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Empathy-Driven Conversation with Chat GPT: Insights from Higher-Ed Arabic Learners

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Abstract:

This research examines an empathy-driven approach to Arabic language education, utilizing an AI-powered chatbot, with a focus on enhancing conversational skills among students with diverse learning backgrounds. The study addresses how the chatbot adjusts its interactions to meet emotional and cognitive needs, supporting personalized learning pathways tailored to individual preferences. Methodologically, data were gathered through participant observations and chatbot interactions, analyzing responses to structured prompts and assessing language acquisition progress. Results indicate that students from a traditional Islamic boarding school initially faced challenges in applying conversational Arabic despite strong grammatical knowledge. However, with tailored prompts and supportive interactions from the chatbot, students showed a marked improvement in daily conversational skills, reflected in increasingly spontaneous and contextually appropriate responses observed during later chatbot interaction sessions. The study highlights the crucial role of the chatbot in offering emotional support, providing feedback, and facilitating adaptive learning experiences, thereby fostering a collaborative and inclusive learning environment. This research recommends that scholars explore similar AI-driven frameworks in diverse educational contexts, emphasizing the integration of empathy and personalized learning strategies. Such approaches not only enhance language acquisition but also contribute to broader pedagogical innovations in digital learning environments.

Keywords: Empathy-Driven Chatbot; Language Learning; Chat GPT; Ai-Powered Arabic Learning; Conversational Chatbot.

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Percakapan Chat GPT Berbasis Empati: Perspektif Pembelajar Bahasa Arab di Perguruan Tinggi

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Abstrak:

Penelitian ini mengkaji pendekatan pembelajaran bahasa Arab berbasis empati dengan memanfaatkan chatbot AI, yang difokuskan pada peningkatan keterampilan percakapan mahasiswa dari latar belakang belajar yang beragam. Studi ini menyoroti bagaimana chatbot menyesuaikan interaksi untuk memenuhi kebutuhan emosional dan kognitif, sekaligus mendukung jalur pembelajaran personal sesuai preferensi individu. Data diperoleh melalui observasi partisipan dan interaksi dengan chatbot, dengan menganalisis respons terhadap instruksi terstruktur serta menilai perkembangan penguasaan bahasa. Hasil menunjukkan bahwa mahasiswa dari pesantren tradisional, pada awalnya mengalami kesulitan dalam menerapkan bahasa Arab percakapan meskipun memiliki pemahaman tata bahasa yang kuat. Namun, dengan arahan yang disesuaikan dan interaksi suportif dari chatbot, para mahasiswa menunjukkan peningkatan nyata dalam keterampilan percakapan sehari-hari, yang tercermin dalam respons yang semakin spontan dan kontekstual selama sesi interaksi chatbot berikutnya. Penelitian ini menegaskan peran penting chatbot dalam memberikan dukungan emosional, umpan balik, dan pengalaman belajar adaptif, sehingga tercipta lingkungan belajar yang kolaboratif dan inklusif. Rekomendasi penelitian ini mendorong para akademisi untuk mengeksplorasi kerangka kerja berbasis AI serupa di berbagai konteks pendidikan, dengan penekanan pada integrasi empati dan strategi pembelajaran personal. Pendekatan semacam ini tidak hanya meningkatkan pemerolehan bahasa, tetapi juga berkontribusi pada inovasi pedagogis dalam lingkungan pembelajaran digital.

Kata Kunci: Chatbot Berbasis Empati; Pembelajaran Bahasa; Chat GPT; Pembelajaran Bahasa Arap Dengan Ai; Chatbot Percakapan.

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INTRODUCTION

This research emerges from the necessity to explore and implement Generative AI practically and effectively in education (Cantú-Ortiz et al. 2020; L. Carvalho et al. 2022; Renz and Vladova 2021) particularly true in conversational Arabic language learning, where active collaboration is crucial (Shao et al. 2022). In an era marked by technological advancements, conventional education models need to depart from their status quo and innovate to ensure that the teaching and learning processes remain relevant, timeless, and continually deliver sustainable positive impacts (Bizami et al. 2023; Kioupi and Voulvoulis 2019).

This research is grounded in the perspective of Arabic language learners, informed by claims from various influencers, academics, and developers that the latest version of ChatGPT is significantly more adept at embodying emotion-based and empathetic communication models. It is said to be capable of interpreting various situations, providing advice, and offering improved cross-language understanding (Pang et al. 2024). Consequently, the emotional adaptation fostered between peers in communication, including with educational chatbots like ChatGPT, can reduce stiffness and awkwardness in conversation. This facilitates smoother, direct, and intensive language transfer processes, as suggested by Avelino et al. (2021), thereby enabling more seamless one-way communication in bilingual learning environments.

The research questions formulated are as follows: Firstly, how does the Empathy-Based peer learning Framework function in the context of conversational Arabic language learning with the involvement of an AI chatbot such as ChatGPT? Secondly, how does the application of this framework operate dynamically and constructively to create a positive learning environment while maintaining the enthusiasm of university students?

