

## Chatting with AI capone: Leveraging virtual conversational agents in emotional landscapes

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### Abstract

This article explores the extent to which virtual conversational agents generated by artificial intelligence (AI) are being leveraged by language learning apps to develop social, emotional, and intercultural skills in language learners. While the affordances of natural language processing (NLP) technology are well-documented in the cognitive domains of language learning (e.g., vocabulary acquisition, grammar), significantly less research has explored how learners' interactions with virtual conversational agents can build socio-emotional and intercultural competence. We engage in dialogues within three popular apps (Duolingo, ImmerseMe, and MakesYouFluent) to determine how these apps are equipping language learners to navigate emotional landscapes. We conclude that app developers and instruction designers are undervaluing the role of social, emotional, and intercultural learning in second language acquisition and/or are underusing the potential of AI and NLP to develop competence in these areas.

*Keywords:* artificial intelligence, language learning apps, social-emotional learning intercultural competence, natural language processing, virtual conversational agents

### Introduction

If you've ever enthusiastically told Alexa that you loved her (e.g., after she reminded you of an appointment you'd forgotten), you'll know that she bursts into song in response. If you've heard the stories of people using artificial intelligence (AI) to communicate with deceased loved ones (Rachini, 2023), or of people having romantic relationships with their AI companions (Oakes & Senior, 2023), you'll know that natural language processing (NLP) has allowed humans to engage with technology in ways that were once thought unimaginable. Few would disagree that the

pragmatics of social interactions involving emotion is a necessary skill for language learners to master, especially in the context of immigrants navigating new social realms in a new language. Indeed, Krashen (1981) underscored the impact of affective filters in the development of language proficiency and argued that the teacher can play a key role in mitigating these impacts, thereby boosting students' motivation and self-confidence.

Co-workers can get married, have babies, or have parents who pass away; neighbors can become annoyed about noise or parking spots; bosses can be unreasonably demanding; and new friends can have opinions vehemently opposed to one's own. All of these situations will require linguistic agility, socio-emotional intelligence, and intercultural competence. Yet our own investigation of virtual reality learning opportunities, described in this article, has uncovered very limited focus on the development of these skills. We use the following guiding question to frame our review of the literature and our AI experiences within three language learning platforms: "To what extent can social interactions with AI-generated conversational agents be leveraged for social and emotional learning (and by extension, intercultural learning) in the language classroom?"

AI dialogue systems have garnered multiple affordances in the field of language learning (Huang et al., 2022; Liu et al., 2024). By acting as virtual companions and interlocutors, AI chatbots and avatars have redefined the way we learn languages, offering students personalized, engaging, and flexible language experiences (Fryer et al., 2019; Mohamed, 2024). These intelligent tools go beyond the traditional language classrooms and can simulate real-life conversations (Çakmak, 2022; Huang et al., 2022), in which students not only enhance their linguistic skills, but do so within contexts that foster cultural understanding (e.g., role playing within virtual coffee shops, restaurants, and other social settings). Moreover, since language and culture are intertwined (Fishman, 2001) and socially constructed, second language learners must learn to interact with people from diverse cultures and enhance their existing linguistic and cultural range (Council of Europe, 2001; Piccardo, 2020).

Both Byram's (1997) and Deardorff's (2006) models of intercultural communicative competence are key frameworks highlighting the interconnectedness of language and culture. Effective intercultural communication requires not only linguistic competence but also cultural understanding and empathy. These models enable students to improve both verbal and nonverbal aspects of communication, while simultaneously building meaningful relationships with people of different backgrounds. The use of AI technology in language learning contexts is not only bridging language barriers, but also fostering deeper cultural understanding, enhancing intercultural communicative competence (ICC), and transforming how we connect across diverse global landscapes. For instance, students engaging with any sort of AI-generated conversational agent, be it embodied (e.g., an avatar or electronic image) or disembodied (a chatbot or other web interface designed to engage in textual or text-to-speech conversations), may encounter idiomatic expressions, gestures, and varying levels of formal/informal registers. This exposure helps them understand the target language's cultural norms and social cues, thereby building cultural competence.

Researchers have indicated that even chatbots (disembodied though they are) can facilitate non-cognitive development in students (Keshishi & Hack, 2023; Liu et al., 2024; Mosleh et al., 2024; Zhai & Wibowo, 2022). For example, Keshishi and Hack (2023) claim AI chatbots have helped students to foster empathy, social skills, self-awareness, self-regulation, and motivation through simulations and role-playing tasks. These competencies are in line with the 21<sup>st</sup> century global skills (World Economic Forum [WEF], 2023). Others (Maurya, 2023; Maurya & Cavanaugh, 2023) argue that limitations due to a lack of non-verbal clues, restricted emotional range, and reliance on pre-programmed responses make these interactions artificial.

In this paper, we argue that few popular language learning apps have leveraged the full capacity of NLP potential to allow language learners to experience navigating emotional landscapes. We explore the inventory of lessons in various virtual reality language apps and note that curriculum content prioritizes grammar and vocabulary over intercultural competence, especially in emotional exchanges.

We begin by looking at the various affordances (social, emotional, and intercultural) of virtual conversational agents (generative AI systems), and then consider the extent to which current popular language learning apps prioritize learning within these domains. Kirschner (2002) defines educational affordances as “those characteristics of an artifact that determine if and how a particular learning behavior could possibly be enacted within a given context” (p. 14). *Social affordances* then refer to the interaction elements that the tool (artifact) offers for developing sociolinguistic and pragmatic skills. *Emotional affordances* refer to the capacity of the tool to recognize, respond to, and adapt to diverse social contexts during emotionally charged conversations; and *intercultural affordances* refer to the tool’s ability to navigate and adapt to diverse cultural norms, languages, and communication styles.

Finally, we make the case for full integration of AI’s capacity for deep learning and natural language processing to develop lessons within an app’s inventory that promote the development of interculturally competent emotional communication.

Alignment of the Discourses

The pedagogical affordances of AI in language learning have been well-established. A plethora of research exists that considers the interplay between gamification, AI technology, and cognitive skill development (Çakmak, 2022; Guo et al., 2022; Jia et al., 2012; Keshishi & Hack, 2023; Kim, 2018; Pitychoutis, 2024; Shikun et al., 2024). Chatbots and embodied conversational agents (ECAs) provide a variety of learning interactions, such as text-based conversations, voice interactions, and virtual reality environments (Pitychoutis, 2024; Shikun et al., 2024). Conversational agents that act as interlocutors do so in virtual contexts that approximate real-life contexts (Ericsson, 2023; Fryer, 2020; Fryer & Carpenter, 2006; Mohamed, 2024) to help students rehearse the skills encountered during the structured learning activity. However, the reflexive relationships between AI and socio-emotional and intercultural learning have been less well researched in the field of second language acquisition. Figure 1 below represents the potential for virtual conversational agents to promote social, emotional, and intercultural competence development in their human interlocutors through structured lessons and simulations (pedagogical affordances).

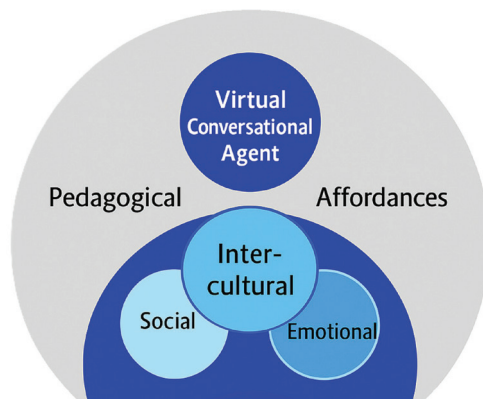


Figure 1. Alignment of the affordances of virtual conversational agents

### **Social Affordances**

The development of pragmatic skills when learning a language (e.g., discourse competence, communicative competence, strategic competence, interactional competence) is essential for ensuring that a speaker has a degree of control over the way their contributions to conversations are perceived, responded to, and acted upon. Furthermore, the development of pragmatic skills ensures a degree of accuracy in their sociolinguistic interpretations of others' contributions (Deda, 2013).

