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EngageBot: A Scenario-driven GPT-based Chatbot System for International Students

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ABSTRACT: EngageBot is a scenario-based chatbot system driven by GPT-4 that aims to improve the English fluency and social engagement of international students. To resolve limitations in the traditional language learning courses and previous chatbot models, EngageBot provides both Group Chat Mode and Breaktime Chat Mode, which recreate real-life academic and informal school-based conversations. The system personalizes dialogues based on the user's profile data, such as age and language proficiency. It helps in obtaining contextually relevant responses in the dialogue. In particular, it helps in providing the user with communicative confidence. A comparative experiment was conducted to evaluate EngageBot's responses against human tutors using BERTScore semantic similarity across three topics for pedagogical effectiveness. The results indicated a high level of coherence and relatability, whereby the topic Social Media produced the highest average F1 score of 0.665. The chatbot maintained a smooth flow of interaction and support within familiar contexts. Performance on topics that involve abstract reasoning was mixed, suggesting room for improvement in the adaptability of our prompts, as well as advanced memory in the future for our model. In general, EngageBot shows that it is likely to become a suitable, emotionally aware, and educationally sound supplement for international students.

KEYWORDS: Systems Software, Online Learning, Large Language Models (LLMs), Language Acquisition, International Students.

Introduction

As the number of foreign students keeps rising globally, so does the need for strategies to help them succeed in their studies and settle in. Studying in an English-speaking environment may provide priceless educational and cultural experiences. However, many non-native speakers face serious problems. Foremost among these problems are language barriers and cultural differences. Struggles with English happen outside of the academic world, too. For instance, they affect the ability of international students to adjust, make friends, and participate fully on campus.

One of the biggest challenges faced by international students is the ability to communicate comfortably and confidently. Although students have some knowledge of the language from formal, textbook lessons, they soon realize how different it is from the casual, spontaneous speech used in conversation or everyday life.[1] The multitude of idioms and phrasal verbs, regional accents, and fast speech make English complex to learn even for competent learners.[2] A recent study revealed that as much as 42% of the international students in the UK identified British accents as one of the major hurdles they face in communicating or engaging in group discussions. Students may feel excluded and reluctant to participate.[3] A related problem is that schools are not consistent in offering English opportunities. Formal language courses and books equip the learner with structural input. However, real competence in any language comes from interaction, both diverse as well as immersive. Unfortunately, a lot of international students tend to form social circles with others of the same culture or language. Thus, they miss out on the chance to properly practice their English. As they cannot talk to others, they become less confident when speaking spontaneously.[4]

Apart from that, there are several psychological and emotional barriers. Students in an unfamiliar environment will feel anxious, scared to make a mistake, and have low self-confidence. This fear causes people to participate little, practice less, and lose communicative ability altogether.[4] Some students, especially those from non-Western cultures, can have a hard time with communication norms. As an example, in the academic or social context of the West, students of collectivist cultures may communicate indirectly, and this may be taken to mean disinterest or passivity.[5] These kinds of miscommunications make students feel they are "out of sync" culturally and linguistically. As a result of learning a language, students are not capable of accomplishing social integration, which becomes a necessary determinant of the well-being and confidence of students and the persistence based on academics. When students face issues with communication and culture, they can withdraw from social groups and the classroom, which can lead them to feel disconnected and less worthy. In case of difficult situations, it may trigger mental health issues such as loneliness and homesickness.[6]

Most institutions still primarily use language courses that teach grammar, vocabulary, and academic writing, despite the complex needs of most students. While useful, these programs often ignore the emotions, culture, and relationships that come with language learning.[4] Also, these classes usually occur on set schedules, so students have no time to practice on their

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own time. Programs are designed in which students engage in standardized responses and rigid correctness with little opportunity to explore language in contextually flexible and personally meaningful ways.

As observed by Loaiza Londoño, Colombian teen English learners' classrooms displayed a wide gap between knowledge and real usage of language.[7] This research discovered that conventional instruction enhances passive understanding but lacks effectiveness in building fluency and communicative confidence. As a result, ChatGPT and other conversational AIs are gaining attention as viable alternatives.

