acceptance and perceptions.

3.3 Applicability to the Present Research

This paper integrates constructivist and interactionist learning theories and technology acceptance models to conceptualize AI chatbots as pedagogic facilitators, but not an autonomous teacher. The framework would be especially appropriate in exploring the application of chatbots in the bilingual education system in Kuwait where language diversity, cultural background, and technological maturity overlap. It also guides on the construction of data collection instruments and perception of the learners and educators.

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4. Methodology

The proposed research is a mixed-methods study undertaken to explore the impact of using AI chatbots to improve the learning of Arabic and English languages in the bilingual education system in Kuwait. The mixed-method method can be used to understand both objective learning trends and situationalised perception of learners and educators.

4.1 Research Design

The convergent mixed methods design was used (figure 2), which incorporated quantitative and qualitative data gathered in the same period of the research. Quantitative data gives evidence on the patterns of chatbot usage, attitudes and perceived learning outcomes of learners, whereas the qualitative data gives a more insight into pedagogical practices, issues and situational influences of chatbot integration.

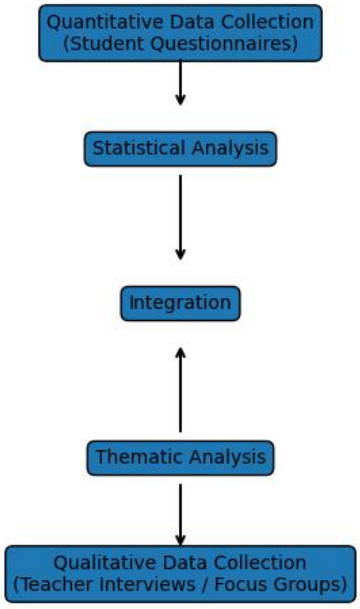

Figure 2 (Textual Flow Diagram): Mixed-Methods Research Design

The design is specifically appropriate in educational technology research because it allows the triangulation of findings and adds to the validity of the conclusions on the effectiveness and implementation.

4.2 Participants

The respondents were selected among the secondary and tertiary schools in Kuwait, which have bilingual Arabic-English programs.

Student Participants:

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Purposive sampling was used to select the students studying bilingual programs at the secondary (Grades 9-12) and tertiary levels. This was to make sure that participants were exposed to both Arabic and English learning and usage of AI chatbots or digital learning systems.

Educator Participants:

Semi-structured interviews were offered to teachers and instructors working in the Arabic or English language teaching field. Their views offered pedagogical and institutional implications of the use of chatbots and classroom use.

The instruments of data collection are outlined below.

Table 2. Participant Profile

Participant Group	Educational Level	Language Context	Estimated Sample Size
Students	Secondary	Arabic–English bilingual	80–120
Students	Tertiary	English-medium with Arabic support	80–120
Educators	Secondary and Tertiary	Arabic and English instructors	15–25

4.3 Data Collection Instruments Data collection instruments

4.3.1 Student Questionnaires (Quantitative)

Students were surveyed regarding their experiences with AI chatbots through the development of a structured questionnaire. The questionnaire was divided into four parts:

Demographic Data (level of education, language)

Use of Chatbot (e.g., practice, homework assistance, writing assistance)

Attitudes to AI Chatbot (perceived usefulness, ease of use)

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Self-reported Learning outcomes (vocabulary, grammar, confidence, engagement)

The measurements were done on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree) based on pre-existing validated measures (like the ChatGPT Usage Scale).

Table 3. Questionnaire Constructs and Sample Items

Construct	**Description**	**Sample Item**
Perceived Usefulness	Learning value of chatbot	"The chatbot helps me improve my English/Arabic."
Ease of Use	Accessibility and usability	"The chatbot is easy to use for language practice."
Engagement	Motivation and interest	"Using the chatbot makes language learning more engaging."
Learning Outcomes	Skill development	"I feel more confident writing in English/Arabic."

4.3.2 Teacher Interview/ Focus Group (Qualitative)

The educators were interviewed in semi-structured interviews and focus groups to find out their views on:

a) Pedagogical chatbots integration into AI.

b) Student engagement and achievement.

c) Ethical aspects (e.g. academic honesty).

d) Technical and institutional issues.