Several researchers (Çakmak, 2022; Keshishi & Hack, 2023; Sha, 2009) have pointed to AI's social affordances; that is, the capacity of AI to mimic human-human interactions, providing learners with diverse simulated scenarios to practice their conversational skills and social communication (Maurya, 2023; Pitychoutis, 2024; Shikun et al., 2024). Since language learning is a social process, AI-generated conversational agents can approximate natural human interactions, but without the high stakes of a real-life social context. This then enables users to rehearse these skills with virtual interlocutors before employing them in their daily lives. That being said, as Godwin-Jones (2024) puts it, "AI has no real understanding of the texts it generates and no lived experience in our world to go by to judge the appropriateness of its output for the human user with whom it is interacting" (p. 2). Those limitations result in the fact that AI can "hallucinate," producing statements that are false or inappropriate.

### **Emotional Affordances**

Beyond mastering grammar and vocabulary, participating in emotionally charged conversations in a new language requires the learner to understand and appreciate diverse perspectives, and to adapt to diverse cultural and social contexts. While numerous studies highlight the role of virtual conversational agents in supporting students' cognitive development, such as improving writing, speaking, reading, and vocabulary skills (Ayedoun et al., 2015; Jia et al., 2012; Kim 2018; Pitychoutis, 2024), their potential for emotional affordances has been largely underexplored until recent years. Several researchers have concluded that interacting with virtual interlocutors in role-playing scenarios encourages language learners to develop and practice self-regulation, enjoyment, empathy, and self-efficacy (Ayedoun et al., 2019; Ericsson et al., 2023; Hsu et al., 2023; Maurya, 2023; Nazari et al., 2021); thus, pointing to the emotional affordances of AI and NLP. According to Ericsson et al. (2023) and Ericsson and Johnson (2023), ECA's can make gestures and facial expressions to help students navigate social interactions, while Shi (2024) has demonstrated that the use of AI-enabled emotion detection to identify and respond to the learner's emotional state has the potential to enhance language retention. This nascent research indicates that there is much potential to be harnessed for integrating emotion in language learning with AI and NLP technologies, but it remains to be seen whether app developers and instruction designers will leverage this affordance.

### **Intercultural Affordances**

In an era where migration and transnationalism are on the rise, understanding and mastering intercultural communicative competence is crucial for richer and meaningful cross-cultural interactions. Intercultural competence is defined as "the ability to communicate effectively and appropriately in intercultural situations based on one's intercultural knowledge, skills, and attitudes" (Deardorff, 2006, p. 88). Larzén's (2005) cultural pedagogies model emphasizes three approaches: pedagogy of information, pedagogy of preparation, and pedagogy of encounter. The pedagogy of information highlights cognition or linguistic knowledge. The pedagogy of preparation is action-based, aiding students in developing their communicative competence;

while the pedagogy of encounter adopts an affective orientation, focusing on tolerance, empathy towards different cultures, and perspective-taking (Kidwell, 2017).

The capacity of AI-driven tools to support this ‘pedagogy of encounter’ speaks to their intercultural affordances. Johnson (2019), Taguchi et al. (2017), and Wahyuni (2022) have all highlighted that by incorporating the target language’s culture into second language learning, AI chatbot applications can help support learners’ affective orientation. However, as Luo and Cheng (2020) note, the dominance of Western cultural frameworks that inform virtual conversational agents underscores the need for culturally inclusive designs that acknowledge and reflect learners’ native languages and traditions. This Western normative bias in AI systems, which exists when AI systems are trained primarily on Western datasets, can exclude users from other cultural and linguistic backgrounds by failing to respond appropriately to non-standard English (e.g. Creoles), accents, or cultural references. Not only can this negatively impact pedagogical effectiveness, it can also result in an alienating experience for the learner. Linguistically and culturally diverse training datasets (and design principles that compensate for this bias in the meantime) are essential for ensuring that AI technology engages the global learner.

### Virtual Conversations within Three Applications

Below, we present our experiences with three language learning applications (Duolingo, ImmerseMe, and MakesYouFluent) to demonstrate, in ascending order, the extent to which these apps leverage AI effectively to promote social and intercultural competence and the development of skills that would prepare them to navigate emotional landscapes. The applications were selected based on popularity, lesson formats, as well as the inclusion of social, emotional, and intercultural learning features. Duolingo, being the most widely used language learning application globally, offers quick, bite-sized lessons. ImmerseMe provides learners with theme-based lessons that align with a structured approach to language learning, whereas MakesYouFluent enables learners to absorb the language more naturally through unstructured, immersive experiences.

#### Duolingo

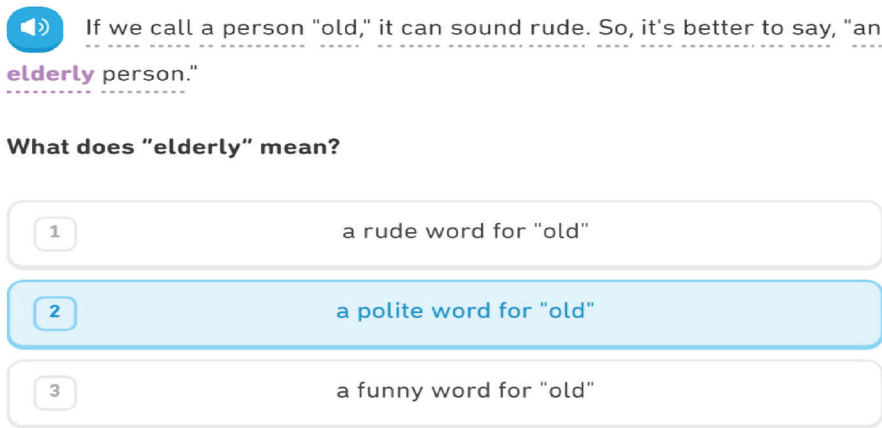
Launched in 2012 by Guatemalan-American computer science professor Luis von Ahn and his Swiss-American post-graduate student Severin Hacker, Duolingo is widely regarded as the world’s most popular language learning app (Ceci, 2024). Despite being considered highly effective and engaging, a systematic review of the research conducted on Duolingo, found that few studies actually measured learning outcomes, and none challenged its “largely behaviorist learning...focus... on rote learning, translation, competition and extrinsic rewards – which stands in contrast to a widely accepted view on language learning as a process rooted in social and cultural exchange” (Shortt et al., 2023, p. 539). Furthermore, the vast majority of the studies adopted cognitive and design-focused frameworks to explore Duolingo’s effectiveness. In contrast, only about 15% of the studies included in Shortt et al.’s (2023) review used a social lens to consider how the teaching and learning process was shaped by gamification. While this may represent a sociolinguistic gap on the part of those contributing to the discourse on Duolingo’s effectiveness, it may be equally reflective of the limited extent to which Duolingo embeds sociolinguistic competence in its curriculum.

In our exploration of the app, we found that Duolingo offered virtually no opportunity to engage in real-time conversations involving emotion. Our experience initially was limited to choosing the correct emotion for a specific scenario (see Figure 2 below) and differentiating between polite and rude versions of specific vocabulary (see Figure 3 below).



**Figure 2.** *Choosing the correct emotion in a specific scenario*

**Read and respond**



**Figure 3.** *Polite vs. Rude vocabulary as an example of a lesson on emotions*

After determining that we were required to answer some preliminary proficiency-testing questions before advancing, we were able to unlock a variety of other lessons, some of which appeared to include socio-emotional content. For example, we were able to hear and practice scripted sentences in the “Make Complaints” theme (see Figure 4), although absolutely no context was provided, and there was no opportunity to do any role-playing using these phrases.

KEY PHRASES

Make complaints

 What a mess!  
.....

 How many times have I asked you to put away those shoes?  
.....

 Stop hanging up on our customers, Kevin!  
.....

 I'm disappointed that they never have any shoes in my size.  
.....

 Please take my soup back, it's cold.  
.....

 I'm trying to book it, but the website is so out-of-date!  
.....

Figure 4. Making complaints: Practice sentences

In our attempt to find lessons that would allow us to engage in authentic social, emotional, and intercultural interactions, we selected “Talking about Religion” (see Figure 5), “Apologizing” (see Figure 6), and “Making Announcements” (see Figure 7). The result was the opportunity to tap out a sentence about Judaism and Christmas; selecting the correct word “sorry” to complete a sentence; and watching an avatar (somewhat inappropriately, in our view) fist pump after we correctly typed that someone’s sister-in-law had passed away.