The aim is to explore the contribution of this AI model in designing a more empathetic and dynamic learning framework and how it can influence student motivation and engagement in the process of conversational Arabic language learning. Aligned with these questions, the research focuses on the technical application of an empathy-driven chatbot (ChatGPT) in collaborative peer learning, or peeragogy, as a practical solution to enhance the quality of learning (Oganetse 2022; Stickler et al. 2020). The objective is to establish a solid foundation, provide actionable insights for educational practitioners, and enhance students' learning experiences in Arabic language education at the tertiary level.

Several research projects profoundly influence the core of this study. In the realm of Peeragogy, a collaborative learning approach where participants act as peers in project design, implementation, and evaluation, educators stress the significance of recognizing initial challenges and designing a framework accountable to participants (Amiruddin et al. 2023; Baskoro et al. 2023; Prasetya et al. 2022). The initial step involves identifying challenges and designing a framework to guide participants in the project, starting by setting initial challenges and detailing a work plan (cf. Attaqiana et al. 2016). Technology is considered a crucial tool supporting the peeragogy process (A. R. Carvalho and Santos 2022). Team collaboration, media, and learning partners, including AI, are essential in Peeragogy principles within a social learning context (Kaliisa et al. 2022). Peeragogy, defined as a learning pattern focused on activity and collaboration without a hierarchical structure, challenges traditional work structures and promotes resilience, joy, and a more humane approach to collective efforts (Saman and Musa 2023). In its

development, Peeragogy is built with inclusivity but remains specific, emphasizing emotional foundations with a touch of sharing and giving (Yeung and Ng 2023). The continuous evolution in successful projects raises questions about how to work smarter together without eliminating competitiveness and competence in technological education (Yang et al. 2021).

In the context of Arabic learning, conversation practice is most effective when it extends beyond the teacher–student dyad and is embedded in collaborative structures that integrate peers, media, and the surrounding environment. Research on cooperative and collaborative learning highlights that such social configurations enhance communicative exchange and sustain learner engagement, particularly when students are encouraged to take responsibility for each other's progress and to cultivate affective bonds of mutual "feeling" and connection (Kaliisa et al. 2022). This sense of being recognized and valued motivates learners to participate more actively, a finding echoed in studies of online and project-based approaches to Arabic speaking skills, which emphasize that vocabulary acquisition alone is insufficient without the social-emotional regulation required for authentic conversation (Desriwita et al. 2022; Norul'Azmi and Zakaria 2022). Here is the importance of empathy-driven learning procedures.

Empathy-driven learning frameworks provide a unifying perspective by placing subjective learner experiences at the center of instructional design. Tools such as empathy maps within design-thinking contexts demonstrate how educators can identify diverse needs and perspectives, thereby shaping content and environments that foster meaningful interaction (Yeung and Ng 2023). In practice, empathy functions as a guiding principle that transforms language learning from rote memorization into socially relevant communicative acts, while also demanding motivational strategies responsive to contemporary challenges, including the integration of technology and AI in education (Lidia Susanti 2020). This approach demands that educators understand various perspectives, needs, and challenges within the scope of directed learning, especially in the current era of technology and AI development (Bizami et al. 2023; Putri Supriadi et al. 2022).

Furthermore, this paradigm emphasizes inclusivity, breaking down barriers for learners with different backgrounds and capabilities (Ainscow 2020). Achievements, as understood subjectively, will be different when viewed from a collective-communal perspective (Zhan et al. 2022). Empathy-based education emphasizes diversity as a strength, ensuring that every student feels seen, heard, and valued. Students are encouraged to apply knowledge to real-world situations and develop a sense of responsibility to the community (Oganetse 2022).

During the Arabic conversation learning process, self-appreciation and empathy can foster a deeper connection. Teachers who are attuned to students' emotions can adapt their teaching methods, building trust and engagement in language learning (Yaacob et al. 2022; Zakiyah and Dani 2023). Embracing empathy values and applying peeragogy principles can make Arabic conversation learning more contextual and student-focused (Mofid et al. 2023). When ChatGPT was newly launched, developers claimed that this version was significantly improved. From the perspective of Arabic language learners, is this claim verifiable?

Research on the active and collaborative use of ChatGPT in Peeragogy, especially for Arabic conversation learning, is limited. However, the need for empirical projects in countries developing second language proficiency remains high (Zaimah et al. 2024). Research is essential to develop new paradigms and

approaches, especially with accessible technology support. Empirical sources are needed to strengthen doctrines or explore progressive opportunities (ilham 2023).

Positioning this study within existing Arabic-chatbot literature clarifies this gap further. Abdulkader and Al-Irhayim's (2022) review of Arabic intelligent chatbots centers on technical development and system-level challenges, while Shao et al.'s (2022) AI-based Arabic speech tutor focuses on recognition architecture rather than learners' socio-emotional experience. Where learner-facing outcomes are examined, as in Zaimah et al.'s (2024) acceptability and effectiveness analysis of LLM-based chatbots among Arabic learners, the emphasis remains on general acceptance rather than a structured pedagogical framework. Outside the Arabic-learning context, chatbot-mediated learning research has explored self-regulated learning support (Chang et al. 2023), pedagogical supplementation (Kohnke 2022), and case-study analytic approaches (Colace et al. 2018), but not within a peer-based, empathy-driven design situated in an Islamic higher-education setting. This study addresses that combined gap by integrating a peeragogy-informed, empathy-driven interaction framework with a structured chatbot protocol for Arabic conversational learning among higher-education Arabic learners at a pesantren-affiliated institution.

