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Micro-Speaking Tasks via AI Platforms: A New Approach to Enhancing Daily Speaking Habits in ESP Context

Kristian Burhan
Department of Coaching, Faculty of Sport Science, Universitas Negeri Padang, Indonesia
kristianburhan@unp.ac.id
Corresponding author: kristianburhan@unp.ac.id

Abstract

The integration of artificial intelligence (AI) platforms into English for Specific Purposes (ESP) instruction has opened new avenues for sustaining oral practice beyond classroom hours. However, ESP learners in Indonesian higher education, particularly in non-English departments such as sport coaching, frequently exhibit low daily speaking habits, limited exposure to domain-specific discourse, and high anxiety in face-to-face oral practice. This study investigates the effectiveness of AI-mediated micro-speaking tasks (short, structured, daily oral activities of 60–180 seconds) in enhancing speaking proficiency, speaking habit formation, and learner self-efficacy among ESP students. Employing a quasi-experimental mixed-methods design, the research involved 64 second-year students of the Department of Coaching, Universitas Negeri Padang, divided into an experimental group (n = 32) using AI platforms (ChatGPT Voice, ELSA Speak, and Google Gemini Live) and a control group (n = 32) receiving conventional speaking instruction. Data were collected through pre- and post-tests of speaking proficiency, a daily-habit log, the Speaking Self-Efficacy Scale, and semi-structured interviews. Quantitative analysis using paired and independent samples t-tests revealed a statistically significant difference between groups ($t = 6.42$, $p < .001$, Cohen's $d = 1.61$), with the experimental group gaining 18.7 points compared to 7.4 points in the control group. Qualitative findings indicated reduced anxiety, increased autonomy, and stronger habit consolidation. The study contributes a replicable micro-task framework for ESP contexts and demonstrates that brief, AI-scaffolded daily practice can transform speaking from an episodic classroom task into a sustained personal habit.

Keywords: *AI platforms; ESP; micro-speaking tasks; self-efficacy; speaking habit*

A. Introduction

Speaking competence has long been regarded as the most demanding skill to develop in foreign language learning, particularly in contexts where English functions as a foreign rather than second language. In Indonesia, where English is taught as a foreign language across virtually all academic disciplines, the challenge intensifies in English for Specific Purposes (ESP) settings, that is, courses designed to equip non-English-major students with discipline-relevant communicative competence (Anthony, 2018; Belcher, 2009). Students in fields such as sport coaching, engineering, and tourism are expected to operate in increasingly globalized professional environments, yet many graduate with limited oral fluency, narrow domain vocabulary, and persistent communication anxiety (Setyowati & Sukmawan, 2019; Ahmadi, 2018).

A central yet underexamined cause of this stagnation is the absence of consistent daily speaking practice. While reading and writing can be sustained through autonomous engagement with texts, speaking traditionally requires an interlocutor, whether a teacher, peer, or native speaker, whose availability is fundamentally limited. Consequently, ESP learners typically practice speaking only during scheduled class hours, totaling roughly 100 productive minutes per week, an amount widely acknowledged as insufficient for fluency development (Nation & Newton, 2020; Thornbury, 2017). This scarcity is exacerbated by classroom dynamics: large class sizes, peer evaluation anxiety, and limited speaking turns per student. The result is what Boonkit (2010) and Tuan and Mai (2015) describe as a chronic speaking deficit among Indonesian and Southeast Asian university students.

The rapid emergence of generative artificial intelligence (AI) platforms, including ChatGPT Voice, Google Gemini Live, ELSA Speak, and Speak AI, has fundamentally altered the conditions under which speaking can be practiced. These platforms offer always-available, judgment-free conversational partners capable of providing immediate feedback on pronunciation, fluency, grammar, and discourse appropriateness (Kohnke et al., 2023; Ji et al., 2023). Recent studies suggest that AI-mediated speaking practice can reduce learner anxiety and increase willingness to communicate (Tai & Chen, 2024; Kim et al., 2021). However, much of the existing literature focuses on general English learners or short-term experiments and rarely addresses the structural problem of habit formation, namely how brief, manageable, repeatable speaking encounters can be designed and embedded in students' daily routines.