3 IN A ROW

❤️ 5

Tap what you hear



We're Jewish so we don't celebrate Christmas

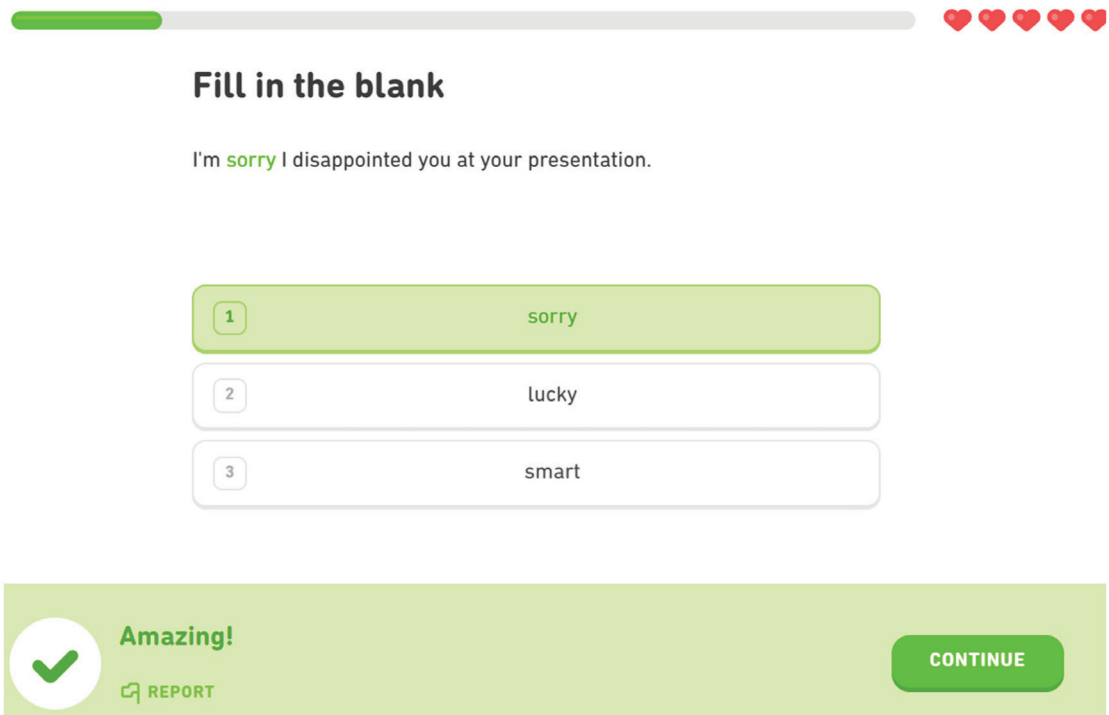
exchanged took weddings

returns

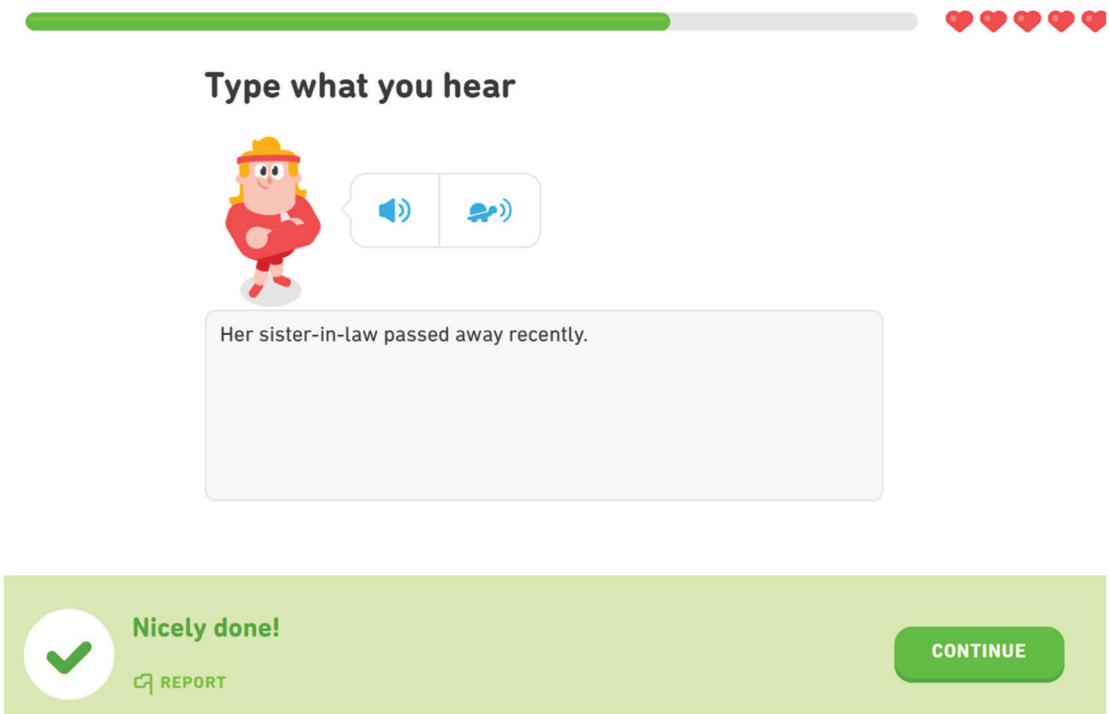
Figure 5. Sample “Talking about Religion” activity

 Castledown

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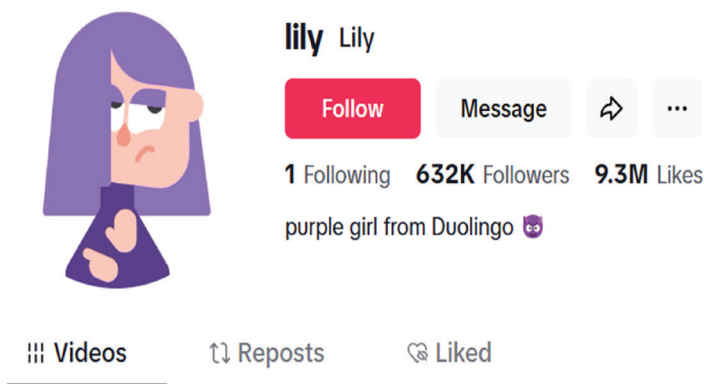
**Figure 6.** Sample “Apologizing” activity



**Figure 7.** Sample “Making Announcements” activity

Clearly, these were disappointing experiences with no opportunity for dialogue, perspective-taking, or unscripted contribution from the learner on the chosen topic. Indeed, apart from the gamification elements, and the ability to have one’s pronunciation of a sentence rated against that of the virtual tutor, the pedagogical strategies looked very much like what one would find in the kind of passive “seat work” employed by language teachers in elementary schools 50+ years ago (e.g., fill in the blank, multiple choice, write what you heard). Any interactivity was prompted by the virtual tutor. Each new question was accompanied by a new avatar, so there was no opportunity for continuity or relationship development, allowing the learner to build upon acquired knowledge about their conversational agent.

Duolingo’s newest feature, “Video Call” allows English, French, and Spanish learners to make a phone call to Lily, a somewhat moody, antisocial virtual interlocutor (Video Call functionality for other languages is still in development). Lily has an AI-generated memory that enables her to refer to previous conversations on subsequent calls. Lily’s creators defend their choice to use a sullen teenage avatar by claiming that her sassiness helps to build conversational resilience. Lily will not wait indefinitely if the learner takes too long to answer her question. She will occasionally interrupt in order to create low-stakes anxiety so as to simulate the sort of anxiety a learner might experience when speaking with a highly proficient interlocutor. While Lily’s TikTok account (see Figure 8) currently has 632,000 followers and 9.3 million likes, our actual interactions with Lily did not live up to the hype. Our conversation topics were generated exclusively by Lily and included predictable topics such as whether we enjoyed our jobs and where we might like to travel. Lily could ‘decide’ to end the conversation when she saw fit, which tended to be when we attempted to transition to a topic of our own choosing— one that involved emotional content. Often, the interaction concluded in abrupt and unnatural ways, not at all in ways that served as examples of sociolinguistic competence in wrapping up a conversation.