METHOD

This study adopts a qualitative approach within a modified embedded framework. Data collection emphasizes light qualitative methods across a randomly selected primary sample (short open-ended questionnaires, anonymized chat logs, and brief written reflections) and is complemented by in-depth interviews with a randomly chosen sub-sample. The primary aim is to identify recurring patterns and contextual insights about how ChatGPT supports collaborative Arabic conversational learning in an Islamic higher-education setting.

Research Design

The research uses an embedded design that combines breadth and contextual depth. The full sample (n = 120) provides broad, light qualitative evidence of participants' experiences with empathy-oriented prompts and chatbot augmentation. A purposive element is minimized: instead, a random selection procedure is applied to ensure the sample reflects the eligible student population. From the primary sample, a smaller group (n = 15–20) is randomly selected for semi-structured, in-depth interviews to generate richer narrative data that illustrate and deepen interpretation of themes emerging from the light data.

Sampling

This study involves 120 students from the Department of Quranic Studies and Exegesis at Al-Anwar Islamic College in Rembang, Indonesia. Participants were randomly selected from the eligible student population to ensure representativeness of pesantren backgrounds. Inclusion criteria included active enrollment and prior pesantren experience. Serial numbers were assigned, and a Random Number Table was used to draw the sample. The participants' engagement in Quranic Studies and Exegesis contributes to variation in Arabic proficiency. Informed consent was obtained, and chat logs were anonymized before analysis.

Tribe	Gender	Number of Students	Percentage	Status
Javanese	Male	67	57%	Boarding
Sundanese	Male	2	2%	Boarding
Madurese	Male	3	2%	Boarding
Other	Male	2	1%	Boarding
Javanese	Female	41	35%	Boarding
Sundanese	Female	2	2%	Boarding
Other	Female	3	2%	Boarding

Table 1. Participants

Data Collection

Data were collected from early May to the end of June 2025. The study proceeded in two operational phases. In the initial phase (early May), researchers used ChatGPT-4 to pilot themes and procedures; following the release of an updated ChatGPT interface with enhanced emotional-intelligence features, the team implemented a focused seven-week empathy-driven sequence of prompts and simulations.

For the primary sample (n = 120)—selected by computer-generated random sampling from the Department roster—data collection employed light qualitative instruments: a short open-ended questionnaire (3–5 prompts), a brief written reflection (200–300 words), and participants' ChatGPT interaction logs. Chat logs were exported, de-identified, and processed according to a pre-defined extraction protocol that selected excerpts explicitly related to conversational practice, emotional/empathetic exchanges, and prompt-response dynamics. The extraction protocol and inclusion criteria for excerpts are documented in the audit trail.

A secondary sub-sample (n = 15–20) was drawn by a second randomization from the 120 participants for semi-structured in-depth interviews (30–60 minutes). Interviews were audio-recorded with consent, transcribed verbatim, and analyzed to provide contextualized narrative insights that complement the light qualitative data. Before administration, the questionnaire items and interview guide were reviewed by one Arabic-language education expert from STAI Al-Anwar and one Arabic conversational specialist from Universitas Darussalam Gontor, Ponorogo. Both reviewers have more than 15 years of professional experience and assessed the instruments for content validity and clarity; revisions were made accordingly based on their feedback.

Questionnaires and interview guides included items and ChatGPT prompts designed to probe clarity of information, responsiveness, perceived accuracy, emotional support, and collaborative learning dynamics. Before data collection, researchers and mentors configured "special instructions" in ChatGPT to encourage empathy-oriented responses; these configurations followed a standardized instruction template applied consistently across participants. All participants provided written informed consent; all chat logs, reflections, and transcripts were anonymized and stored on secure drives accessible only to the research team. Procedures for transcription, anonymization, and data management are recorded to ensure transparency and reproducibility.

Data used in the study center on students' perspectives about their practical interactions with the chatbot, captured through anonymized ChatGPT interaction logs and participants' own responses (short open-ended questionnaires, brief written reflections, and in-depth interviews). Chat logs were treated as artifact data to elicit examples of emotional and empathy-oriented exchanges; questionnaire items and interview prompts were designed to probe how these exchanges helped participants overcome conversational challenges, bridge gaps in dialogue, and inform assessment practices (Chan 2023). Demographic and contextual variables were collected to situate responses, including initial Arabic proficiency, frequency of interaction with similar technologies, and degree of trust in AI for language learning. By combining randomly sampled light qualitative data (n = 120) with richer interview narratives from a randomly selected sub-sample (n = 15–20), the study aims to identify recurring patterns and contextualized insights into collaborative, empathy-driven chatbot use while framing claims as pattern-based and context-bound rather than statistically generalisable (Lewis et al. 2003).

