



Empathetic AI for English speaking fluency: A reflective case study in the English Language Intensive Courses for Overseas Students (ELICOS) context

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Abstract

This reflective practitioner case study examines how the empathetic AI companion *Pi* (Inflection AI) can support speaking fluency among adult learners in an Australian ELICOS General English classroom. A four-week reflective practitioner case study involving 12 ELICOS students was conducted. Weekly guided conversations with *Pi* were designed to promote spontaneous speech, lexical experimentation, and communicative confidence in a low-anxiety setting. Learners engaged with *Pi* on familiar topics and later reflected in class on language use and strategies. Drawing on teacher reflections, informal classroom conversations, and voluntary learner feedback during debrief sessions, the study explores how *Pi*'s supportive dialogue encouraged engagement, self-expression, and growing self-efficacy. Findings indicate that empathetic AI can foster emotional safety, motivation, and fluency, while highlighting the need for teacher mediation to ensure accuracy, pronunciation support, and contextual depth. Situated within a reflective-practice framework (Farrell, 2018; Schön, 1983), the study emphasizes teachers' dual roles as facilitators and ethical mediators of technology integration. It concludes that compassion-driven AI companions, when used reflectively, can extend communicative practice and enhance learner fluency in alignment with ELICOS standards for digital literacy and communicative competence.

Keywords: *Empathy; speaking fluency; AI companion; reflective practice; ELICOS; language teaching; autonomy; communicative competence.*

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Introduction

The rapid development of artificial intelligence (AI) technologies in education is transforming English language teaching (ELT) globally and within the Australian context. Recent generative AI tools are reshaping English instruction delivery, learner interaction, and the personalization of feedback (Ma et al., 2024; Li et al., 2025). In the field of Teaching English to Speakers of Other Languages (TESOL), emerging generative AI applications such as ChatGPT and conversational agents like *Pi* offer new ways to support language acquisition. However, their potential for developing speaking fluency remains under-examined (Baskara, 2023).

Fluency and communicative competence are key learning objectives in the ELICOS sector in Australia, which serves approximately 140,000-170,000 international student commencements annually in recent years (English Australia, 2025). Yet many learners still face limited opportunities for authentic English interaction beyond the classroom (English Australia, 2025). Despite studying in an English-speaking environment, many ELICOS learners still have limited opportunities to interact meaningfully with local English speakers in community, study, and workplace contexts, as they often socialize primarily within co-national or same-language peer groups outside the classroom and may lack confidence in broader English-speaking settings. Common constraints include time pressures, limited local social networks, anxiety or fear of judgement, and a lack of structured opportunities for interaction beyond class. This lack of contextual, spontaneous speech practice constrains learners' fluency and pragmatic confidence, the foundations of communicative competence (Skehan, 2009). Anxiety and fear of negative evaluation further inhibit willingness to speak, reducing participation in informal exchanges. As Arnold (2011) notes, emotional factors are central to successful language learning.

In light of these challenges, accessible, low-anxiety platforms that enable spontaneous communication in supportive environments are increasingly valued. *Pi*, a conversational AI developed by Inflection AI, is marketed as an "emotionally intelligent" personal AI designed to be supportive (Inflection AI, n.d.; Pi, n.d.). Unlike many task-oriented chatbots, *Pi* is designed to sustain supportive, context sensitive dialogue that may encourage repeated, low-pressure exchanges. Such design aligns with studies emphasizing motivation and psychological safety in language learning (Ushioda, 2016). By reducing fear of error, *Pi* may help learners focus on meaning and flow, the core components of fluency (Skehan, 2009).

Integrating conversational AI like *Pi* into ELICOS pedagogy extends learning beyond classroom walls and promotes uninterrupted, independent speaking practice. Lai and Zheng (2018) argue that digital technologies strengthen learner autonomy and self-direction principles essential for second-language acquisition (Oxford, 2016). Through self-paced oral practice and instant feedback, learners can develop self-regulation and communicative confidence. These opportunities also reflect current TESOL priorities that stress learner agency, identity, and personalized learning journeys (Teng, 2024).

Nevertheless, AI implementation in TESOL requires pedagogical reflection and adaptability. Moorhouse and Kohnke (2021) caution that while technology-enhanced learning accelerated after COVID-19, educators must ensure digital tools genuinely support communicative objectives. The reflective-practitioner model offers an effective framework for this purpose. Reflective teaching enables ongoing inquiry into classroom practice, learner responses, and social contexts (Farrell, 2018). In a teacher-as-researcher approach, educators can examine how AI-mediated interaction influences learners' affective states, fluency development, and communicative competence (Edge, 2011).

While recent scholarship has highlighted rapid growth in generative AI use in language education, evidence remains uneven across skills and contexts, with comparatively less attention to affect-oriented conversational agents supporting speaking in adult, time-limited ELICOS programs. In addition, there is limited practice-based research documenting how teachers can integrate such tools responsibly through reflective inquiry in real classroom settings (Ma et al., 2024; Li et al., 2025; Weng & Fu, 2025). This study is therefore timely within the Australian ELICOS context where teachers often work with multilingual cohorts and limited contact hours, making individual oral feedback challenging (NEAS, 2023). A conversational AI such as *Pi* can help bridge this gap by providing flexible, supportive dialogue practice beyond class time.