One of the most recent studies highlights the potential for ChatGPT to assist with language learning. It can do this through its ability to engage users in real-time, interactive, and personalized conversations. Wen developed a chatbot for grammar correction and paraphrasing with user and text analytics that provides immediate and in-context feedback, which seldom occurs in the regular classroom. According to Koka, who conducted a large-scale survey of linguistics students, over 80% of participants felt that using AI-powered chatbots, as digital tutors, had increased their understanding and motivation. Likewise and similarly, Hatmanto and Sari revealed that ChatGPT fits well with modern language learning theories, notably Constructivism, Communicative Language Teaching (CLT), and Task-Based Learning (TBL), focusing on learner autonomy, authentic communication, and contextual engagement.[7] Not only does ChatGPT support communication, but it also streamlines the educational process. Wickman and Zandin have investigated how ChatGPT can automatically summarize an educational text and generate a dialogue-based learning template, thereby reducing cognitive load and aiding scalable learning.[8] Also, Loaiza Londoño stated that students who used ChatGPT for eight weeks had improvements in vocabulary, fluency, grammar, and conversation confidence.[9]

Collectively, the findings suggest that ChatGPT represents a promising shift in language education, supplementing the role of a conventional supplementary aid. In detail, it can help international students with their language problems, social issues, and more. ChatGPT could close the gap between what students are taught and what they encounter in the real world if they are just as patient, consistent, and instant in an empathetic conversational tone.

Nonetheless, prior chatbot systems reported in earlier studies demonstrated limitations in fully addressing the diverse needs of foreign students. For instance, BuddyBot (Dhivvya J P & Karnati) was made using GPT-2 and FLAN-T5, which offered grammar tips and vocabulary practices but lacked deeper context awareness and socio-cultural adaptability.[10] In a study on SpeakSmart (Kalyan *et al.*), the authors undertook a broad study on the combination of AI chatbots in ESL and Chinese learning. They suggested hybrid models but found problems with the intelligibility of accents, handling of informal speech, and genuine emotional attachment.[11] Similarly, Gengobot, proposed by Haristiani, can be used as a tool to teach Japanese grammar.[12] However, this chatbot implements flow-based conversational features. As a result, the conversation still becomes repetitive over time. Also, learners cannot create in-depth conversations. The research findings show that even though AI chatbots are rapidly advancing, current models are largely incapable of assisting with dynamic, context-dependent, and socially-embedded language learning. These models are especially useful for overseas students and the cultural transition. Therefore, we still require learning tools that can adapt in real-time and are empathetic and have emotions. Moreover, these tools require fluency, confidence, and cross-cultural skills.

To address these ongoing issues, this study proposes an AI-powered language learning chatbot called EngageBot for international students to improve their fluency and social confidence. EngageBot promises to be contextually relevant and pedagogically powerful. This is because the team behind it has incorporated learning based on real-life scenarios, an easy flow of conversation, and personalized feedback, which past systems did not have.

Initially, EngageBot uses a scenario-based design to immerse learners in simulated environments. There are two primary modes—"Group Chat Mode" and "Breaktime Chat Mode" - where students practice English through classroom debates and informal conversations about what happens at school (in the corridors, cafeteria, or playground, etc.) This structure provides learners with the opportunity to use their language skills in real contexts, making learning more relevant and enhancing retention. The system engages the user in conversation for better interaction. Upon selection of a scenario from the learner EngageBot starts with a natural prompt so that conversation initiation is not a burden on the learner. Asking follow-up questions helps in making the conversation natural.

EngageBot alters its responses according to the user's age, language proficiency level, and other selected scenarios to deliver personalized and contextualized dialogue. This functionality means that the chatbot can adapt to the level of the learner, and this way, it better matches the learner's needs. A student who is a beginner learning classroom etiquette can use the chatbot just as easily as an advanced learner who is fine-tuning debate strategies. EngageBot is about bridging the gap between classroom instruction and real-world interaction through rich immersive scenarios, intuitive interaction, and meaningful personalization. The goal of this research is to have such a chatbot promote fluency in languages as well as intercultural understanding and a sense of social belonging among international students. To evaluate the effectiveness of this system prior to formalizing the research question, an initial inquiry was conducted to examine the quality and relevance of the chatbot's output in comparison to human tutor responses.