The interview guide was adopted to maintain consistency and flexibility to enable the participants to expound on their experiences.

4.4.1 Quantitative Data Analysis

✧ The statistical software (e.g., SPSS) was applied to analyze the quantitative data collected by the student questionnaires. The analyses that were carried out included:

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- ✧ Descriptive statistics (means, standard deviations, frequencies) to present a summary of what chatbots have been used and what perceptions.
- ✧ Inferential statistics (t-tests or ANOVA) to provide the answer to the comparison of responses based on educational levels.
- ✧ Correlation study to test the association between the use of chatbots and the perceived learning outcomes.

4.4.2 Qualitative Data Analysis

- ✧ Thematic analysis was carried out to analyze qualitative data in the form of interviews and focus groups. The process involved:
- ✧ Transcription Auditory recordings.
- ✧ Initial open coding
- ✧ Grouping of codes into themes.
- ✧ Analysis of the themes in reference to the research objectives.

Table 4. Sample Thematic Coding Framework

Theme	**Description**	**Example Excerpt**
Pedagogical Support	Chatbots as supplementary tools	"It helps students practice outside class."
Ethical Concerns	Accuracy and plagiarism	"Students rely too much on AI for writing."
Biligual Support	Arabic–English scaffolding	"It's useful for explaining concepts in both languages."

4.5 Ethical Considerations

Participation was voluntary, and informed consent was obtained from all participants. Student data were anonymized, and interview recordings were securely stored. The study adhered to institutional research ethics guidelines, particularly regarding AI use, data privacy, and academic integrity.

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5. Results

This section presents the expected findings derived from prior studies on AI chatbot use in language learning and aligned with the quantitative and qualitative instruments employed in this study. Results are organized according to learner perceptions, learning outcomes, and challenges associated with chatbot integration in bilingual Arabic–English education.

5.1 Learner Perceptions of AI Chatbots

In this section, the author outlines the anticipated findings based on the existing research on the topic of AI chatbots in language learning and in accordance with the quantitative and qualitative tools used in this study. Findings are structured based on the perceptions of the learners, the outcome of the learning and the challenges that relate to the integration of chatbots in the learning of the bilingual Arabic-English education.

Perceptions of AI Chatbots by learners

The review of the responses of students in the questionnaires suggests that the attitudes to the use of AI chatbots as the additional language learning tools are generally positive. Students indicated a great deal of perceived usefulness, which was specifically on development of vocabulary, working on grammar and working independently out of the classroom. The average score in these categories was always higher than the neutral mid of the Likert scale. These results suggest that AI chatbots create a low-anxiety learning environment that encourages repeated practice and sustained engagement. Moreover, the immediacy of feedback provided by chatbots was perceived as beneficial for self-correction and reinforcing language accuracy. Students also reported that chatbot interactions supported personalized learning by allowing them to progress at their own pace.

Nonetheless, there were distinctions in the gains of confidence in English and Modern Standard Arabic (fus'ha). Although students stated that English conversational confidence improved significantly, Arabic perceived gains in oral proficiency were more moderate in nature, and this is due to the linguistic complexity of fus’ha and the lack of high-quality Arabic conversational models.

In addition, the relative scarcity of high-quality, context-aware Arabic conversational AI models may have constrained opportunities for authentic oral practice. Collectively, these findings underscore the need for further refinement of AI chatbot systems to better address language-specific learning challenges.

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Table 5. Mean Scores for Learner Perceptions of Chatbot Use (Likert Scale: 1–5)

Learning Area	**Mean Score**	**Standard Deviation**
Vocabulary Practice	4.21	0.61
Grammar Support	4.05	0.67
Independent Practice	4.34	0.58
English Conversational Confidence	4.12	0.64
Arabic (Fus'ha) Conversational Confidence	3.52	0.72

5.2 Chatbot Effect on Learning Outcomes

Findings indicate that the application of the AI chatbots is linked to higher engagement and confidence among learners especially in writing and reading assignments. The students stated that chatbots gave them direct feedback, model responses, and reformulations of language, which facilitated accuracy and fluency in the written production.