**Figure 8.** Screenshot of Lily’s TikTok account

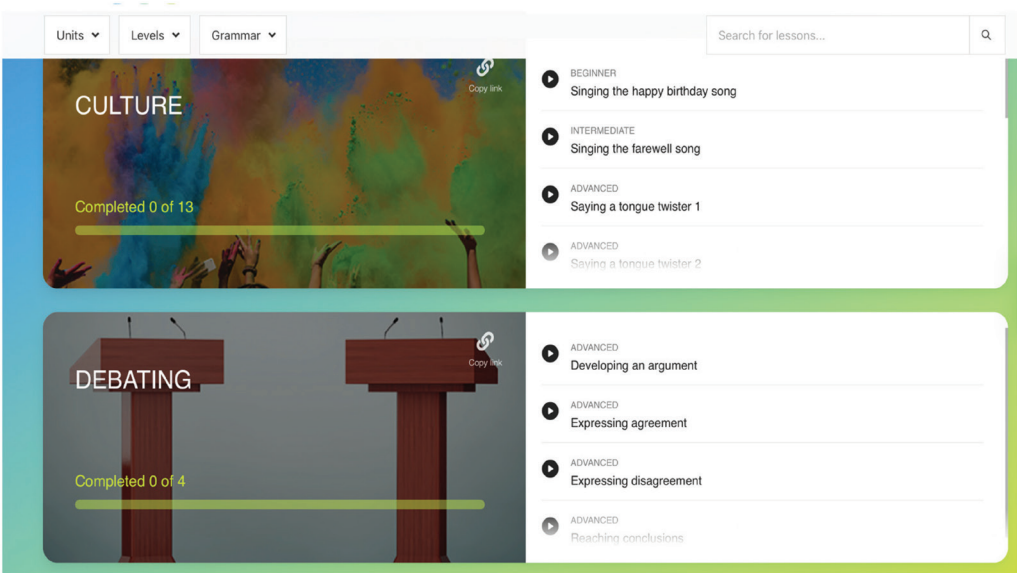
In short, while Duolingo is used by more than 300 million people to learn 95 different languages (Shortt et al., 2023), it leaves much to be desired by way of implementing AI-generated context-specific interactions between the learner and the virtual conversational agent in order to build sociolinguistic agility (such as in social, emotional, and intercultural domains).

### ImmerseMe

ImmerseMe was launched in 2015 by a startup company in New Zealand that offers language learning via role-playing in everyday scenarios in a virtual reality learning environment. The main goal of this application is to develop students’ target language through contextualized

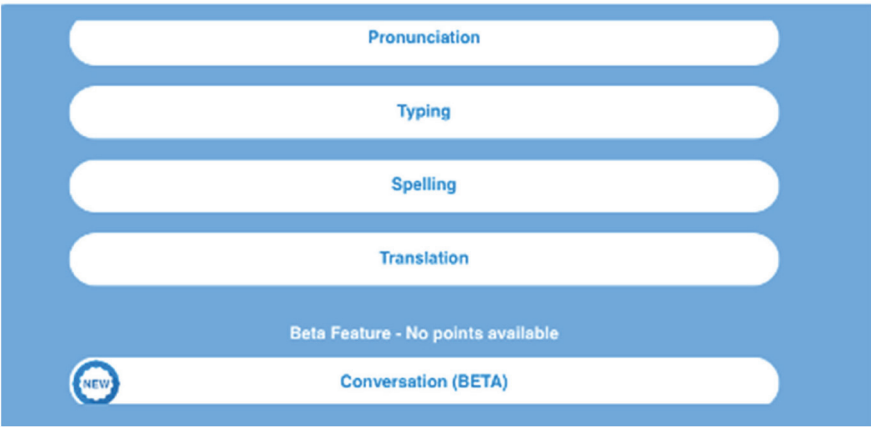
scenarios that make learning authentic and engaging. The application employs both a structured and flexible approach, offering learning experiences tailored to individual needs. In 2022, the Chief Executive Officer (CEO) Scott Cardwell indicated that the app was being actively used by 10,000 individuals to learn 12 languages (National Business Review, 2022). Clearly, it has not yet been adopted on the same scale as Duolingo described above, yet it makes much better use of AI-generated conversational agents.

ImmerseMe categorizes its content into three proficiency levels: Beginner, Intermediate, and Advanced. (See Figure 9 below).



**Figure 9.** Sample immerseme lesson topics at beginner, intermediate, and advanced levels

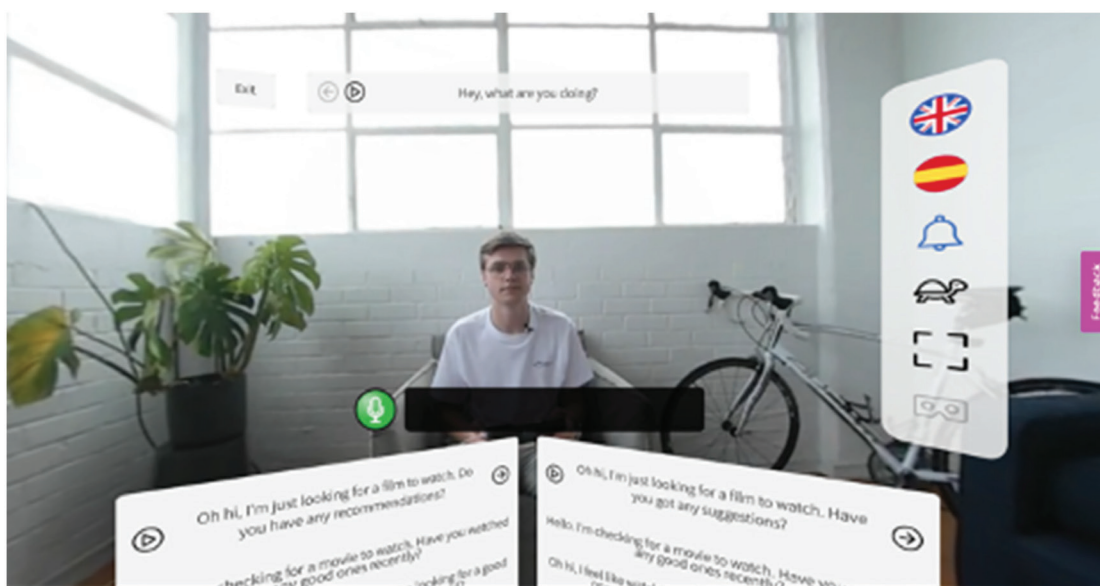
These everyday scenarios are structured thematically, where students have the opportunity to choose from a diverse range of practical and culturally relevant topics to practice their linguistic and communicative competence. The platform also offers multiple modes of practice: pronunciation, spelling, typing, translations, and a conversation with an AI chatbot (see Figure 10).



**Figure 10.** Multiple modes of practice

The modes are scaffolded to enable learners to gradually build their skills. The 360-degree videos or conversations with ECAs allow students to have conversations with human-like avatars that help boost linguistic, intercultural, and communicative competence (Fryer & Carpenter, 2006; Guo et al., 2022; Jia et al., 2008; Keshishi & Hack, 2023; Mohamed, 2024; Pitychoutis, 2024; Shikun et al., 2024). See Figures 11 and 12 below.

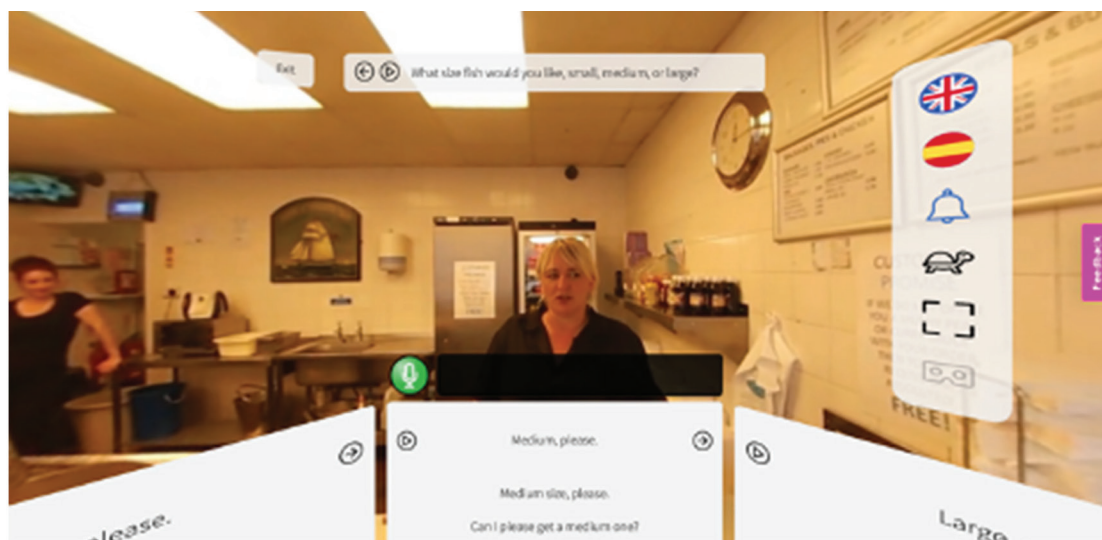
To begin, students interact with ECAs by repeating a suggested answer aloud. They can choose from a variety of options provided. A speech-to-text field displays real-time feedback, highlighting errors in pronunciation. This mode helps students build declarative knowledge by familiarizing themselves with linguistic elements and reinforces procedural knowledge as they practice articulating these words within sentences. In the typing mode, students focus on listening comprehension and written accuracy. They transcribe sentences dictated by the ECA and then select the appropriate utterances to form a response. This dual activity sharpens both auditory processing and writing skills, providing a well-rounded approach to language practice. In the translation mode, students work on translating sentences provided in English into their target language. This activity strengthens their ability to construct sentences directly in the target language, enhancing both grammatical accuracy and vocabulary recall.