Research Question:

How similar are the AI-generated tutor responses to human tutor responses in controlled Group Chat Time scenarios, based on BERTScore semantic similarity?

■ Methods

EngageBot is implemented as an AI-powered English language practice system for non-native students studying in English-speaking environments. Building on the scenar-

io-based conversational structure introduced in the previous section, the system integrates structured ("Group Chat Mode") and unstructured ("Breaktime Chat Mode") dialogue modes to promote both linguistic fluency and social confidence. EngageBot was developed using Streamlit for the web-based user interface, Python for core application logic, LangChain for LLM orchestration, and OpenAI's GPT-4 for language generation.

EngageBot is designed to offer a personalized and immersive experience by guiding users through an intuitive system flow. Upon accessing the system, users first go through a simple authentication process. As shown in Figure 1, which shows that EngageBot provides user experiences, from creating a profile and continuing through selecting chat mode. This process combines all the information collected previously, when creating their own account, and uses it to guide to user-specific conversation. The diagram provides a seamless transition from structured to casual conversation modes without losing personalization continuity. New users create an account by filling out basic profile information, which is used to personalize their experience. Returning users can log in with their existing credentials, ensuring a seamless return to the system. Once logged in, users are prompted to select a conversation mode. EngageBot offers two primary modes: Group Chat Mode and Breaktime Chat Mode, each designed to support different aspects of language learning.

In Group Chat Mode, users participate in structured classroom discussions where topics are selected based on their age and language proficiency level. The system introduces each topic, encouraging users to share their thoughts and respond to the AI's follow-up questions. This mode is designed to simulate a classroom environment, where users can engage in deeper discussions, build on prior responses, and express their opinions. The system's responses are tailored through personalized discussion chains, allowing for a fluid, interactive experience. In Breaktime Chat Mode, users engage in more casual conversations, mimicking everyday social interactions in a school environment, such as chatting with peers in the hallway or cafeteria. The system randomly selects a relatable school scenario and provides context to begin the conversation. Users are then encouraged to respond naturally, using everyday English. As the conversation continues, EngageBot adapts to the user's input, ensuring that the flow remains natural and engaging.

Throughout both modes, EngageBot generates personalized prompts using the user's profile data, which is retrieved from the system's database. This data, which includes the user's age, language proficiency, and previous interactions, informs the system's responses and enhances the relevance of the conversations. The aim is to provide a learning experience that feels both authentic and tailored to each learner's individual needs.

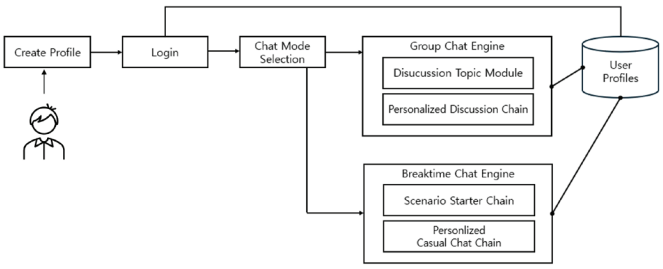

Figure 1: Diagram illustrating the end-to-end flow of EngageBot's user experience. Demonstrating the collection of user data, the selection of modes, and the initiation and maintenance of personalized conversations.

Group Chat Engine

Group Chat Engine is designed for structured discussions on specific topics. It provides a guided conversation experience where students can practice expressing their opinions and engaging in meaningful discussions. To support this goal, the Group Chat Engine includes two core components: the Discussion Topic Module and the Personalized Discussion Chain. The Discussion Topic Module suggests age-appropriate topics, which users can select by clicking from three provided options. Upon selection, the conversation begins with an introductory prompt, encouraging the user to express opinions and engage in thoughtful interaction.

Once a topic is selected, the Personalized Discussion Chain is activated. As shown in Table 1, which outlines System Prompt and Input Variable used to generate context-aware AI responses in Group Chat Mode and shows how EngageBot generates natural responses by integrating previous chat history, age, nationality, and language level, this chain uses a large language model (GPT-4) to generate responses based on the user's profile and recent messages. It maintains conversational context by referencing the last two dialogue turns, allowing for coherent and personalized AI replies. All responses are designed to be supportive and constructive to reduce learners' anxiety and enhance fluency.