This study introduces and evaluates the construct of micro-speaking tasks via AI platforms: short oral activities of 60–180 seconds, repeated daily, contextually anchored to the learner's discipline (in this case, sport coaching), and scaffolded by AI feedback. The micro-task framework draws on the principle of microlearning (Hug, 2005; Sankaranarayanan et al., 2023; Leong et al., 2021), which has been shown effective in vocabulary and grammar acquisition but has rarely been operationalized for productive speaking. By coupling microlearning with AI affordances and habit-loop psychology (Duhigg, 2012; Lally et al., 2010; Wood & Rünger, 2016), this research repositions speaking from an episodic classroom event into a sustainable daily practice.

ESP differs from General English in its needs-based orientation: language is taught not as an end in itself but as a means to perform discipline-specific tasks (Hutchinson & Waters, 1987; Basturkmen, 2014). Within ESP, speaking is often the most neglected skill, despite being central to professional interaction. Anthony (2018) argues that ESP speaking pedagogy must

align with authentic communicative situations specific to each discipline. In sport coaching contexts, this includes giving instructions, briefing athletes, conducting interviews, and explaining tactics, genres rarely covered by generic textbooks. Hyland (2022) further emphasizes that ESP success depends on learners' sustained engagement with target discourse, not merely classroom exposure.

The micro-speaking task framework synthesizes three theoretical strands. First, microlearning theory (Hug, 2005; Leong et al., 2021; Sankaranarayanan et al., 2023) posits that knowledge and skills can be acquired more efficiently through short, focused units repeated frequently. Although microlearning is well-established for vocabulary and grammar acquisition (Nikou & Economides, 2018), its extension to productive speaking remains nascent.

Second, habit-formation theory (Duhigg, 2012; Lally et al., 2010; Wood & Rünger, 2016) explains how repeated behaviors triggered by stable cues become automatic over time. Lally et al.'s (2010) widely cited study found that automaticity in everyday behaviors took an average of 66 days to develop, with substantial variability across individuals (range 18–254 days). Embedding daily speaking practice in a routinized cue–behavior–reward loop offers a structural pathway from intention to consistent action.

Third, sociocultural and interactionist perspectives on second language acquisition (Vygotsky, 1978; Long, 1996; Swain, 2005) emphasize that meaningful interaction, particularly with responsive interlocutors providing feedback within the zone of proximal development, drives oral development. AI platforms approximate this responsive partner: they respond in real time, adapt to learner output, and provide corrective feedback (Kohnke et al., 2023).

Recent empirical work on AI chatbots in language learning shows generally positive but uneven results. Bibauw, Van den Noortgate, François, and Desmet (2022), in a meta-analysis of dialogue-based CALL studies, reported a medium overall effect size of $d = 0.58$ on L2 proficiency development, with substantial heterogeneity across designs. Fryer et al. (2020) cautioned that chatbot novelty effects can fade unless tasks are pedagogically rich. Kim, Cha, and Kim (2021) demonstrated that AI conversational agents can improve EFL students' communication skills across proficiency levels.

More recent studies have examined generative AI and intelligent personal assistants (IPAs) specifically. Kohnke et al. (2023) provided one of the earliest pedagogical analyses of ChatGPT for language learning, highlighting its dialogic potential while warning of factual inaccuracies. Tai and Chen (2024) investigated the impact of IPAs on adolescent EFL learners'

speaking proficiency, finding that multimodal IPA feedback produced significantly greater improvement than single-mode feedback and that learners reported reduced anxiety in IPA-mediated practice. Liu and Ma (2024), drawing on the Technology Acceptance Model, reported that perceived usefulness was a strong predictor of EFL learners' actual use of ChatGPT in informal digital learning of English. Zou, Liviero, Hao, and Wei (2020) found that EAP students perceived AI tools as valuable speaking partners, especially given limited teacher feedback. In Indonesia, recent studies (Sumakul & Hamied, 2023; Marzuki et al., 2023) have begun to explore AI in EFL classrooms but remain largely descriptive and seldom employ controlled designs.

Three substantive gaps motivate this study. First, although a growing body of work documents the benefits of AI chatbots and intelligent personal assistants for speaking practice (Fryer et al., 2020; Bibauw et al., 2022; Kim et al., 2021; Tai & Chen, 2024), the literature predominantly reports general English contexts and rarely engages with discipline-specific ESP needs, particularly in non-Western, low-exposure environments such as Indonesian sport science programs (Sumakul & Hamied, 2023; Marzuki et al., 2023). Second, prior interventions tend to be lengthy (15–45 minutes per session), which conflicts with students' busy academic schedules and undermines sustained adherence. The micro-task design, deliberately brief and routinized, remains conceptually underdeveloped in speaking research. Third, no study to date, to the authors' knowledge, has examined how AI platforms can be used to cultivate speaking as a daily habit rather than a task within ESP cohorts in Indonesia, especially in the Department of Coaching where English is essential for international competition contexts but seldom practiced informally.