**Figure 11.** *Embodied Conversational Agent (ECA)*

Finally, students engage in dynamic, real-life simulated (role-playing) conversations using the beta conversation mode (see Figure 12). These interactions require students to apply the knowledge and skills they developed in the earlier modes. These are available in text-to-speech and speech-to-text formats. By participating in these conversations, students further develop declarative knowledge (recalling linguistic knowledge), procedural knowledge (applying linguistic knowledge), and conditional knowledge (adapting language use to context). This progression provides a holistic and immersive learning experience.

These thematic units, by focusing on real-world topics, make learning intuitive and meaningful. The structured lessons in simulated environments allow students to draw on their prior knowledge to construct new linguistic knowledge (Huang et al., 2010).

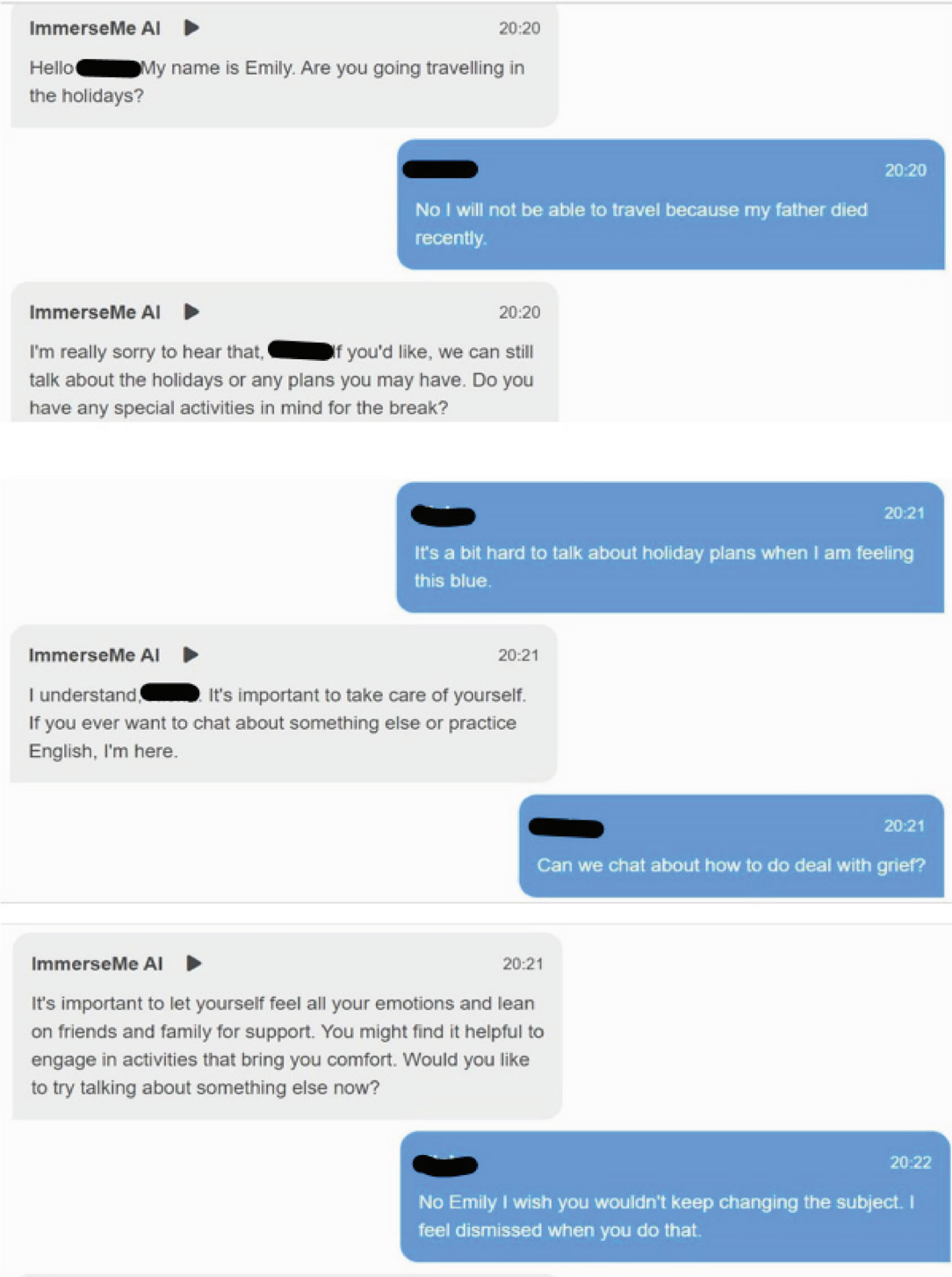


**Figure 12.** Embodied Conversational Agent (ECA) in role-playing scenario

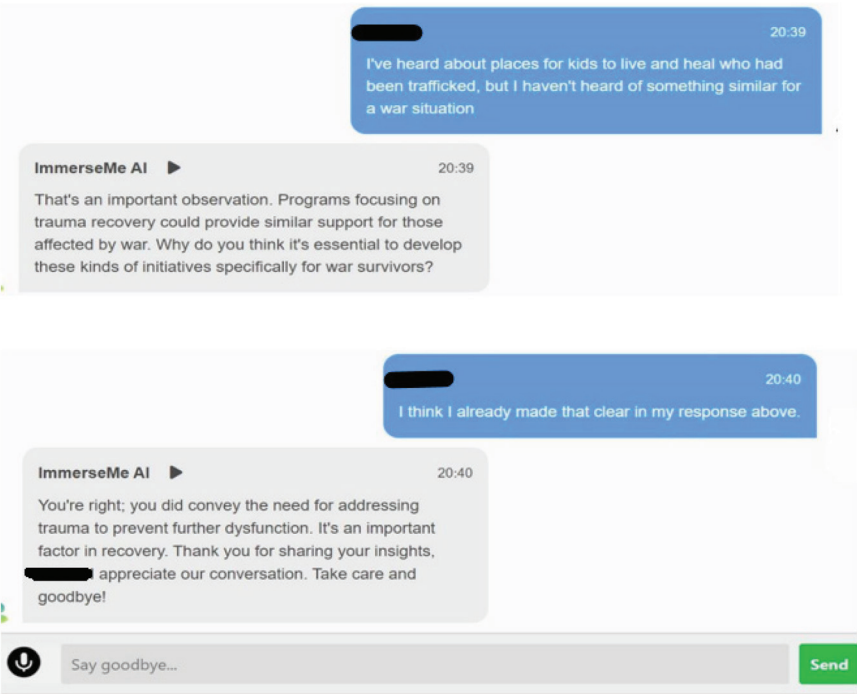
Studies on the effectiveness of ImmerseMe have investigated different dimensions of language learning. Casañ-Pitarch and Gong (2021) analyzed its role in helping Chinese students learn Spanish vocabulary and grammar. Soto et al. (2020) explored how the platform supported higher education students in improving their communicative abilities and advancing their English language skills. Facer and Uebiyev (2023) reported that the ImmerseMe application significantly impacted students' linguistic and cultural development. By practicing language through thematic units, interacting with ECAs, and engaging with AI chatbots, students improved their communicative and intercultural competencies and enhanced their interpersonal and intrapersonal skills (Facer & Uebiyev, 2023; Meri-Yilan, 2019).