The interaction begins when the user logs in and accesses the Group Chat page. After selecting a topic, the system automatically generates the first message to initiate the discussion. The user then responds using the text input field. The AI processes this input by combining it with the recent dialogue context and the user's profile to generate a personalized reply. This conversation continues, with the system maintaining the session history and adjusting prompts in real time to promote deeper engagement.

Table 1: Showing the components that generate context-aware AI in Group chat mode. Including system prompts and input variables based on the user profile, along with their dialogue history for coherence.

Component	Content
System Prompt	You are a friendly AI assistant helping a student practice English conversation. - Age: {user_profile['age']} - Nationality: {user_profile['nationality']} - Language Level: {user_profile['language_level']} Your role is to: 1. Respond in a way appropriate for the student's age and language level 2. Keep the conversation engaging and natural 3. Ask follow-up questions to encourage discussion 4. Provide gentle corrections if needed 5. Be supportive and encouraging 6. At the end of the conversation, please add a suitable emoji that matches the tone of the chat.
Input Variable	- Previous conversation: {st.session_state.messages_group_chat[-2:]} - User's response: {prompt}\nPlease respond naturally and ask a follow-up question.

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Breaktime Chat Engine:

The Breaktime Chat Engine is designed to simulate informal, everyday conversations that students might encounter during unstructured moments of the school day, such as during breaks, in the cafeteria, or on the playground. Its primary goal is to help learners practice casual English in a low-pressure, relatable context. To achieve this, the engine is composed of two key components: the Scenario Starter Chain and the Personalized Casual Chat Chain.

As shown in Table 2, which describes how System Prompt and Input are used for generating casual responses and demonstrates how EngageBot creates friendly and empathetic peer-like interactions by combining school settings and learner information, the Scenario Starter Chain initializes the conversation by randomly selecting a school-based scenario (e.g., library, sports field, hallway) and embedding it into the system prompt. This scenario is combined with the user's profile—age, nationality, and language level—retrieved from the system database. The chatbot opens the conversation with a light and natural message that encourages user engagement without requiring the learner to initiate the dialogue. This design ensures that students can start participating in the conversation without hesitation, which is especially important for beginners or those experiencing anxiety when using English.

Once the initial message is delivered, the Personalized Casual Chat Chain takes over. This component processes user input in real time, referencing the previous dialogue history (typically the last four turns) and adapting its response to maintain a coherent and friendly exchange. The system uses a GPT-4-based large language model to generate replies that reflect the user's background and the conversation's tone. These responses are casual and dynamic, with follow-up questions that sustain the flow of the chat. In addition, emotional appropriateness is embedded into the prompt structure to model empathy and rapport— occasionally including emojis to match the affective tone of the exchange. The user experience begins when the learner logs into the system and accesses the Breaktime Chat page. If it is the user's first time entering the mode during the session, the Scenario Starter Chain activates automatically and produces the initial AI message based on a randomly selected scenario. The user can then respond through the input field provided. The engine continues the conversation by invoking the Personalized Casual Chat Chain, which integrates the user's input and recent chat history to generate context-aware replies.

Table 2: Showing information on how to start and continue casual conversations in Breaktime Chat Mode. Accounting for learners' age, proficiency, and context, and generates peer-like, empathetic responses.

Component	Content
Scenarios	"Cafeteria at Lunchtime", "School Hallway", "On the Way to and from School", "P.E. Class", "Library", "Classroom", "School Playground", "Cafe Near School"
System Prompt	You are a friendly student who is similar to the user: - Age: {user_profile['age']} - Language Level: {user_profile['language_level']} - You are currently at: {selected_scenario} Your role is to: 1. Act like a student of similar age and language level 2. Start a natural conversation based on the current situation 3. Keep the conversation engaging and friendly 4. Ask questions that would be natural for students to discuss 5. Be supportive and encouraging 6. At the end of the conversation, please add a suitable emoji that matches the tone of the chat.
Input Variable	- Previous conversation: {st.session_state.messages_group_chat[-2:]} - User's response: {prompt}\nPlease respond naturally and ask a follow-up question.

System Configuration:

To enable efficient development and real-time interaction, EngageBot was implemented using a lightweight and modular architecture. As shown in Figure 2, the frontend was built with Streamlit, allowing quick deployment of interactive web interfaces. For the backend, Python served as the core language, while LangChain was used to manage prompt templates and coordinate interactions with the language model.