Accordingly, this study addresses the following research questions:

RQ1: How do adult ELICOS learners perceive *Pi*-mediated conversation as supporting emotional safety and willingness to speak, and how do these conditions relate to their speaking fluency?

RQ2: What reflective insights and pedagogical adjustments emerge for the teacher when integrating *Pi* into speaking-fluency tasks in an ELICOS course?

Accordingly, this paper investigates how *Pi* can enhance speaking fluency among adult ELICOS learners. It explores the pedagogical opportunities and challenges of AI-assisted conversation, analyses learner engagement and perception, and demonstrates how teacher-initiated reflective inquiry can guide sustainable AI integration in a TESOL program. The following section reviews relevant literature on AI in TESOL, fluency development, and reflective practice, followed by the research design. After the key findings are presented, the pedagogical implications and recommendations for future practice will be discussed.

Literature review

Artificial intelligence (AI) in TESOL

Recent advancements in the field of TESOL have positioned artificial intelligence (AI) as a central force transforming how learners interact with linguistic input, feedback, and

communicative activities. The incorporation of AI into language learning systems has been accelerated by adaptive systems, intelligent tutoring, and generative AI conversational models. Early applications of AI, such as grammar checkers and pronunciation analyzers, prioritised linguistic accuracy, whereas modern platforms now emphasize interaction, dialogue, and personalized support (Edmett et al., 2024). Alongside these developments, teacher-oriented guidance stresses that GenAI needs to be integrated responsibly and ethically to support communicative learning goals rather than simply automate language practice (Moorhouse & Wong, 2025).

In contrast to traditional computer-assisted language learning (CALL) systems, generative AI models such as ChatGPT produce contextually-relevant and dynamic responses, replicating the flow of natural conversation (Baskara, 2023). Earlier systems relied on scripted exchanges or limited recognition algorithms. This shift from rule-based or scripted CALL systems to generative AI-driven conversational models is particularly relevant to TESOL, as generative AI enables learners to engage in fluid, semi-authentic discourse, fostering communicative competence rather than mechanical accuracy. Nevertheless, research attention has often concentrated on writing, grammar, and vocabulary, with comparatively fewer studies focusing on speaking development and affective interaction (Li, 2024; Ma et al., 2024).

The limited research on emotionally intelligent or empathy-based AI in TESOL represents a significant gap. Affective or "companion-style" chatbots such as Replika are relevant to this discussion because they exemplify systems designed to simulate supportive dialogue, however, their systematic use as pedagogical tools in adult programs such as ELICOS remains underexplored. The affective dimensions of motivation, confidence, and emotional comfort are often overlooked in AI language learning design. Ushioda's (2016) work on motivation, learner agency, and affect provides a useful conceptual lens for examining these dimensions in relation to conversational AI in TESOL. Moreover, few studies have examined the potential of AI-mediated interaction to support speaking practice in ways that foreground emotional safety and willingness to communicate, particularly in the practical constraints of ELICOS courses, where learners may have limited contact hours and restricted access to informal interaction opportunities.

Overall, the direction of AI in TESOL is moving toward individualization and learner control (Benson, 2013). However, integrating affect-sensitive or empathy-simulating features into AI-based language learning systems and conversational agents remains challenging, particularly when such tools are expected to align with the communicative and humanistic traditions of language teaching. Addressing this shortcoming is essential to maximize AI's contribution to both the cognitive and emotional dimensions of second language acquisition. Edmett et al. (2024) highlight that AI in ELT raises important issues around reliability, bias, and classroom implementation, reinforcing that teachers' judgement remains central. Similarly, Moorhouse and Wong (2025) emphasizes that GenAI should complement, not replace human pedagogy, and that teachers need practical frameworks for responsible integration.

Empathy-based AI and humanistic pedagogy

The notion of empathetic AI in TESOL aligns with Rogers' (1969) humanistic approach, which emphasizes empathy, authenticity, and what he terms 'unconditional positive regard' as foundations of meaningful learning. Similarly, Dörnyei (2009) highlights emotional safety and learner agency as key components of sustained motivation. More broadly, scholarship on AI companion systems describes platforms such as *Pi.AI* in terms of "emulated empathy," reinforcing the need to understand "empathetic AI" primarily as a design effect and user perception rather than a human capacity (Ciriello et al., 2025).

When AI systems respond with encouragement, they may mirror these humanistic values by providing psychologically secure spaces for experimentation and expression (Croes et al., 2024). In such environments, learners are more likely to take communicative risks and engage in deeper reflection, leading to long-term motivation and fluency development. This relationship positions empathetic AI not merely as a technological innovation but as an extension of human-centered pedagogy, one that supports affective engagement while maintaining the reflective and ethical mediation of the teacher.