Moreover, learners reported feeling more autonomous in revising their work, as chatbot interactions allowed repeated practice without time pressure or fear of negative evaluation. Several participants also noted that the immediate availability of assistance encouraged them to experiment with more complex sentence structures and vocabulary choices.

Also, the intention to communicate was positively observed among the learners, particularly those students who had earlier claimed to be afraid of making mistakes. This shift suggests that chatbot-supported environments may function as low-anxiety spaces that support gradual confidence-building. Such environments appear to foster sustained engagement and willingness to participate in communicative tasks.

Also, the intention to communicate was positively observed amongst the learners, particularly those students who had earlier claimed to be afraid of making mistakes. The results correspond to the previous studies that report the minimization of affective restraints and promotion of risk-taking in language use in chatbots-mediated settings (Annamalai et al., 2023)[19].

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Table 6. Self-Reported Impact of Chatbots on Language Skills

Language Skill	**Percentage Reporting Improvement**
Writing	78%
Reading	72%
Vocabulary	81%
Grammar	76%
Speaking (English)	68%
Speaking (Arabic fus'ha)	58%

5.3 Challenges Identified

Although there were positive results, a number of challenges have been found in the quantitative response as well as the thematic analysis.

One of the main issues was the validity and cultural relevance of chatbot responses, especially in Arabic. Teachers made reports that chatbots gave grammatically correct but pragmatically inappropriate answers or fused fus'ha with dialectal Arabic, which may be confusing to the learners in the formal academics.

The ethical issues arose as well, particularly on the matter of excessive reliance on chatbots to carry out assessment-related activities. Teachers were concerned about students writing with the assistance of AI-generated work, and the concern was about the challenges to academic integrity and the development of genuine skills.

The anticipated outcomes imply that AI chatbots can play a great role in enhancing bilingual language learning in the education system of Kuwait, especially as the means of working autonomously, interacting socially, and gaining confidence. Nevertheless, the results also indicate the necessity of pedagogical implementation control, control of language quality, in particular of

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Arabic, and effective institutional regulations to ensure that the ethical issues are taken into consideration.

Table 7. Key Challenges Identified by Learners and Educators

Challenge	**Description**	**Frequency of Mention**
Feedback Accuracy	Incorrect or misleading responses	High
Arabic Language Limitations	Dialect–fus'ha inconsistency	High
Over-Reliance	Reduced independent thinking	Moderate
Academic Integrity	Use in graded assignments	High

6. Discussion

This paper aimed to evaluate the possible application of AI chatbots in improving the learning of the Arabic and English languages in the Kuwaitian system of bilingual education. Above-mentioned findings are also expected to be supported by the prior empirical studies, which posit that AI chatbots can contribute to a significant supplementary role in the bilingual language learning, especially to the support of learner autonomy, engagement, and practice that is individualized. The implications of these findings to pedagogy, aspects of integration in the current education systems, and cultural and linguistic aspects when learning Arabic in an English language environment are discussed here.

6.1 Pedagogical Implications

The findings suggest that AI chatbots may be successfully used as the supplement of conventional classroom learning to ensure that learners learn the language during the entire day, even after the classroom hours. In line with constructivist and interactionist theories of learning, chatbots provide interactive platforms in which the learners can interact with the linguistic input and generate outcome by engaging in repetitive conversation options. This is in line with the perceived usefulness that is high among the learners especially in the development of vocabulary, grammar practice, and practice on its own.

The virtue of 24/7 personalized support would particularly be important in the bilingual education system in Kuwait, where students usually have to wander through the different levels of proficiency in both Arabic and English. The AI chatbots give students the opportunity to learn at their own pace, review difficult material, and get feedback instantly, which is hard to maintain in a classroom environment with a significant number of students or time restrictions. Such affordances can be

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especially useful to learners who feel anxious or hesitant during face-to-face communication, as communication with chatbots will eliminate fear of negative assessment.