OpenAI's GPT-4 was integrated as the main language generator, producing personalized and context-aware responses based on the user's profile and recent conversation history. User data, including profiles and chat logs, was stored in JSON files, and session state variables were used to manage active conversations during runtime. This setup allowed the system to balance long-term personalization with responsive, session-based dialogue. If the data were stored as JSON files on a hard disk rather than in a database, the retention policy would be to delete them as soon as system validation is completed, and access control would be limited to a personal PC so that no one other than the experimenter and the participant can access the data.

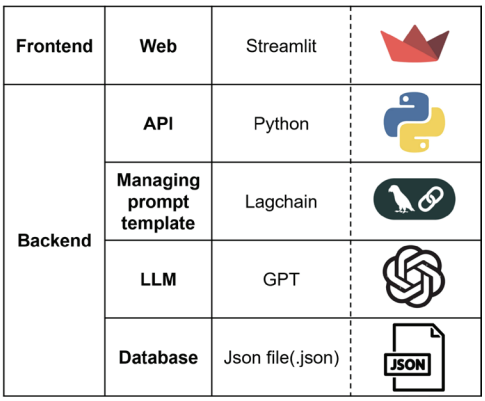

Figure 2: The architecture of the proposed system (Streamlit on the frontend, Python and LangChain on the backend, and GPT-4, along with a JSON file). The modular design adapts to real-time user interaction.

System User Interface and Example:

Figures 3-8 show the core user interface components and interaction flow of EngageBot. Specifically, the system is designed to be intuitive for adolescent users, while providing personalized conversational experiences based on learner profiles.

To begin using EngageBot, learners are first prompted to create a user profile. As shown in Figure 3, which shows the profile input screen where learners enter their information, such as age, nationality, sex, and Language Level, which is crucial for determining the chatbot's tone, vocabulary usage, and sentence complexity, users input basic information such as age and English proficiency level. These data points are used to tailor feedback and adapt the chatbot's responses to the learner's individual needs.

After completing profile creation and logging in, the user is greeted with a welcome message and presented with two conversation modes: *Group Chat Time* and *Breaktime Chat*. As shown in Figure 4, which presents two clear options: Group Chat Time or Breaktime Chat, where this separation helps users to freely recognize the purpose of each mode, these modes

are accessible via clearly labeled buttons, and users may select either option based on their practice goals.

In the Group Chat Time mode, as shown in Figure 5, where learners choose their favorite among three topics, this process offers learners to focus on expressing confidently and structurally by mimicking the classroom environment. Learners are offered three topic buttons representing different classroom-style discussion prompts. Upon selecting a topic, EngageBot generates an opening question related to that theme, inviting the learner to share their opinion. Figure 6, which demonstrates crucial steps for the system to sustain deeper dialogue, maintain relevance, and support continuous growth, shows how users respond and EngageBot produces follow-up questions. Once the learner responds, the chatbot uses the learner's profile information, including age and language level, to generate contextually appropriate feedback and a follow-up question, encouraging deeper conversation.

In the Breaktime Chat mode as illustrated in Figure 7, which introduces Breaktime Chat mode with a friendly, scenario-based message drawn from common school contexts such as hallways, cafeterias, or sports fields, the system randomly selects a school-related setting such as a library, cafeteria, or hallway and initiates a friendly, casual conversation that reflects the learner's background and language level. As seen in Figure 8, which shows how EngageBot maintains a peer-like conversational tone, using casual language, empathy modeling, and follow-up prompts to sustain engagement, when the learner replies, EngageBot responds like a peer, continuing the chat with supportive, everyday language and prompting further dialogue to help the learner practice natural English in relaxed, social contexts.