In this paper, "empathetic AI" is treated cautiously as empathy-simulating or supportive language like encouragement, non-judgmental responses, and rapport-building prompts, rather than as human empathy. This framing is consistent with Lopatovska's (2025) user-focused research on *Pi.AI*: in a one-week structured diary and follow-up focus group study, participants reported valuing *Pi.AI*'s emotional support and empathy in well-being conversations.

Speaking fluency and affective factors

Speaking fluency is a multidimensional construct that reflects a learner's ability to produce speech that is smooth, coherent, and appropriately paced (Tavakoli & Skehan, 2008). It depends on linguistic, cognitive, and affective factors that together determine overall communicative performance. According to Skehan's (2009) model of second language performance, fluency interacts with complexity and accuracy, emerging from proceduralized linguistic knowledge and increasing automaticity. Similarly, Nation (1989) identified three key principles for developing fluency: repetition, time pressure, and content familiarity, which together make spontaneous speech possible.

Fluency, however, does not develop in isolation from the learner's emotional state. In his Affective Filter Hypothesis, Krashen (1982) proposed that anxiety, low motivation, and lack of confidence can inhibit language acquisition by raising the affective filter and restricting the processing of linguistic input, thereby delaying or inhibiting the learner's eventual language output. Studies by Horwitz (2010) confirm that foreign language anxiety remains one of the main barriers to oral performance, particularly among adult learners in formal classrooms. Such emotional variables influence not only linguistic accuracy but also willingness to communicate, risk-taking, and sustained engagement in conversation (Arnold, 2011).

Emotional safety and supportive feedback are particularly important factors in fluency enhancement for ELICOS learners, who are often adults studying in high-stakes academic or professional contexts. Alharbi (2015) found that speaking proficiency among Saudi learners improved markedly when teachers created psychologically safe conditions that focused on confidence-building activities. Similarly, Schaefer and Warhol (2020) advocate a communicative approach that recognizes learners' linguistic identities and provides opportunities for variation and adaptation across registers. These perspectives reinforce the value of affective interaction in developing fluency, especially for students who may feel linguistically or culturally marginalized.

Reflective practice in language teaching

Reflective practice is central to professional development and innovation in the teaching of English as a second or additional language. It provides a framework that encourages teachers to critically examine, question, and refine their instructional decisions. The concept originates from Schön's (1983) notion of the reflective practitioner, who engages in two modes of reflection: *reflection-in-action* (thinking during teaching) and *reflection-on-action* (thinking after teaching). Farrell (2018) extended this model to language education, defining reflective practice as a deliberate exploration of one's teaching beliefs, classroom realities, and professional identity. Through reflection, teachers transform experience into pedagogical knowledge and develop a deeper awareness of how learners respond to instruction and innovation.

In TESOL, reflective practice often takes the form of action research, lesson journals, or practitioner case studies (Edge, 2011). Such approaches enable educators to connect theory and practice by responding to specific learner needs in their own contexts. Reflexive inquiry is particularly valuable when implementing new technologies such as AI, where teaching strategies must be tested, adapted, and contextualized. By documenting and analyzing their experiences, teachers can help others understand how technological innovations affect speaking fluency and communicative learning, contributing to collective professional knowledge. This view aligns with Benson's (2013) advocacy of teacher and learner autonomy, where both stakeholders actively shape the learning process through informed reflection.

By positioning this study within the reflective practitioner research tradition, the focus shifts from measuring outcomes of AI-mediated learning to understanding the teacher's lived experience of innovation. Such positioning acknowledges the cognitive, emotional, and situational dimensions of teaching practice. Farrell (2018) emphasizes that reflection should address both the intellectual and affective aspects of teaching, allowing educators to connect personal insight with professional growth. Reflective case studies therefore make an important contribution to TESOL by demonstrating how theoretical frameworks such as Krashen's affective filter (1982) or Nation's fluency principles (1989) can be meaningfully applied to emerging technological contexts.

Ultimately, reflective practice serves as a bridge between theory, research, and classroom practice. It validates the teacher's voice as a form of scholarly inquiry and situates the integration of AI within a human-centered pedagogical paradigm. By combining reflective inquiry with empathy-focused AI research in ELICOS classrooms, this study contributes to the view that technological advancement in TESOL must be grounded in reflective, ethical, and affective teaching practices.

Methodology

Research design

This study adopts a Reflective Practitioner Case Study design conceptualized by Burns (2010) and Farrell (2018). The approach is grounded in Shön's (1983) theory of the reflective practitioner, positioning the teacher as both investigator and participant in a cyclical process of observation, reflection, and professional learning. Rather than aiming for generalizable outcomes, this design focuses on contextual insights and pedagogical clarity drawn from lived classroom experience.