Framework Design

To enhance empathetic and personalized Arabic conversational practice, the study implements an AI-assisted Peer-Learning Framework that integrates special instructions in ChatGPT with structured peer activities. Participants log into their own accounts and set the chatbot's *special instructions* to encourage emotion-aware responses (e.g., culturally appropriate greetings, supportive phrasings, and tone cues). These user-level configurations are optional and guided by a standardized instruction template applied consistently to ensure comparability across participants. The framework foregrounds learner agency—students act as active co-designers of prompts—while instructors and mentors facilitate collaborative tasks, monitor interactions for safety and pedagogical fit, and provide corrective feedback. Interaction patterns (greetings, repair sequences, empathy responses) are treated as teachable moments and are sampled systematically from anonymized chat logs for analysis. The design draws on peer-learning principles to position learners as equal partners and on human-centered AI practices to ensure the chatbot functions as a supportive learning partner rather than an authoritative source. Ethical safeguards (informed consent, anonymization, and a reporting protocol for problematic outputs) are embedded in the framework.

Situation	User Input	AI Model Empathetic Response
Greeting	Hello! How are you doing?	Hi there! Good to see you. Have a great day!
Frustration	Ugh, that's awful! I'm so tired!	I can understand your frustration. Tough day, huh?
Sadness	Actually, I'm feeling kind of down.	I'm sorry to hear that. I'm here to listen if you want to talk.
Happiness	I'm really happy! Guess what happened?	That's fantastic news! I'm happy for you.
Confusion	Sorry, I don't quite understand. Could you explain that again?	No problem at all. Let me try to be clearer.

Appreciation	Thank you so much! I really appreciate it.	Don't worry about it. I'm happy to help.

Table 2. Empathy-Driven Conversation Examples (Rephrased in English)

The empathy-driven approach is presented in this study as a guiding theme and a practical intervention rather than a prescriptive requirement. Given participants' diverse backgrounds and ethnic differences, empathy-oriented prompts and interactions were implemented in a standardized but optional way so that participants could adopt culturally appropriate expressions comfortably. Empathy functions here as an analytic lens: researchers coded chat logs, questionnaire responses, and interview transcripts for empathy-related features (e.g., supportive phrasing, emotional repair, and affective alignment) and examined how these features related to conversational fluency, learner confidence, and task completion. In practice, the chatbot served as a facilitator that enriched emotionally salient scenarios, supported comprehension, and delivered personalized scaffolding; findings about empathy are therefore reported as context-bound patterns rather than universal claims (Chang et al. 2023).

Analysis

The data were analyzed using an embedded, mixed-depth qualitative strategy that adapts case-study sensibilities to the study's light-qualitative design. For the broad, randomly sampled dataset (short open-ended questionnaires, anonymized chat logs, and brief written reflections), thematic analysis was applied following a staged coding procedure (open coding → axial coding → theme development) to identify recurring patterns in information clarity, responsiveness, empathy-related exchanges, and perceived accuracy of ChatGPT interactions. Chat logs were treated as artifact data and coded for interactional features (greetings, repair sequences, supportive phrasing, affective alignment) that illustrate how empathy-oriented prompts shaped conversational practice. This approach draws on established chatbot case-study methods while adapting them to a larger, lighter qualitative corpus—just like Colace et al.'s (2018) work for comparable chatbot-for-e-learning analytic steps. The design incorporated structured interviews and questionnaires, which explored specific aspects across various themes, such as information clarity, responsiveness to questions, and the accuracy of ChatGPT interactions, drawing on comparable ChatGPT frame analyses in applied domains (Liu et al. 2024).

For the randomly selected sub-sample of in-depth interviews (n = 15–20), narrative and interpretative analysis were used to surface contextualized insights, emotional dynamics, and illustrative quotations that deepen understanding of the themes emerging from the light data. Interview transcripts were analyzed iteratively to produce thick descriptions that explain how and why particular empathy features supported or hindered conversational fluency and learner confidence.

Triangulation across instruments (questionnaires ↔ chat logs ↔ interviews) was used to enhance credibility: themes identified in the light data were checked against interview narratives and representative chat excerpts, and discrepant cases were examined to refine interpretations. To support trustworthiness, the research

team maintained an audit trail of coding decisions, conducted peer debriefing sessions, and applied selective member checking where feasible.

RESULTS AND DISCUSSION

Arabic Chatbot: Empathy-Driven Framework (RQ1)

By gathering data through questionnaires, interviews, and analyzing student activities, the chatbot is adept at mapping out each student's challenges and learning tendencies in intricate detail. This approach emphasizes a personalized and targeted learning experience, addressing the unique needs and difficulties that students may encounter in their Arabic language journey. Through this, the chatbot becomes a virtual aide, tailored to assist learners in navigating the intricacies of Arabic language learning.

The Syllabus: Empathy as the Keystone

The significance of the chatbot as an adaptive virtual companion lies in its ability to present learning materials in a manner that aligns with each student's preferences and needs. By leveraging empathetic algorithms, the chatbot contributes to creating a dynamic and responsive learning environment. Moreover, the chatbot doesn't merely serve as an information provider but also functions as a continuous assessor. Through the analysis of student responses, the chatbot can pinpoint areas that require extra attention, aiding in the development of a more effective curriculum. Thus, the chatbot goes beyond teaching the Arabic language; it fosters self-directed learning and awareness of each student's uniqueness.