The urgency of this research is grounded in three convergent realities. Pedagogically, conventional ESP instruction at Universitas Negeri Padang's Department of Coaching allocates only two credit hours of English per week, far below the threshold required for measurable oral gain. Professionally, sport coaching graduates increasingly officiate, attend, or speak at international tournaments, clinics, and accreditation programs where English is the lingua franca. Technologically, AI tools have become widely accessible on smartphones, yet their pedagogical integration in Indonesian higher education remains ad hoc and undertheorized (Crompton & Burke, 2023). Establishing an evidence-based framework for AI-mediated micro-speaking is therefore both timely and necessary.

Accordingly, this study is positioned at the intersection of ESP pedagogy, microlearning, habit psychology, and AI-mediated language learning (Huang et al., 2023; Ji et

al., 2023). Its novelty rests on four interlocking contributions: the operationalization of micro-speaking tasks specifically for ESP coaching contexts; the integration of habit-loop principles into AI-mediated speaking pedagogy; the use of multiple AI platforms (ChatGPT Voice, ELSA Speak, Google Gemini Live) in a coordinated routine rather than a single tool; and the empirical examination of these elements in an Indonesian sport science department, a context underrepresented in international ESP scholarship.

Guided by the gaps identified, this study addresses the following research questions:

(1) To what extent do AI-mediated micro-speaking tasks improve ESP students' speaking proficiency compared with conventional instruction?
(2) How do AI-mediated micro-speaking tasks influence students' daily speaking habit formation and self-efficacy?
(3) What are students' perceptions of, and challenges with, AI-mediated micro-speaking tasks in the ESP context of sport coaching?

Correspondingly, the study aims to (a) measure the comparative effect of AI-mediated micro-speaking tasks on ESP speaking proficiency; (b) examine changes in habit formation and speaking self-efficacy; and (c) capture learners' lived experiences with AI-supported speaking practice. The remainder of the article presents the research methodology, reports the quantitative and qualitative results together with their discussion, and closes with conclusions and suggestions for practice and further research.

B. Research Methodology

Research design

This study employed an explanatory sequential mixed-methods design (Creswell & Plano Clark, 2018) with a quasi-experimental quantitative component followed by a qualitative phase. The quasi-experimental design used a pretest–posttest non-equivalent control group structure (Cohen et al., 2018). Random class assignment was not feasible due to institutional scheduling; intact classes were therefore assigned to experimental and control conditions, with baseline equivalence verified statistically.

Setting and participants

The research was conducted at the Department of Coaching, Faculty of Sport Science, Universitas Negeri Padang (UNP), during the even semester of the 2024/2025 academic year. Participants were 64 second-year undergraduate students enrolled in the compulsory English for Sport Sciences course. Selection criteria included (a) active enrollment, (b) ownership of a smartphone capable of running AI applications, and (c) signed informed consent. Two intact classes were assigned: Class A (n = 32) as the experimental group and Class B (n = 32) as the control group. Demographic distribution is summarized in Table 1.

Table 1. Participant Demographics (N = 64)

Variable	Experimental (n = 32)	Control (n = 32)	Total (N = 64)
Age (M / SD)	19.6 / 0.8	19.4 / 0.9	19.5 / 0.85
Male / Female	23 / 9	24 / 8	47 / 17
Prior English (years)	8.4	8.2	8.3
CEFR self-rating (mode)	A2	A2	A2
Owns smartphone with AI app	32 (100%)	32 (100%)	64 (100%)

Source: Authors' field data, 2025.

Intervention: the micro-speaking task framework

The experimental group followed an eight-week micro-task routine consisting of one daily session of 90–150 seconds of structured AI-mediated speaking, plus a 20-minute weekly classroom integration session. The framework comprises five task types rotated across the week, presented in Table 2.