The study was designed as a teacher-led reflective practitioner case study. The teacher-researcher's reflective journal served as the primary source of reflection and analysis. Learners did not complete formal written reflections; instead, their perspectives were gathered through voluntary verbal feedback during weekly debrief discussions, which were recorded as anonymized field notes to provide contextual insight rather than a separate learner-reflection dataset. Learner comments are reported in this paper in summarized form; where relevant, approximate reconstructions are included and explicitly labelled as non-verbatim. Accordingly, the primary purpose is to generate practice-based understanding of how an AI-mediated speaking activity is experienced and pedagogically managed in an ELICOS setting, rather than to test causal impact.

Through cycles of reflection-in-action and reflection-on-action, the teacher-researcher interprets how AI-assisted speaking tasks influence learner engagement, confidence, and fluency awareness. The qualitative and interpretive orientation of this study seeks to illuminate meaning rather than measure outcomes. It explores how AI-mediated conversation tasks function in authentic classroom contexts, guided by the belief that practitioner inquiry can enhance pedagogical judgement (Burns, 2010).

Context and participants

The study was conducted in 2024 within an ELICOS General English program for adult international students preparing for academic or professional study in Melbourne, Australia.

The class comprised 12 learners of mixed nationalities including Thai, Vietnamese, Brazilian and Colombian students, aged 20 to 40, representing diverse linguistic and cultural backgrounds. Their proficiency ranged from pre-intermediate to intermediate, approximately CEFR levels A2–B1.

The study was conducted within a 12-week course that adopted a task-based and communicative learning approach. Within this context, the AI intervention was introduced as an additional speaking activity designed to promote fluency and confidence beyond regular classroom hours. Participation was voluntary, and no personal data were collected. All observations were recorded anonymously in the teacher's reflective journal and classroom notes. Ethical principles of informed consent, confidentiality, and non-intrusiveness were followed in accordance with TESOL practitioner research ethics (Burns, 2009). Learners were informed that their voluntary comments during debriefs could be used in anonymized form for reflective reporting, and no audio/video recordings were made.

The AI intervention

The pedagogical intervention involved *Pi*, an AI-based conversational agent developed by Inflection AI (Inflection AI, n.d.; *Pi*, n.d.). The tool is designed to sustain supportive, non-judgmental dialogue that may reduce communicative pressure for anxious learners. In this study, references to "empathetic AI" are treated as a design intention and user perception (i.e., empathy-simulating supportive language), rather than as human empathy.

Over a four-week period, learners engaged in weekly conversations with *Pi*, typically lasting 10 to 15 dialogue turns and lasting approximately 15 minutes per session. Topics were familiar and personally relevant, such as hobbies, travel, work experience, and cultural traditions. Prior to each session, the teacher introduced key vocabulary and phrases. Learners interacted with *Pi* independently during class or self-study time, then participated in guided classroom discussions lasting approximately 10 to 15 minutes, reflecting on their experiences, challenges, and new expressions encountered.

The teacher maintained reflective notes documenting engagement levels, affective responses, and emerging patterns in fluency as observed during *Pi* interactions, follow-up classroom discussions and subsequent speaking activities. These reflections followed an action research cycle of planning, acting, observing, and reflecting (Burns, 2010). The goal was to understand how empathy-oriented conversational AI could complement traditional instruction by creating affective conditions that foster fluency development.

Reflective data collection and analysis

Data consisted of the teacher's reflective journal, informal classroom conversations, and voluntary learner feedback during debrief sessions. The journal captured ongoing observations

of participation, engagement, and affective responses across the four-week cycle. Each entry combined accounts of classroom events with interpretive commentary on observed learning outcomes. Reflective journaling was completed after each weekly *Pi* session (four entries in total across the four-week cycle). Learner feedback was captured during four debrief discussions (one per week), as brief anonymized field notes were taken immediately after debrief discussions (key phrases learners used to describe the experience and any reported challenges). Where short summarized learner quotations appear in the findings, they reflect these immediate debrief notes rather than audio-recorded transcripts.

Following Farrell's (2018) reflective inquiry model, thematic analysis was applied as a reflexive thematic analysis process guided by Braun and Clarke (2019). The journal was reviewed multiple times by the teacher-researcher to identify recurring ideas related to engagement, confidence, and fluency awareness. Codes were developed inductively (increased willingness to speak, comfort with AI feedback, use of self-correction) and then grouped into broader themes: engagement, confidence, and fluency awareness.

To clarify how key constructs were interpreted, the following indicators guided coding decisions:

- Engagement: frequency of participation, willingness to initiate/continue turns, length of learner contributions, and reported interest in repeating the task.
- Confidence / emotional safety: reduced fear of judgement, increased willingness to take risks, learner statements indicating comfort, and fewer avoidance behaviors (e.g., refusal to speak).
- Fluency awareness: teacher-noted flow/continuity of speech during follow-up discussion, learner self-reports of speaking "more smoothly," and increased readiness to produce longer utterances without extended pauses.