In first touch, several participants express satisfaction and enthusiasm with what the framework offers. Users of ChatGPT find added value as the platform is more flexible in communicating in emotional nuances. For instance, in the case of student 096, the prompt—aligned with the pre-designed framing generated by AI—made the interaction more engaging. The conversation started with language resembling human expression.

Lesson Topic	Learning Objectives	Teaching Activities	Assessment	Learning Resources
Introduction to Arabic Speaking Practice	To introduce students to the importance of Arabic speaking practice and to provide them with the basic tools and techniques for effective speaking.	Lecture on the importance of Arabic-speaking practice	Discussion on common challenges faced by Arabic learners in speaking	Self-evaluation checklist for assessing speaking skills
Pronunciation and Intonation	To help students improve their pronunciation and intonation in Arabic, focusing on sounds that are	Demonstration of correct pronunciation and intonation patterns	Practice exercises for specific sounds and intonation patterns	Recordings of native Arabic speakers to use as models

	difficult for non-native speakers.			
Vocabulary Building	To expand students' Arabic vocabulary and enhance their ability to use words correctly in conversation.	Introduction of new vocabulary through flashcards, games, and real-world examples	Contextualized practice exercises for using new vocabulary	Arabic vocabulary lists and dictionaries
Conversational Skills Development	To develop students' conversational skills in Arabic, including initiating, maintaining, and concluding conversations effectively.	Role-playing exercises to simulate real-life conversations	Group discussions on various topics	Recordings of student conversations for self-assessment
Public Speaking Practice (or presentations)	To prepare students for delivering public speeches in Arabic, focusing on organization, clarity, and delivery.	Guided preparation of a short public speech	Practice presentations in front of the class	Feedback from the instructor and classmates

Table 3. Syllabi in the initial design

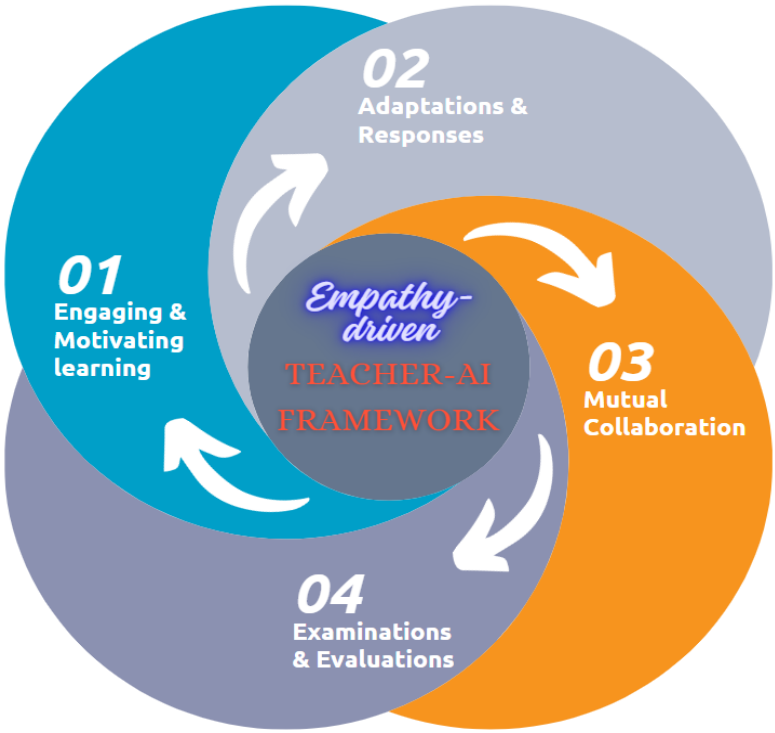
Customized Learning Pathways

Each participant has diverse preferences, and the chatbot AI (ChatGPT) adapts its communication style accordingly. Whether someone prefers visual cues, responds better to auditory stimuli, or thrives in kinesthetic engagement, the Chatbot can adjust. For example, students 006, 015, 016, 018, and 024 in class C1, who have weak reading skills, are more responsive to AI responses through sound. The chatbot effectively reflects these preferences. This flexibility ensures that each student not only feels comfortable and motivated but is also fully supported throughout their unique learning journey.

The Mentor-AI teaching framework (Figure 1) is designed with empathy-filled prompts, capable of defining a new model for language education, transitioning from imperative-integrative to mutual-collaborative. Motivation and empathy, the underlying ideas, adorn every stage of the learning process (Table 4). Equal attention to individuals without discrimination, collaborative and mutually beneficial cooperation, and a focus away from competition are the main reasons for

Peeragogy. These stages continue through simultaneous, continuous, and evolving interaction, evaluation, and feedback.