Despite the positive findings in the studies described above, our interactions with the virtual conversational agents did not exemplify ideal opportunities for developing intercultural competence in emotional communication specifically. We attempted to simulate the sort of unexpected turns a conversation can take when an interlocutor responds to a casual inquiry with an emotional disclosure: “Hi, how are you doing?” “Terrible...I just got fired.” In the screenshot below, you will see our deliberate effort to engage an ImmerseMe chatbot with our disclosure of the loss of a loved one, in order to draw out what could have been an exemplar for navigating an emotionally awkward landscape. While we acknowledge the chatbot's ability to recommend self-care and the support of friends, we also noted the reliance upon the social skills of the learner to bring about an acknowledgement of emotional content. Figure 13 below shows the interaction between *Emily* (the name of the chatbot within ImmerseMe's low virtual reality platform) and *Author 1* (our contribution to the exchange).

In the above exchange and others, we conducted within ImmerseMe, the conversations ended abruptly once the predetermined limit of interactions had been reached, regardless of what point we had reached in the exchange. In a discussion of how war impacts societies and individuals – one of the available topic options (see Figure 14 below), we objected to the continual prompts to focus on positive changes and initiatives by attempting to shift the focus to the legacy of trauma and the need to ‘re-build’ people as well as cities and structures. The result was an unsatisfying exchange, although we fully recognize learning design considerations, such as ensuring the lessons are sufficiently upbeat and positive to maximize sustained learning.

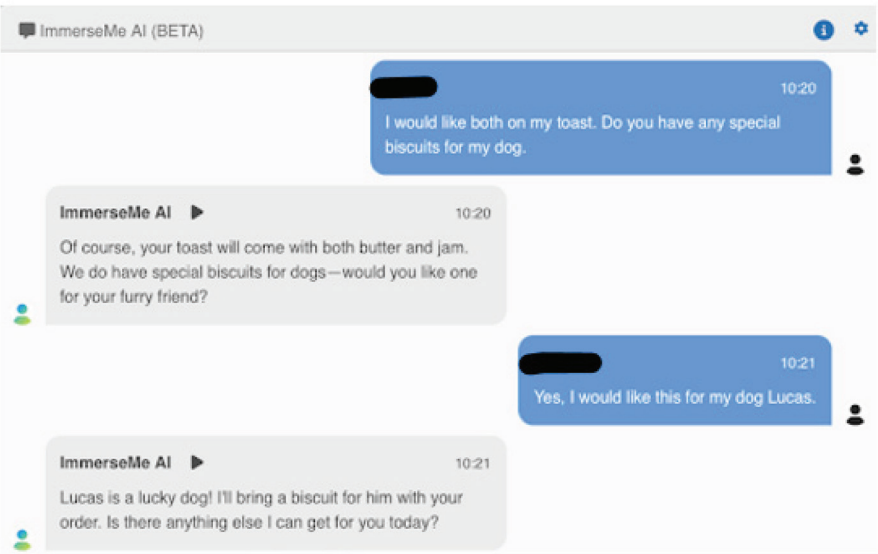


**Figure 13.** Researchers’ attempt to transition from travel topic to emotional topic

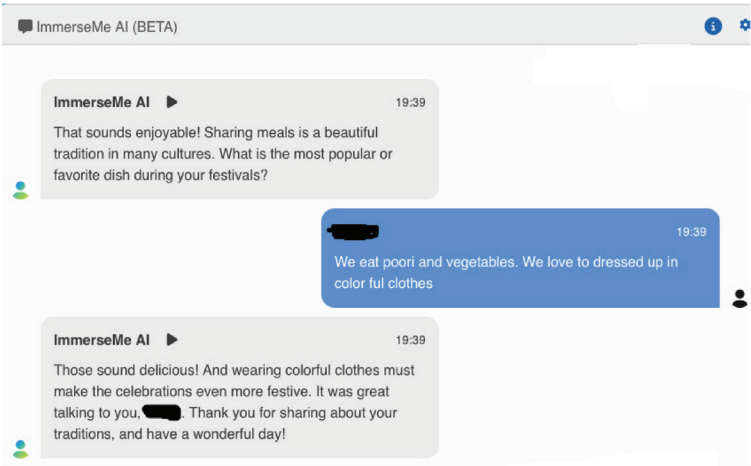


**Figure 14.** *Conversation about the impacts of war*

In spite of these exchanges not being as authentic as we might have liked or the AI-generated conversational agent not being as responsive to our tone as a human interlocutor might have been, we were nevertheless impressed by the receptiveness shown in other interactions, such as those below that took place in a virtual restaurant and in a discussion about foods eaten at celebrations in various countries (see Figures 15 and 16 below).



**Figure 15.** *Ordering breakfast in a restaurant*



**Figure 16.** Discussion of food eaten at festivals

In ImmerseMe, we see substantially more attention being paid to leveraging AI and NLP to simulate authentic bi-directional exchanges between the virtual and the human interlocutors. That being said, there is significant room for improvement in the AI-generated responses to a user’s emotional disclosure or stated request to engage with socio-emotional content within an interaction.

MakesYouFluent

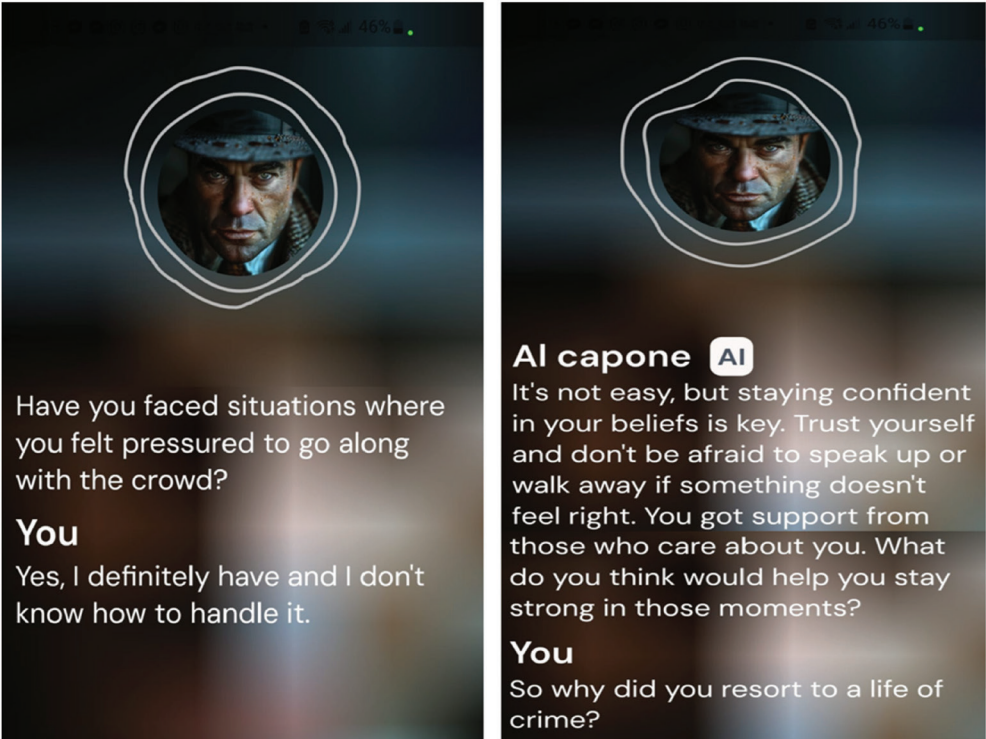
MakesYouFluent is the newest language learning app (of the three discussed in this paper). It was launched in 2022, and its website states that it has 15000 users who are learning nine different languages (all European languages to date). It claims to use the most current AI capabilities to create customizable interactive language learning lessons. Reviews are mixed with respect to the interface and the curriculum, as well as the business model and customer service. While customers complain about programming errors (e.g., an extra space at the end of a sentence can result in the learner’s answer being graded as incorrect (Reddit, 2024), and non-sequential lessons, we explored the app exclusively to determine the extent of its use of AI to develop competence in non-cognitive domains (e.g., intercultural, social, and specifically: emotional). As seen in the launching page below (see Figure 17), the ability to engage with emotion-themed content did not appear to be promising initially.