Coding proceeded in three steps: (1) open coding of journal and debrief notes, (2) clustering codes into categories aligned with the three focal constructs above, and (3) refining categories into themes supported by illustrative journal excerpts or debrief-notes. For example, the code "asked to continue beyond required turns" was grouped under Engagement, while "said it felt less embarrassing to make mistakes" contributed to Confidence/emotional safety.

Throughout this process, reflexivity was emphasized. The teacher-researcher acknowledged their dual role as instructor and investigator, recognizing that personal beliefs and teaching philosophy inevitably shaped interpretation. This transparency strengthens the credibility and trustworthiness of practitioner research (Edge, 2011). To strengthen trustworthiness, the teacher maintained actively noted "negative cases" (instances where learners did not engage or reported limited benefit) to avoid selective reporting.

Findings and discussion

Increased learner confidence and emotional safety leading to fluency enhancement

In this reflective case study, these claims are grounded in recurrent debrief-summary themes and the teacher's reflection-on-action entries, rather than in outcome measurement. The teacher-researcher's reflections suggested a gradual increase in learner confidence and emotional comfort when engaging in English interaction through *Pi*. Initially, four of the 12 learners displayed hesitation and linguistic insecurity during follow-up speaking, often responding briefly, pausing frequently, or waiting for stronger peers to begin, a pattern commonly associated with oral performance anxiety among adult language learners (Horwitz, 2010). These observations derive from the teacher's Week 1 journal entry and were later compared across the four weekly reflections. By the later sessions, these same learners appeared more willing to sustain turns and initiate ideas during the follow-up discussion. For example, the teacher's Week 4 reflection noted that previously hesitant learners spoke for longer stretches about familiar topics without waiting for prompts. These are reported as perceived participation changes rather than measured gains.

The teacher interpreted these shifts as linked to *Pi*'s supportive interactional style (affirmations, non-judgmental responses, and rapport-building prompts), which may reduce affective barriers in speaking tasks. This interpretation aligns with Krashen's (1982) Affective Filter Hypothesis, which suggests that reduced anxiety can facilitate language processing and output. In weekly debrief summaries, two learners explicitly reported that *Pi* felt non-judgmental and "safe" for practice because it did not criticize mistakes. When the teacher invited responses from the wider class, other learners expressed similar views. Reconstructed learner statement (approximate, non-verbatim): one learner explained that speaking with *Pi* felt less "scary" because there was no judgement and they could continue without embarrassment.

Learner feedback recorded in debrief summaries also indicated that *Pi* was experienced as welcoming and supportive, and that mistakes felt more acceptable during interaction. Reconstructed learner statement (approximate, non-verbatim): one learner explained that speaking with *Pi* felt as though they were talking to a "real person", which made the interaction feel more "friendly" and "encouraging". Another learner indicated that *Pi* felt easier to talk to because it did "not react negatively to mistakes". When the teacher invited comments from the wider class, other learners expressed similar views, particularly that mistakes did not interrupt the flow of the interaction. This perceived emotional security was interpreted by the teacher as supporting learner independence and self-efficacy. Consistent with positive psychology perspectives, encouragement and emotional engagement can support sustained motivation (Oxford, 2016). Overall, the teacher interpreted *Pi*'s empathy-oriented dialogue as potentially reducing anxiety and supporting willingness to communicate, an affective condition often associated with opportunities for oral fluency development.

In addition, weekly debrief summaries indicated that some learners felt "listened to" in a way they perceived as different from peer or teacher interaction. These reports were elicited orally during debrief discussions (not through written reflections) and recorded as anonymized field notes immediately after each session. The teacher interpreted this as reduced self-consciousness and fear of correction, which is consistent with the argument that emotional factors such as anxiety and comfort influence learners' willingness to express themselves more authentically (Arnold, 2011). The teacher's reflective notes suggested that some quieter learners contributed more by taking more turns in subsequent in-class discussions and pair-work after *Pi* sessions. While this was not formally measured, it was interpreted as a possible transfer of affective readiness from AI-mediated practice to classroom participation.

Enhanced fluency through authentic engagement

Rather than claiming definite "qualitative improvement," this theme reports perceived fluency-related changes observed by the teacher and described by learners during debrief summaries across the four-week cycle. While fluency was not measured quantitatively, the teacher's weekly reflections noted increased spontaneity and continuity of expression during follow-up speaking tasks. These observations were recorded as classroom observation notes within the reflective journal. One reflective note recorded that approximately six learners who had previously responded in short phrases began producing longer stretches of speech when discussing familiar topics after the *Pi* tasks. For example, the teacher noted that these learners were able to continue speaking for longer on familiar topics such as hobbies and travel, with fewer pauses and less reliance on prompting. These outcomes align with Nation's (1989) conditions for fluency: meaning-focused practice, time pressure, and content familiarity. They also reflect Skehan's (2009) fluency model, which emphasizes the balance between automaticity and cognitive load.