Figure 1. Empathy-driven Teacher+AI Framework



Emotional Needs	Cognitive Needs	Chatbot Interaction
Feeling nervous or anxious	Needs a more detailed explanation	Chatbot provides words of encouragement and support
Feeling frustrated or tired	Needs easier exercises	Chatbot provides simpler and more direct exercises
Feeling excited or motivated	Needs greater challenges	Chatbot provides more complex and challenging exercises

Table 4. Interaction by motivational needs

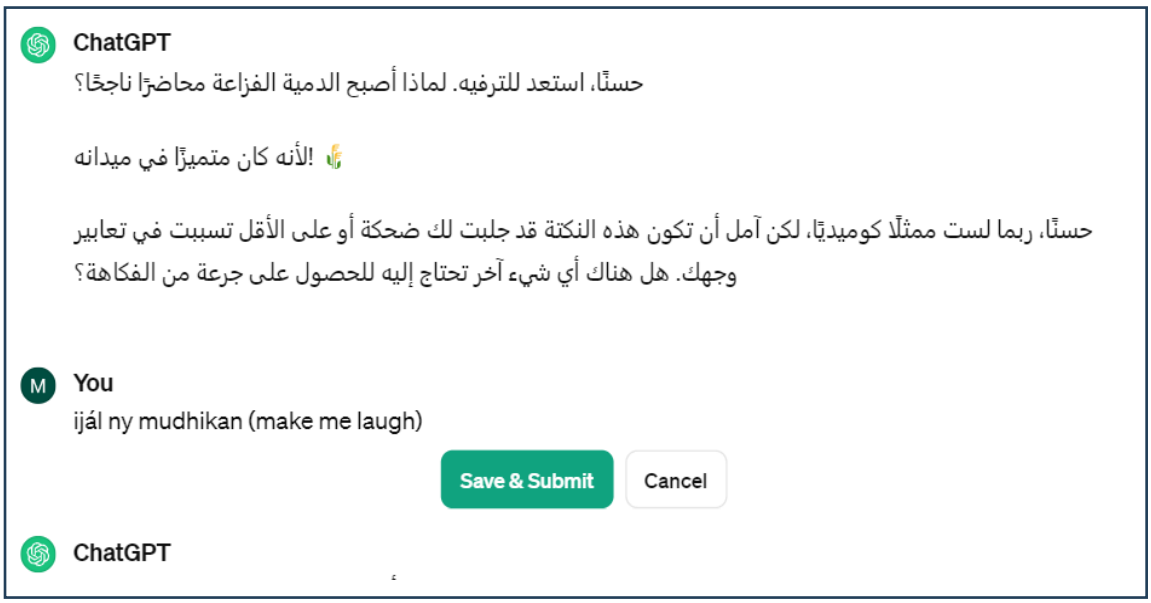
Dynamic Peeragogical Practice (RQ2)

ChatGPT as a Learning Companion

In empathy-based language learning using the Peeragogy method, an AI Chatbot emerges as a crucial source and productive partner in the Arabic language learning process (Shao et al. 2022). This is because the Chatbot, enhanced with empathy algorithms, goes beyond its tasks; it empathizes with the emotional and cognitive needs of students. It's like a stage where each student is given a unique leading role. Here, Arabic language learning is not just seen as a collection of grammar rules and vocabulary; it is viewed as a personal journey that involves

emotional and personal aspects. The Chatbot becomes a faithful observer, collecting data about participants through their subjective patterns and analyzing their activities in the application of the learning framework. With each interaction, the Chatbot delves into the layers of each student's uniqueness, building an empathy bridge that underpins the learning process.

Figure 2. Empathy-Based Chatting Simulation



These four students were drawn from the randomly selected interview subsample (n = 15) and are presented here as illustrative of a broader early-stage pattern observed across that subsample, rather than as isolated or purposively chosen cases. In the case of Students 004, 012, 032, and 060, they faced difficulties at the beginning of applying the theme and material for Arabic conversation (Table 5). These students, with a background in Salafi Islamic boarding schools, encountered challenges in applying Arabic phrases, even though their grammar mastery was quite good. Nevertheless, these initial obstacles did not pose a serious barrier, as the artificial intelligence (AI) system and mentor had prepared structured material focusing on everyday sentences. For instance, the Mentor and AI provided instructions such as: "Hi Bro, what are you doing?" and "Hi, friend. Where are you going?". The participants' responses are simulated in the table below.

Student 004	Student 012
ماذا تفعل؟	أنا أدرس
[What are you doing?]	[I am studying]
أين أنت ذاهب؟	أنا ذاهب إلى المكتبة
[Where do you go?]	[I am going to library]
Student 032	Student 060
ماذا تفعل؟	أنا ألعب كرة القدم
[What are you doing?]	[I am playing football]

أين أنت ذاهب؟	أنا ذاهب إلى المنزل
[Where do you go?]	[I am going to room]

Table 5. Daily Conversation

In the classroom, the majority of students smoothly identify their conversation partners with the assistance of the chatbot. This process unfolds seamlessly and without significant difficulty. The chatbot provides clear guidance, helping students select their conversation partners effectively. The continuity between chatbot interactions and students creates a supportive atmosphere, facilitating the learning process of Arabic conversation. For instance, Student 045 paired with 061 felt more at ease and exhibited daily progress in enhancing their Arabic speaking skills in everyday language. Similar scenarios unfolded in other classrooms. With the guidance provided by the chatbot, students can confidently engage in conversations, effectively improving their Arabic language skills.

When students feel nervous about speaking Arabic, Chatbot provides encouraging words, creating an environment that supports conversational development. When students feel stuck in grammar concepts, Chatbot provides detailed explanations that are easy to understand. If pronunciation errors occur, Chatbot provides feedback and helps students improve. And when boredom creeps in, Chatbot revives the spirit with captivating games and interactive activities. ChatGPT plays a more significant role, as the specific design of this AI directs the conversation structure in the desired direction or based on patterns previously established by participants.