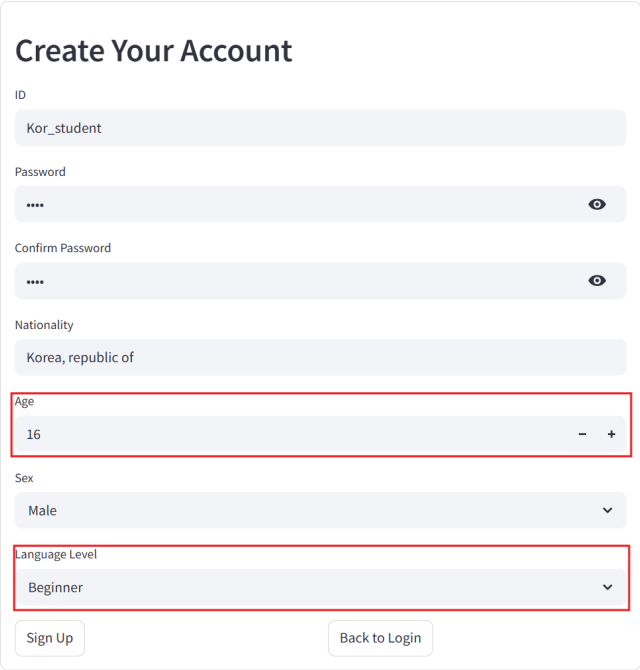

Figure 3: Learners enter their age and English proficiency to get a response to feedback. The data helps identify the chatbot's tone, words, and complexity of conversation.

Figure 4: The user interface offers two selectable modes to simulate structured classroom (Group Chat Time) or casual school interactions (Breaktime Chat).

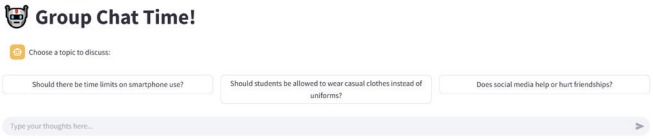

Figure 5: In Group Chat Time, learners choose among three discussion prompts, enabling focused practice on relevant academic topics.

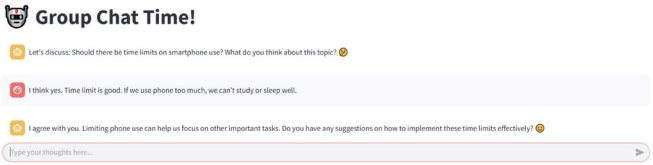

Figure 6: This example shows how the chatbot uses learner input and profile to create dynamic follow-ups, encouraging deeper conversation.

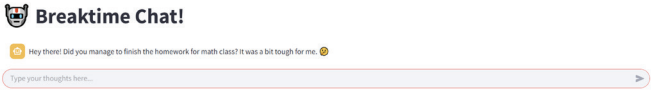

Figure 7: In Breaktime Chat, the chatbot opens with a friendly, context-based message derived from school-related scenarios.

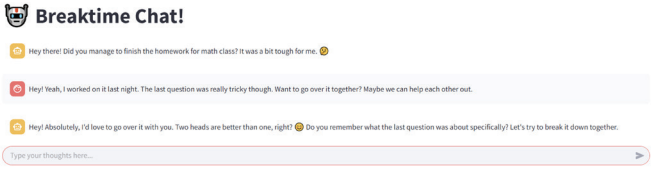

Figure 8: The system mimics peer conversation by using casual, age-appropriate language and follow-ups to sustain engagement.

System Evaluation Design:

To evaluate the effectiveness of EngageBot's conversational output, a comparative experiment was conducted involving human tutors. The objective of this evaluation was to determine how closely the AI-generated responses from EngageBot align with those written by real human tutors, both semantically and contextually. This serves as a foundation for assessing the pedagogical validity and communicative naturalness of the chatbot in supporting English learning among international students.

Participants in the experiment were asked to assume the role of a tutor and compose responses to simulated student interactions. Each participant received a set of materials that included a student profile (with age, nationality, and English proficiency level), the topic of conversation, and the last two dialogue turns from the learner. Based on this information, participants were instructed to write natural, supportive English responses that could guide the student and encourage continued engagement.

Three discussion topics were used in this evaluation. For each topic, participants were required to write three distinct responses, resulting in a total of nine human-generated re-

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sponses per participant. These responses were later compared to the corresponding outputs generated by EngageBot using semantic similarity metrics and qualitative analysis. This experimental design enabled a focused investigation of the system's ability to replicate the tone, structure, and relevance of tutor-style feedback.