Emerged themes from the learner debriefs also suggested that *Pi* made speaking feel more natural and less effortful, enabling repeated practice without social judgement. Reconstructed learner statement (approximate, non-verbatim): one learner reported that they could "just say what they wanted" with less overthinking when speaking with *Pi*. Another reconstructed statement (approximate, non-verbatim): a learner felt *Pi* did not get impatient with slower English, which encouraged continued practice. This autonomy aligns with Benson's (2013) view that learner-directed interaction promotes communicative development and independence. Notably, learners demonstrated an increased ability to paraphrase and use discourse markers naturally, showing emerging awareness of interactional strategies.

Moreover, the teacher-researcher's notes further indicated that *Pi*'s adaptability allowed learners to experiment with multiple conversation styles such as narrative, descriptive, or opinion-based exchanges, mirroring authentic communicative tasks. These varied exchanges encouraged greater pragmatic awareness, as learners could adjust tone, register, and phrasing according to context. This suggests that empathetic AI not only facilitates fluency but also nurtures pragmatic competence, a dimension often underdeveloped in formulaic language

practice (Schaefer & Warhol, 2020). It was also confirmed that learners began to integrate vocabulary acquired from *Pi* conversations into classroom tasks, particularly Back to the Board games and role plays. For example, words and expressions that had appeared in *Pi* exchanges were later reused when learners described ideas, responded to prompts, and improvised in classroom speaking activities, suggesting vocabulary recycling as a secondary fluency-related benefit.

Reflective insights

From the teacher-researcher's perspective, the reflective process transformed understanding of AI's pedagogical potential. Initially viewed as a supplementary fluency tool, *Pi* emerged as a medium for affective learning mediated by empathy. Learners' linguistic creativity appeared to increase alongside more positive affective conditions, particularly greater confidence and reduced anxiety, which is consistent with Arnold's (2011) argument that such emotional dimensions play a vital role in communicative competence. Importantly, reflection-on-action entries noted that AI interactions can also serve as diagnostic opportunities, helping teachers observe learners' emergent fluency features such as speech rate, topic development, and formulaic language use. These insights offered a formative window into learner performance, informing subsequent pedagogical adjustment within the speaking activities.

At the same time, the reflections underscored the need for critical human oversight. While *Pi* can stimulate motivation and fluency, it lacks pedagogical intentionality. Its effective use therefore depends on teacher reflexivity, interpreting learner experiences, identifying gaps, and adjusting tasks accordingly. This insight supports Farrell's (2018) and Burns's (2009) conception of reflection as professional learning that bridges theory and classroom reality. Through cycles of reflection on action, the teacher identified a balance between innovation and ethics in AI integration. *Pi* was ultimately understood not as a replacement for interpersonal teaching, but as a pedagogical resource that could support speaking practice when used within a reflective, teacher-guided approach attentive to empathy, learner comfort and ethical use.

Linking emotional safety to speaking fluency and communicative identity

A further reflection concerns the relationship between emotional safety, speaking fluency and the development of communicative identity. This theme is presented as an interpretive reflection rather than as a measured identity outcome. Over the four-week intervention, it became evident that the students' interactions with *Pi* contributed not only to fluency-related development but also to a subtle shift in how they viewed themselves as English users. In traditional classrooms, many learners assume a deficit identity, defining themselves in terms of errors or inadequacies compared with native speakers. This interpretation is grounded in teacher reflection-on-action entries and recurring debrief summaries that the non-judgmental stance of *Pi* appeared to weaken this deficit perspective. Students spoke with less self-

correction, sustained their speaking more readily and showed greater willingness to experiment with idiomatic phrasing and humor.

In Week 3 debrief summaries, three learners reported feeling less embarrassed about making mistakes when practicing with *Pi*, and the broader class discussion indicated general agreement with this view. One learner (approximate, non-verbatim) explained that they felt “more like an English speaker” because they could keep the conversation going without stopping to self-correct. In the teacher’s Week 4 reflection-on-action entry, the teacher also noted that a previously quiet learner-initiated pair-work talk without prompting and attempted a light joke in English, which the teacher interpreted as increased communicative confidence. This aligns with Dörnyei’s (2009) concept of the L2 motivational self-system, which suggests that affective support encourages learners to visualize a more competent version of themselves. Students who initially avoided volunteering in class began initiating conversation in pair work after their AI sessions, suggesting increased willingness to speak and engage more spontaneously. These small behavioral shifts demonstrate that empathy-based AI can influence not only speaking performance but also identity formation. In this sense, *Pi* functioned as both a language partner and a mirror that reflected learners’ communicative potential. When learners perceive themselves as legitimate users of English, they participate more fully and sustain long-term engagement, which is central to achieving fluency and self-efficacy in second language learning.

Issues with AI-mediated interaction

Despite its benefits, weekly debrief summaries revealed that *Pi* presented several pedagogical limitations. The absence of explicit corrective feedback was the most frequently noted issue. Learners often received positive but linguistically vague responses such as “That’s great!” or “I understand,” which boosted confidence but offered little input on pronunciation, grammar, or pragmatic accuracy. Alharbi (2015) and Burns (2009) both highlight that feedback is essential to prevent fossilization of errors and support language refinement.