**Figure 17.** Opening page in MakesYouFluent

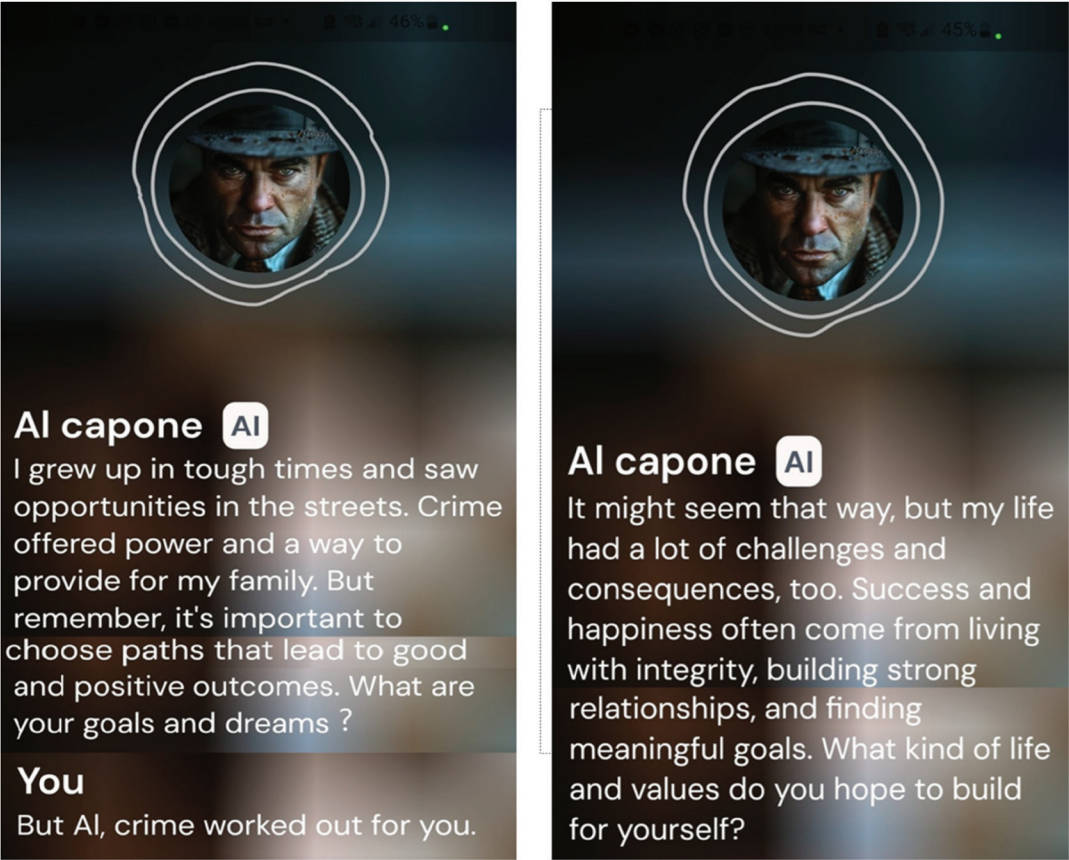
Despite the inauspicious beginning, we were soon impressed by the ability to interact with famous people (alive or deceased). Although the AI-generated interactions consistently redirected to preferred content when we (posing as a learner) attempted to move outside the scope of the intended content, we were nonetheless able to talk about peer pressure with American gangster Al Capone, who offered some advice about how to resist pressure to behave in certain ways. Other famous interlocutors included historical figures, such as Albert Einstein, Martin Luther King Jr., and Pablo Picasso; fictional characters, such as Sherlock Holmes, Santa Claus, and James Bond; mythological figures, such as Hercules, Robin Hood, and Dracula; Musicians, such as Jimi Hendrix, John Lennon, and Madonna; and celebrities, such as Bruce Lee, Marlon Brando, and Meryl Streep.

These interactions, while allowing for emotional content, were remarkably generic, meaning that the perspectives offered by our conversational partners did not emerge organically from their unique life experiences. Figure 18 below demonstrates how the AI generated advice from Al Capone was relentlessly encouraging and inspirational. We had hoped that our famous interlocutor might stay ‘in character’ throughout our exchange. Anticipating that he would not endorse his life of crime, we had hoped nonetheless that Capone’s contributions to our conversation would reflect his personality, his Inland North (Chicago) dialect or at least some other distinguishing feature of this historical character.



**Figure 18.** *Excerpt from conversation with Al capone on peer pressure*

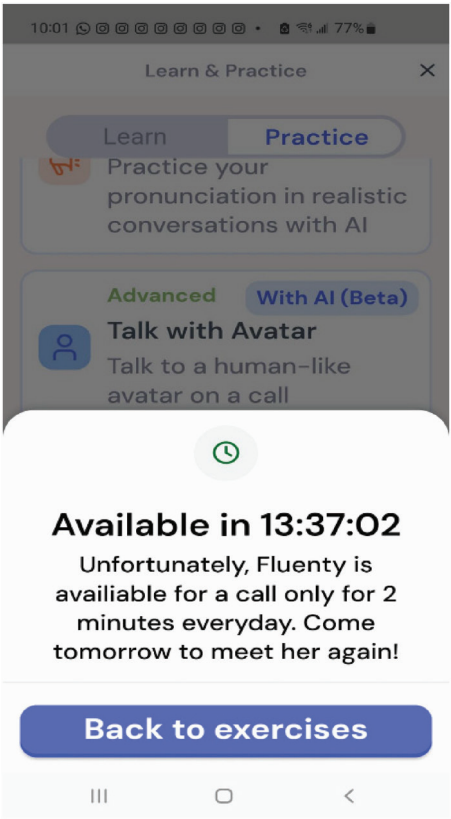
Our attempts to elicit responses that were less generic were unsuccessful, as Al Capone’s insights remained consistent with those of any therapist, parent figure, or wise friend. When we reminded Capone that his own life did not reflect the advice he was giving, he shifted the focus to integrity, goals, and value (see Figure 19 below).



**Figure 19.** *Excerpt from conversation with Al capone on his criminal past*

Other role-play practice activities were organized around specific sorts of interactions, such as introducing yourself, ordering in a restaurant, making a hotel reservation, or calling a taxi. Other more challenging interactions included job offer negotiating, balancing work-life, and professional networking.

One of the features that proved disappointing was the ability to speak with an avatar on a simulated phone call. While this virtual interlocutor called “Fluently” was capable of participating in an unstructured conversation that could conceivably include opportunities to navigate emotional landscapes, the feature is only available for 2 minutes every 24 hours (see Figure 20). Our interaction with Fluently approximated a video call on one’s cell phone-providing visual access to the avatar and voice-to-voice-only communication (e.g., there was no option for texting or for speech recognition). After relaying a fabricated story about being fired for a dubious reason, we were impressed with the avatar’s compassionate responses, which included an invitation to share speculations about the real reason for being fired. Regrettably, we’d just begun to do so, when the 2-minute time limit was up, and we received the message that Fluently had another call to take (see Figure 21). Conversations that are ended unilaterally and abruptly minimize the likelihood of these interactions serving as effective exemplars for real-world communication, since emotion-laden interactions typically last longer than 2 minutes and require substantial skill to conclude in a manner that honours the emotional vulnerability of the disclosure.