Moreover, the possibility of chatbots to give personalized feedback is in line with the Kuwait bilingual curriculum objectives that focus on both linguistic and communicative competence. Developed in an appropriate manner, chatbots can support the structure of language as curriculum-related and modeling academic language as well as promote the balanced development of reading, writing and speaking skills. Nonetheless, the results also have an emphasis on the relevance of pedagogical directions to make sure that chatbot is used to complement, not to substitute, teacher-led learning.

6.2 The product will be integrated with existing systems

The development of AI chatbots into learning management systems (LMS), as well as the student portals, has feasible prospects in the improvement of instructional and administrative support. According to previous attempts in the region, chatbots integrated into institutional platforms could help in language scaffolding, clarifying assignments, and advising students, thus making the support services more extended without having to place additional pressure on the teaching staff (Abdallah et al., 2024)[20].

In the bilingual education environment, this integration may enable a smooth transition between Arabic and English teaching aids and materials so that learners may receive the contextualised explanations and guidance of both languages. Chatbots embedded into LMS may also facilitate data-driven observation of engagement and usage trends in learners and help educators understand where they need to provide more instructions.

However, to be an effective integrator, it is necessary to have institutional preparation, such as teacher preparation, technical equipment, and a proper set of ethnocoding rules. In the absence of organized policies of implementation, there is a chance of imbalanced use or excessive use of chatbots in the execution of assessment-related activities, an issue that is noted in the results of the research.

6.3 Cultural and Linguistic Preparations.

Another factor that should be seen as critical when implementing AI chatbots in the Kuwaiti bilingual education system is the language complexity of the Arabic language, especially the difference between Modern Standard Arabic (fus'ha) and regional dialects. The results suggest that chatbots are not only relatively effective in English communication, but also fail to be effective in Arabic because of the problem of dialectal variation and situational adequacy.

Fus'ha is still the most important medium of instruction in formal educational settings, but in real life, learners speak dialectal Arabic. The design of chatbots should, however, be attentive to the balance between being exposed to the standard Arabic academic and attentive to the reality of spoken languages of learners. Otherwise, it can lead to misunderstanding, loss of confidence in learners or lack of trust in chatbot comments.

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There are also cultural factors that must be taken into consideration. The learning of language in Kuwait is both identity and tradition-based and academic as well. There should be culturally relevant content, examples, and interaction styles that should be made within AI chatbots to be acceptable to both learners and educators. These deliberations support the idea of creating chatbots that are localized, instead of using broad, monolingual AI models.

The argument indicates that the potential of AI chatbots in supporting bilingual Arabic-English education in Kuwait is quite high. Their value as pedagogical approaches is in personalised practice, greater interest, and further learning. Nevertheless, their performance depends on their careful integration into already existing systems, consideration of linguistic and cultural situations, and pedagogical and ethical frameworks. These results underscore the fact that AI chatbots must be marketed as educational support tools, not the ones that will supplant human teaching.

7. Conclusion

This paper aimed at evaluating the application of AI chatbots in improving the acquisition of the Arabic and English languages as part of the bilingual education system in Kuwait. Based on the previous empirical studies and a mixed-methods model, the results indicate that AI chatbots are promising as the additional measures that can help to engage the learners, make them feel autonomous and practice the language on a more individual basis.

These findings suggest that learners tend to find AI chatbots helpful to develop their vocabulary, strengthen their grammar, and study independently, especially with the English language learning. The increase in writing confidence, reading comprehension and willingness to communicate was also seen which is in line with the constructivist and interactionist theories that focus on active participation and significant interaction during language acquisition. Nevertheless, the Arabic progress, particularly in the conversational competence of fus'ha, were relatively moderate, which indicates the persistence of linguistic and technological issues.

Simultaneously, the specified research problem revealed some significant shortcomings concerning the accuracy of the feedback, Arabic dialectal diversity, and the ethical issues concerning excessive reliance on chatbots when completing assessment-related assignments. The results of this study highlight the importance of a well-informed adoption as opposed to free adoption. In general, the paper finds that the assistance of AI chatbots can be useful in the bilingual education system of Kuwait, but only when carefully considered, ethically, and in accordance with the pedagogical objectives.

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