At times, some learners perceived that *Pi*’s interaction style was experienced as repetitive or overly affirming, prioritizing affective validation over linguistic challenge. Although this encouraged comfort, it limited opportunities for complex meaning negotiation and exposure to new vocabulary, both of which are central to communicative competence (Schaefer & Warhol, 2020). In weekly debrief summaries, two learners described *Pi*’s dialogues as predictable or shallow. Reconstructed learner statement (approximate, non-verbatim): one learner reported that *Pi* often repeated similar praise (e.g., “that’s great”), and the teacher recorded this as a constraint on deeper meaning negotiation and lexical expansion. This echo concerns in AI-mediated learning literature regarding plateauing interaction quality and the need for careful pedagogical mediation (Baskara, 2023).

Pronunciation support was perceived as another shortcoming. The teacher’s reflective notes suggested that, although learners appeared more willing to speak after the *Pi* tasks,

pronunciation difficulties such as unclear stress, uneven rhythm, and inaccurate sound production were still noticeable in follow-up speaking activities. As *Pi* primarily relied on text-based interaction, learners received no auditory feedback, restricting improvement in phonological accuracy and rhythm, which are key components of fluency (Skehan, 2009). This underscores the continuing need for teacher mediation to complement AI tools. Teachers could integrate short oral recap activities or peer pronunciation monitoring following *Pi* interactions, thus bridging the gap between affective comfort and linguistic precision. Such strategies situate AI within a blended human–machine pedagogical ecosystem rather than as a stand-alone platform.

Finally, cultural authenticity remained limited. While learners appreciated *Pi*'s responsiveness, they noted that it could not fully reproduce Australian cultural references or idiomatic nuances, which are integral to ELICOS learning (Moorhouse & Kohnke, 2021). Reconstructed learner statements (approximate, non-verbatim): one learner noted that *Pi* could keep the conversation going, but it did not sound “Australian” in the way local speakers did and another observed that its language felt too general and lacked the everyday idioms they were interested in learning for use in Australia. As Anderson and Dron (2011) remind us, effective digital pedagogy requires human facilitation to ensure higher-order interaction. Thus, while *Pi*'s greatest contribution may lie in emotional scaffolding and practice volume, cultural literacy and pronunciation accuracy remain teacher-led domains.

Pedagogical implications

The results of this reflective case study point to several practical implications for TESOL practitioners who are interested in integrating Artificial Intelligence (AI) technologies such as *Pi* into English language instruction. AI conversational companions can help extend communicative practice beyond the classroom, enhance affective engagement as reflected in learners' debrief summaries that described *Pi* as low-judgement and “safe” for practice under teacher guidance and supervision. While issues such as metacognitive awareness and institutional policy may also be relevant to AI integration in TESOL, these are better understood as broader practice considerations rather than direct outcomes of this case study. These considerations align with Australian ELICOS standards, which emphasize communicative competence, digital literacy, and learner independence.

Designing blended fluency tasks incorporating AI

Pi can complement communicative language teaching (CLT) methodologies by offering learners authentic, low-anxiety opportunities for oral practice outside regular class time. Educators can design blended fluency tasks involving short AI-mediated dialogues of 10 to 15 turns on familiar topics, followed by classroom discussions reflecting on learners' experiences. Teachers might assign reflective journals after each AI session, prompting learners to record

new expressions, perceived challenges, and emotional responses. To address the limitation that Pi does not provide explicit corrective feedback, teachers can add a brief follow-up stage that targets accuracy (e.g., selecting two recurring language issues from the debrief and modelling improved forms).

Post-AI classroom sessions can focus on turning debrief feedback into teachable moments: identifying new vocabulary, noticing pragmatic features, and sharing affective responses. This links the “emotional safety” theme to classroom learning while keeping teacher mediation central. Teachers might optionally use short learner reflection prompts (e.g., new expressions, challenges, confidence rating) to support awareness and goal-setting; such activities can foster metacognitive awareness (Oxford, 2016) without assuming that metacognitive change occurred in this study. These cycles of practice and reflection can be aligned with the action research framework proposed by Burns (2009), enabling teachers to continually adapt task design based on learner feedback and observed outcomes.

Scaffolding learner autonomy and digital literacy to improve fluency

Digital literacy and learner autonomy are essential competencies in contemporary language education (Little, 2003). Integrating Pi as a conversational AI tool provides learners with self-directed opportunities for practice, reflection, and progress monitoring. As Lai and Zheng (2018) observe, learning can be institutionalized across mobile and digital platforms, creating stronger connections between formal and informal learning environments. Based on the finding that learners valued low-pressure practice, teachers should explicitly model strategies for independent AI use (setting speaking goals, choosing familiar topics, monitoring speaking time, and self-assessing comfort levels after each session). This helps ensure AI interaction remains structured and purposeful rather than passive conversation.