Results and Discussion

To evaluate EngageBot's performance in generating human-like responses, a comparative analysis was conducted across three discussion topics in Group Chat Mode. Each topic's performance was assessed using the F1 score to measure semantic alignment between AI-generated feedback and human tutor responses. The results are summarized in Table 3.

Table 3: This table shows average, minimum, and maximum F1 scores for three topics to evaluate the semantic similarity between AI and human responses. Social Media had the highest average alignment with humans.

Topic	Avg. F1 Score	Std. Dev	Min. F1	Max.F1
Smartphone Usage	0.622	0.055	0.535	0.716
Dress Code	0.628	0.095	0.444	0.747
Social Media	0.665	0.101	0.531	0.802

Topic Familiarity and Semantic Alignment:

Among the three topics, Social Media achieved the highest average F1 score (0.665), indicating that EngageBot's responses in this domain were most semantically aligned with those of human tutors. This strong performance may be attributed to the topic's relatability and frequency of use in everyday conversation, allowing the model to generate more contextually appropriate and engaging outputs. The highest recorded F1 score (0.802) reinforces this interpretation, though the relatively large standard deviation (0.101) suggests variability in performance across user interactions. The Dress Code topic presented a moderately high average score (0.628) but exhibited the widest performance range from 0.444 to 0.747. It may underperform in topics that demand contextual interpretation, abstract reasoning, or sensitivity to social nuance.

Conversational Consistency:

The Smartphone Usage dataset demonstrated the most consistent results, with a low standard deviation of 0.055. Despite ranking lowest in average F1 score (0.622), the narrow performance range suggests that user responses to this topic were predictable and uniform. This consistency may have enabled EngageBot to deliver steady and coherent feedback, albeit with less expressive variation.

Impact of Personalization Features:

Notably, the system's adaptive design allowed responses to be personalized based on the learner's age and English proficiency. Real-time use of profile data contributed to conversational coherence and timely error correction, promoting sustained learner engagement. This responsiveness may explain the model's relatively strong performance across topics with high user relatability.

Conclusion

The objective of this study was to design, implement, and evaluate EngageBot. EngageBot is a scenario-driven conversational agent developed using GPT-4. It aims to improve the spoken English proficiency of international students. The system employs a dual-mode chat interface consisting of Group Chat Time and Breaktime Chat through which academic discussion and casual conversation practice are structured and offered to learners through the design of prompts in context and feedback mechanisms tailored to learners' profiles.

To assess the pedagogical effectiveness of EngageBot, a F1 score-based analysis on three different themes was done, which includes Social Media, Dress Code, and Smartphone Use. The generated dialogues are highly coherent and contextually relevant, as per the results. The dataset Social Media has the highest average value of F1 scores at 0.665, which indicates that the chatbot does particularly well when topics are highly relatable and similar to the lived experiences of students. On the other hand, Smartphone Use had the lowest mean F1 score (0.622) with the lowest standard deviation (0.055), indicating that this activity is fairly consistent in all users.

The personalization of EngageBot's architecture is an important attribute that the study highlights. By taking advantage of user metadata - for example, age, language proficiency, and conversation history - the chatbot maintained high context continuity and a real-time review system for grammar and tone. Through these design choices, the students were able to stay engaged in long interactions without cognitive overload or conversational dissonance.

However, the study also uncovered specific limitations. Scores for topics that require a lot of abstract reasoning, for example, Dress Code, were more variable. The minimum F1 was 0.444. This shows that the system needs to be improved further to manage free-topic and opinion discussions with greater linguistic depth. Beyond that, a personalized prompt may not be optimal when the previous data is static and does not change between uses or sessions. Moreover, the effectiveness of the prompt may be limited because it is static and does not learn from previous sessions.

Overall, EngageBot has the potential to be a practically applicable, easily accessible, and pedagogically sound tool. The scenario-driven chat modes replicate real-life academic and social settings. They offer learners low-stress opportunities to practice spontaneous conversations. If EngageBot is further developed with emotional intelligence modeling, context-aware multi-turn chains, and memory, it can be a contributor to AI-assisted language education.

Future research should utilize larger user populations in longitudinal studies, build up dynamic learner analytics, and develop more powerful natural language understanding models. Through these avenues, EngageBot could potentially transition from a practice tool that offers support to a language learning assistant that provides full immersion and could assist with the language barrier for international students around the world.

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