Students-Chatbot Peer Experience

The collaboration between the chatbot as a learning partner and participants can provide support, motivation, and guidance. One of its benefits is the chatbot's ability to offer emotional support to students. The chatbot can provide praise, encouragement, and motivation to students to keep learning and achieving. The chatbot also plays a crucial role in providing feedback and corrections to students through objective conversation data analysis. This not only helps students understand their strengths and weaknesses but also gives them direction for improvement. Through this collaboration and feedback, it opens up space for adaptive learning tailored to the ability levels of each student, from class C1 to class C4.

As a concrete example of the implementation of chatbot-student collaboration in the classroom, the chatbot can be used to provide exercises to students simultaneously, forming patterns. Students can access communication at any time to develop their Arabic conversational communication skills and then apply them to other students, allowing them to learn independently and assess their progress quickly. All of this, of course, is within the mentor's framework.

Furthermore, the chatbot can provide individualized learning guidance to students. By understanding each student's learning style and comprehension level, the chatbot can offer guidance tailored to each student's needs. These patterns will be easier to analyze within learner groups. In the formation of these study groups, the chatbot can also make significant and targeted contributions. This not only enhances collaboration among students but also creates an open and dynamic

learning environment. The mentor always monitors and observes all emerging patterns, then flexibly develops new materials for continuous application and practice.

According to the Mentor, the Chatbot initiates intelligent adjustments to the lesson plan. By detailing the strengths and weaknesses of each participant, the Chatbot can create an individually tailored teaching framework, updatable after every two or three completed sessions. Every assignment, every material, and every exercise are designed to match the learning needs of each student. The use of data in adjusting the teaching framework goes beyond providing additional material or repetitive exercises. ChatGPT seems to understand that each student is an individual with their own uniqueness, learning style, and preferences.

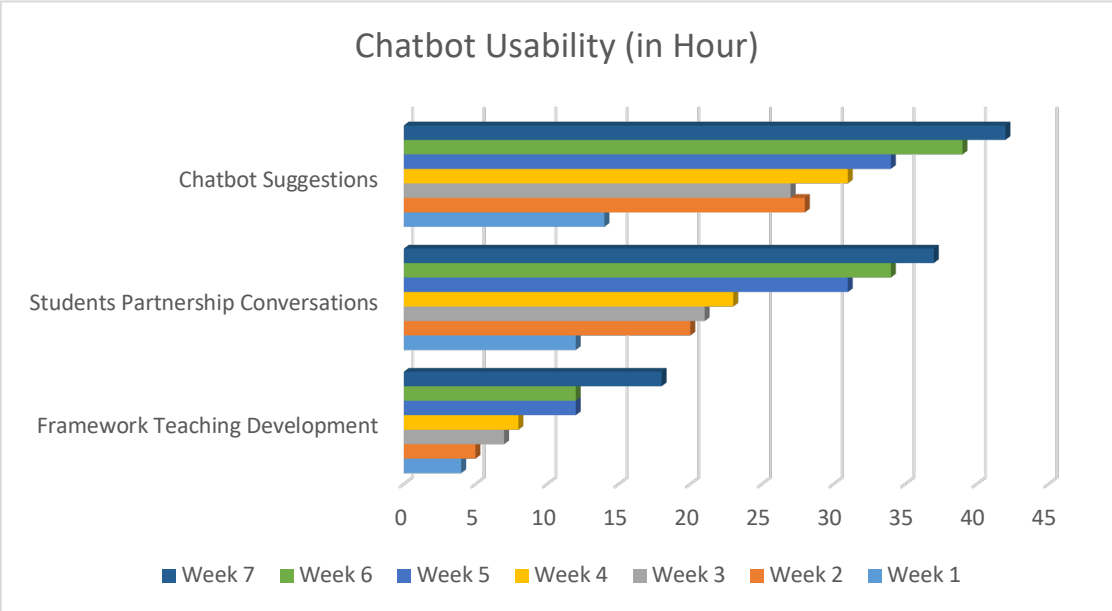
For participants and mentors alike, the Chatbot also creates a supportive and motivating environment, rather than fostering rigidity. Every grade, whether outstanding or in need of improvement, is interpreted as a step in the continuous learning journey. Mistakes are not punishments but opportunities to grow. Success is not the end but a driver for further exploration. This is a projection of light that illuminates the learning journey, helping participants see their progress, embrace their uniqueness, and appreciate every achievement. Thus, the Chatbot sets new standards in assessment, heading towards a more comprehensive and upgradable mastery of the Arabic language.

Read together, the interaction logs also support a written before–after comparison across the seven-week sequence. In the first-week logs, most participants' responses to the same prompt types mirrored the pattern documented for Students 004, 012, 032, and 060 above: short, hesitant turns that leaned on memorized grammar rather than spontaneous phrasing, with frequent requests for the Mentor or Chatbot to repeat or simplify a prompt. By the final weeks of the sequence, logs coded under the same extraction protocol (see Data Collection) showed longer turns, fewer repair requests, and more context-appropriate replies to the same prompt types, consistent with the pattern summarized in the Abstract as a marked improvement. This comparison is qualitative and pattern-based rather than scored numerically: it reflects a structured reading of first-week versus final-week excerpts by the research team, not a statistical test.