Integrating affective learning objectives

TESOL practitioners can intentionally incorporate affective objectives into AI-based fluency activities. Because learners in this study frequently framed Pi as “non-judgmental” in debrief summaries, teachers may treat emotional safety as an explicit learning condition rather than an incidental benefit. Learners may set personal goals (e.g., sustain speech for two minutes with fewer stops) and discuss their feelings following AI interactions. This approach aligns with motivation-oriented pedagogy (Ushioda, 2016), which regards emotion as central to long-term engagement. Teachers can also employ brief affective check-ins or simple visual scales to help students reflect on how AI conversations influence confidence and to identify when additional teacher support is needed.

Teacher mediation, training, and responsible use

The findings also highlight that *Pi*'s benefits are greatest when paired with teacher mediation, particularly to address recurring limitations (lack of corrective feedback, repetition/shallow responses, pronunciation support, and cultural authenticity). Teachers can incorporate oral recap tasks, guided reformulation, and pronunciation-focused follow-up after AI sessions, thereby bridging affective comfort with linguistic precision.

Beyond this case study, responsible AI integration also benefits from systematic teacher training and clear institutional guidance. Not all educators feel confident about embedding AI meaningfully within communicative frameworks (Moorhouse & Kohnke, 2021). Professional development can therefore address ethical, pedagogical, and practical aspects of AI use, including data privacy, alignment with learning outcomes, and setting realistic expectations about feedback quality. Institutions may consider policies that clarify approved tools and learner data protection, and they can support communities of practice where teachers share reflective case examples and task designs. This approach aligns with NEAS (2023) quality assurance principles, which emphasize innovation that is pedagogically sound and learner-centered. Ultimately, the aim is to ensure that technological tools support the humanistic purposes of language education rather than dictating them.

Limitations

While this case study provides valuable insights into reflective teaching and learner engagement, its small scale and qualitative design limit generalizability. Quantitative measures of fluency were not included, and findings represent interpretive understandings rather than empirical proof. Learner comments are reported as summaries and approximate reconstructions, which may reduce precision of quotation-level detail. The study's subjective nature also reflects the positionality of the teacher-researcher. Nonetheless, practitioner inquiry offers meaningful pedagogical knowledge that can inform broader discussions on integrating AI in TESOL classrooms through reflective, context-sensitive practice. Accordingly, any references to "fluency improvement" in this paper are presented as perceived changes observed and reported within this context, rather than as statistically measured gains.

Conclusion and future directions

This reflective practitioner case study examined how the empathy-oriented AI conversational companion *Pi* can support speaking practice and affective engagement among adult ELICOS learners in Australia. Rather than establishing causal effects, the findings are presented as teacher-researched interpretations and learner-reported perceptions drawn from reflective journal entries and debrief summaries. The findings suggest that AI-mediated conversation can extend communicative practice beyond classroom boundaries and may foster emotional safety

and learner confidence, conditions that are widely recognized as important for language learning engagement (Arnold, 2011; Krashen, 1982; Ushioda, 2016). Learners reported reduced anxiety and greater willingness to communicate, indicating that empathy-simulating interaction may support affective readiness for speaking in this context.

At the same time, the study highlights the ongoing need for teacher mediation and reflective oversight. While *Pi* promotes motivation and autonomy, its limited corrective feedback and cultural contextualization underscore the continued importance of the teacher's role (Burns, 2009; Farrell, 2018; Moorhouse & Kohnke, 2021). AI should therefore be understood as a supplement to, not a substitute for, human instruction. Its success depends on thoughtful integration within communicative frameworks that prioritize empathy, intentional pedagogy, and learner agency. For TESOL practitioners, the study reinforces three key recommendations. First, integrate conversational AI as part of blended learning cycles that combine independent dialogue practice with classroom reflection and feedback. Second, design AI-mediated speaking tasks that explicitly take account of learner emotions, motivation, and confidence, as these affective dimensions are central to language learning more broadly (Ushioda, 2016). Third, maintain ethical and professional oversight by ensuring that AI use respects privacy, promotes transparency, and aligns with institutional policy (Moorhouse & Wong, 2025).

Looking forward, future research could explore longitudinal impacts of empathy-based AI on communicative identity, intercultural awareness, and learner autonomy. Mixed-method studies that combine reflective journals with quantitative or performance-based fluency measures could deepen understanding of how perceived emotional safety interacts with language development (Tavakoli & Skehan, 2008). It would also be valuable to investigate multimodal AI systems that integrate speech recognition, prosodic feedback, and emotion detection. Such innovations could expand the concept of empathy-based learning into new dimensions of pronunciation, listening, and intercultural communication. Beyond its local relevance to Australian ELICOS classrooms, the findings of this reflective case study have implications for international TESOL practice. The findings affirm that, when guided by reflective teaching and ethical practice, empathy-oriented AI can support communicative language learning by expanding practice opportunities without displacing the teacher's human presence. This study therefore contributes a reflective, context-sensitive account of how an empathy-simulating conversational agent can be pedagogically integrated in an ELICOS setting, while also underscoring the limits and necessary conditions for responsible use.

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