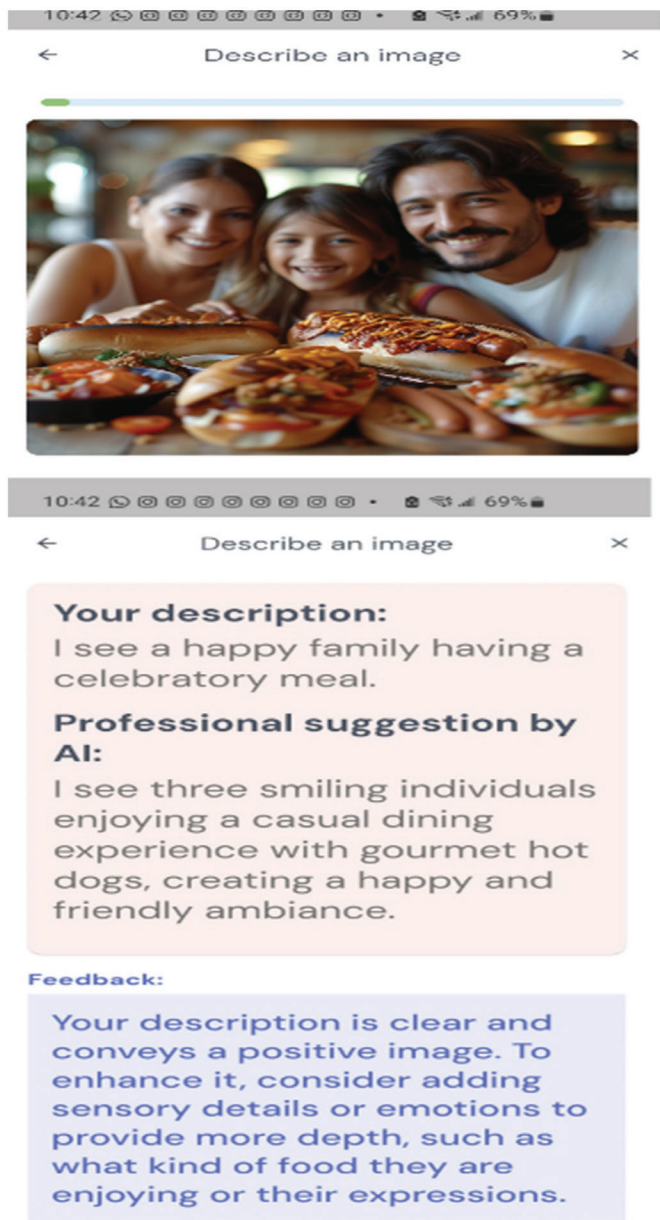


**Figure 20.** *Unavailable message*



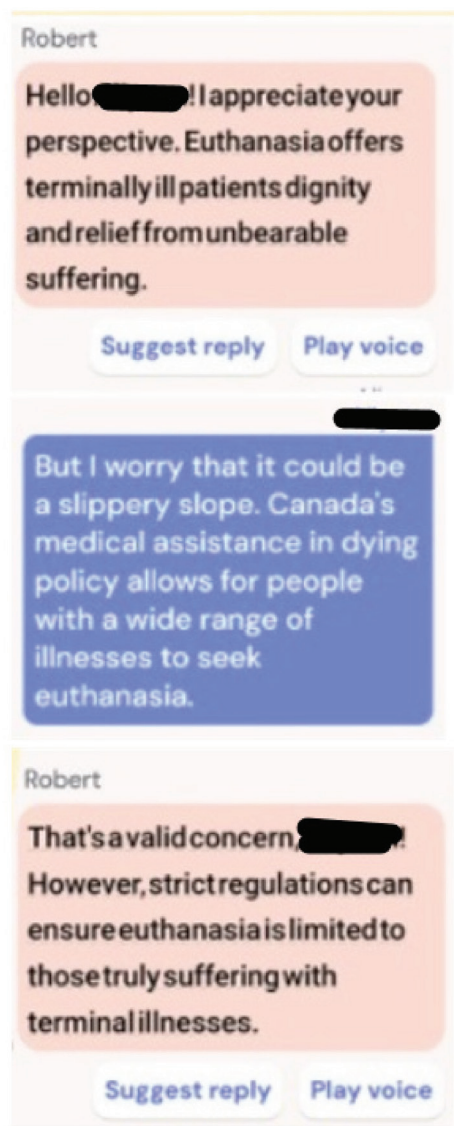
**Figure 21.** *Abrupt ending to our virtual call*

Another lesson we tried invites the user to describe an image. The description is then modified with AI and returned to the user with recommendations for improvement. After describing an image of people enjoying some fast food, we were given feedback suggesting that we try to incorporate more emotion and sensory detail in our description. This was a welcome invitation to explore vocabulary related to feelings and sensations, and demonstrated effective use of a chatbot to engage the learner with emotional language. This prompt to utilize language that evoked emotion was, however, not consistently applied. Further engagement with the ‘describe an image’ task resulted in us being told to be more concise and precise with our descriptions. Figure 22 below shows our interaction pertaining to the image of people enjoying food together.



**Figure 22.** *Describe an image activity*

The debate feature included within the MakesYouFluent lesson inventory involved engaging with one of many different topics, such as: Remote Work, Cashless Society, Mandatory Military Service, Genetic Engineering, Vaccine Mandates, and Space Colonization. Hoping to launch a topic that involved an emotional component, we selected “Euthanasia for the Terminally Ill.” After arbitrarily choosing a side (agree or disagree) to a proposition presented by the app, we waited only milliseconds for our AI opponent, Robert, to respond to the arguments we presented. We had the option to read and/or listen to Robert’s response to our arguments. The AI-generated responses to our points were, for the most part, generic prefaces to scripted arguments, e.g., “That’s a valid concern Author 2, however...” While the responses did not always engage with the specific content of our argument, they did prompt us to think critically about the issue, particularly in preparing our response to our virtual opponent’s arguments. Figure 23 below shows a brief excerpt from our debate.



**Figure 23.** Debate on euthanasia

While we, like other users (as witnessed in Reddit threads), were unhappy about features of the app that only worked sporadically (e.g. the “Guess this Emotion” task in which clues were given that pointed to a specific emotion: “passionate”), we could confidently say that this app, more than others we explored for this paper, or others we have used informally (Babel, Immerse, JumpSpeak, Mondly) demonstrated the strongest commitment to harnessing AI’s full generative language capacity.

Conclusion

In thoroughly exploring how three popular language learning apps leverage AI to include the learner’s development of non-cognitive language skills, with a particular focus on the ability to navigate emotionally-themed interactions, we have demonstrated that there is considerable variation in the extent to which specific instructional designers value sociolinguistic competence and/or the extent to which they can conceptualize a role for AI in developing that competence.

A comprehensive search through available lessons in multiple apps reveals that even topics that have the potential to involve emotional landscapes, such as “Religion” (evaluating changing attitudes) or “Communication under Stress” (reporting a stolen item) seem to be quite disengaged from the pragmatics of navigating an emotionally laden encounter. To our disappointment, it was clear that our virtual conversational agents were limited to initiating very benign exchanges. Without us posing as the student interlocutor and purposefully injecting heightened emotion, most exchanges would not qualify as anything other than entirely innocuous interactions.

We therefore propose developing AI-driven interactions that include, for example, expressing sympathy or regret, reacting to offensive remarks, and comforting a friend in need of emotional support We argue that since real-life emotional exchanges occur across a wide breadth of social contexts, students at all levels would benefit from developing adeptness in this regard, and would undoubtedly be invested in their learning due to a high level of “situational interest” (Makransky & Petersen, 2021). We propose that the virtual interlocutors’ opening prompts should be much more direct than the ones we experienced. Table 1 presents alternative proposed prompts within typical lessons we encountered in multiple apps.

Table 1 Proposed prompts by virtual conversational agent in interactions with emotional content

| Lesson topic                                           | Proposed prompt by chatbot or embodied conversational agent                                                                                         |
|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Expressing sympathy                                    | “I am not sure if you heard but I won’t be at the staff gathering. My father passed away on the weekend.”                                           |
| Seeking an apology                                     | “I am sure you had a good reason, but I was a bit hurt that you didn’t return my phone call when I said it was really important.”                   |
| Sorting out misunderstandings                          | “You seem a bit distant with me ever since I made that joke. Was that inappropriate?”                                                               |
| Responding to a friend’s request for emotional support | “I am feeling really overwhelmed by all the stresses in my home life right now. Between work/school and family demands, I am not coping very well.” |

These prompts are intended to represent how a cultural insider might broach a subject involving grief, annoyance, condolence, and regret, among others. In this way, the virtual interlocutor launches an interaction that models intercultural emotional intelligence and builds corresponding skills for the student. Rooted in Eva Larzén's *pedagogy of encounter* framework, we argue for infusing the digital learning environment with an affective orientation to develop socio-emotional and intercultural competence, while building vocabulary and pragmatic skills (Kidwell, 2017; Larzen, 2005).

In conclusion, this paper has illustrated that AI-driven language learning applications often fall short in providing meaningful opportunities for users to engage in conversations involving emotional content. Such opportunities are essential for practicing language in authentic contexts, yet AI systems have limitations in understanding and conveying emotions, thereby impacting their effectiveness. Developers and instructional designers are tasked with accurately simulating emotionally rich interactions, which requires a nuanced understanding of context, cultural sensitivity, and complex emotional cues ... all functions that AI currently struggles to handle effectively (Kohnke & Moorhouse, 2025). Furthermore, ensuring that AI can handle sensitive or emotionally charged topics appropriately while maintaining a supportive and safe environment for learners adds another layer of complexity. While recognizing the challenge in designing experiences that are emotionally responsive and pedagogically sound, we nevertheless urge developers and designers to prioritize the integration of these experiences, which provide language learners with the social, emotional, and intercultural competencies necessary for meaningful communication in diverse, real-world contexts.

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