Entirely Empathy-Driven

Whether between mentor-student or among participants, the connection between the feedback given and the effectiveness of learning is crucial and always needed. Does the feedback immediately trigger improvement, or is there a tendency to ignore it? This question highlights the challenges for researchers, mentors, and institutions in creating an environment that supports the acceptance of criticism, where students don't just see it as evaluation but as an opportunity for growth. Also, where each correction is considered a stepping stone toward a broader and deeper understanding. By bringing these concepts into the framework of strict assessment and examination, all parties can see how the Empathy-Based Teaching Framework is not just a learning model but also a transformative foundation for assessment and feedback in the world of Arabic language education.

Figure 3. Frequency of chatbot usage during the research



In every step and stage of implementation, a collaborative and equality spirit always remains the primary pillar, accompanied by values of togetherness, empathy, and understanding as emphasized by Singh (2019), Kioupi & Voulvoulis (2019), and Sala et al. (2020). This foundation is not only the basis for peer learning but also a solid foundation for the success of implementation. Participants felt a more seamless experience in adopting this method. Its success even opens up opportunities to be applied in different studies and learning contexts, creating a broader collaborative harmony. What is expressed by A. R. Carvalho & Santos (2022) and Supena et al. (Supena et al. 2021) is just in line with this. The rigid and traditional integrative-imperative approach in almost all of their studies makes this research stand out. Researchers, mentors, and some colleagues are exploring other possibilities and opportunities in implementing effective new learning strategies for higher education students, to also serve as recommendations and contributions to learning in this technological era.

Experiencing The Challenges

In developing the Empathy-Based Arabic Speaking Learning Framework, the focus on an inclusive approach to understanding individual learning styles and aligning the curriculum with diverse needs posed challenges. The framework, designed to offer accessibility 24/7, aims to accommodate students from various geographical backgrounds and learning styles. The integration of chatbot technology as a learning companion alongside human partners enriches students' personalized language learning experiences, exactly as outlined by Kohnke (2022), even though this is not within the scope of peer learning. Mature policies and strategies are crucial for successfully implementing this framework. While the framework provides students with freedom beyond traditional classroom constraints, perceptions vary. This has also drawn considerable attention, such as research by Annamalai et al. (2023) and Zaimah et al. (2024). The chatbot serves as a guiding compass, facilitating real-time progress tracking and sending timely notifications to foster an organized learning environment (Abdulkader and Al-

Irhayim 2022). Despite challenges in internet access and technological constraints, the framework strives for inclusivity through thematic analysis, making it a comprehensive teaching approach that embraces variations in the learning model.

Tracing the Common Thread

The success of implementing the practical framework for Arabic conversation using AI faces several limitations in this research. Firstly, limited resources, including funds and infrastructure, may hinder the development and testing of the framework, limiting its scope and other developmental efforts. Time constraints could impact the depth of analysis and data collection, and a more extended study duration might offer a deeper understanding of AI's long-term effects in Arabic conversation learning. The limited number of samples could restrict the generalizability of findings; a larger sample size would enhance external validity. Cultural differences in how students interact with AI technology need acknowledgment, particularly in Arabic language learning. Participants from urban and rural areas may have distinct experiences and acceptance levels of AI in an Islamic educational environment. Lastly, the scarcity of research specifically investigating AI's utilization for practical Arabic conversation frameworks underscores the need for more studies in this domain to further advance our understanding of the potential and challenges in implementing AI technology for Arabic language learning.

Looking ahead, the opportunities and expectations embedded in this method serve as a driver for continued innovation and collaboration, accompanied by simultaneous improvements (Jeong 2022; Kioupi and Voulvoulis 2019). Innovation in education, especially in conversation practices, involves not only technical aspects or teaching methods but also delves into human values manifested in empathy toward each student (Lee 2018). Therefore, this method not only serves as a bridge to overcome access gaps or inequalities but also embraces diversity as a source of richness and uniqueness; all in the pursuit of success. The finalization of this research does not measure and assess the technical relevance of AI and success solely in numerical figures but rather focuses on the phenomenon that unfolds until the endpoint. In this study, the process and phenomenon demonstrate that learning is not just about transferring knowledge but also about new ways of appreciating differences, overcoming them together as one unit, creating an environment where every student, all students, can thrive and reach their full potential, conducive to progress.

CONCLUSION

This study finds that an empathy-based peeragogy framework using ChatGPT as a conversational partner can meaningfully improve learners' oral participation, response quality, and confidence in Arabic speaking practice, showing that well-designed empathetic prompts and a collaborative structure between students, mentors, and AI support both communicative skills and emotional engagement. The main contribution lies in offering a practical and replicable model that demonstrates how AI can enhance language learning without replacing the teacher's role, adding to current discussions on human-centred AI in education. Based on these findings, institutions are encouraged to provide training on context-sensitive prompt design, integrate AI-supported interaction into formal curricula, and establish clear ethical and data-management guidelines, while future research should adopt larger-scale or longitudinal designs and comparative approaches to further test the sustainability and transferability of this framework across different learning contexts.

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