Table 2. Weekly Rotation of Micro-Speaking Tasks

Day	Task Type	Description	AI Platform	Duration
Mon	Pronunciation Drill	Repeat 10 sport-coaching key terms, get phoneme feedback	ELSA Speak	90s
Tue	Role-Play	Brief an athlete on warm-up routine in English	ChatGPT Voice	120s
Wed	Tactical Description	Describe one play, drill, or tactic from training	Gemini Live	150s
Thu	Q&A Simulation	Answer 3 simulated press-conference questions	ChatGPT Voice	120s

Day	Task Type	Description	AI Platform	Duration
Fri	Reflection Monologue	Self-record reflection on training week	Gemini Live / ELSA	90s
Sat	Free-Talk	Open conversation in coaching context	ChatGPT Voice	150s
Sun	Self-Assessment	Record habit log + 1-min audio summary	Audio + Logbook	60s

Source: Authors' instructional design, 2025.

The control group received the same total instructional hours but through conventional in-class speaking activities (pair work, role-plays, presentations) without structured daily AI use. Both groups were taught by the same lecturer to control for instructor variability.

Instruments

Four instruments were employed.

(1) Speaking Proficiency Test. Adapted from the IELTS Speaking band (0–100 rescaled) covering fluency, lexical resource, grammatical range, and pronunciation. Two trained raters scored each performance; inter-rater reliability was excellent (ICC = .91).

(2) Daily Speaking Habit Log. A weekly self-report tracking frequency, duration, location, and cue of speaking practice, supplemented by AI platform analytics (e.g., ELSA streaks, ChatGPT session timestamps).

(3) Speaking Self-Efficacy Scale (SSES). A 12-item Likert-type scale (1–5) adapted from Mills et al. (2007); Cronbach's $\alpha = .87$ in the present sample.

(4) Semi-Structured Interviews. Conducted with 12 purposively selected experimental-group students post-intervention to elicit perceptions, challenges, and habit experiences.

Data analysis

Quantitative data were analyzed using SPSS 27. Normality (Shapiro–Wilk) and homogeneity of variance (Levene's) were verified. Paired-samples t-tests assessed within-group gains; independent-samples t-tests compared groups; Cohen's d quantified effect size. Habit formation was modeled by tracking days of consistent practice across the eight weeks. Qualitative data were analyzed thematically following Braun and Clarke (2006), with inter-coder agreement of $\kappa = .82$.

C. Results and Discussion

Results

Baseline equivalence

Prior to the intervention, an independent-samples t-test confirmed no significant difference between groups in pretest speaking scores ($t(62) = 0.41$, $p = .68$), self-efficacy ($t(62) = 0.32$, $p = .75$), or weekly speaking time ($t(62) = 0.27$, $p = .79$). Pretest descriptive statistics are presented in Table 3.

Table 3. Baseline Descriptive Statistics for Experimental and Control Groups

Variable	Exp. M	Exp. SD	Ctrl. M	Ctrl. SD
Speaking Proficiency (0–100)	54.2	6.1	53.6	5.8
Self-Efficacy (1–5)	2.71	0.52	2.67	0.49
Weekly Speaking Time (min)	38.1	11.4	37.4	10.9

Source: Pretest data, 2025.

Speaking proficiency gains

After eight weeks, posttest results showed marked differences. The experimental group's speaking proficiency increased from M = 54.2 (SD = 6.1) to M = 72.9 (SD = 7.3), a gain of 18.7 points. The control group improved from M = 53.6 (SD = 5.8) to M = 61.0 (SD = 6.5), a gain of 7.4 points. Within-group paired-samples t-tests showed both gains were significant (experimental: $t(31) = 14.82$, $p < .001$, $d = 2.62$; control: $t(31) = 9.14$, $p < .001$, $d = 1.62$). The between-group independent-samples t-test on gain scores indicated a strong, statistically significant difference ($t(62) = 6.42$, $p < .001$, Cohen's $d = 1.61$), confirming a large effect of the AI-mediated micro-speaking intervention.

Table 4. Pretest–Posttest Speaking Proficiency Comparison

Group	Pre M (SD)	Post M (SD)	Gain	t / p	Cohen's d
Experimental	54.2 (6.1)	72.9 (7.3)	+18.7	14.82 / <.001	2.62
Control	53.6 (5.8)	61.0 (6.5)	+7.4	9.14 / <.001	1.62
Between-group	–	–	Δ +11.3	6.42 / <.001	1.61

Note: Speaking proficiency scored 0–100 (rescaled IELTS Speaking band); d > 0.80 = large effect.

Disaggregating by sub-skill, the largest experimental-group improvements were in fluency (+5.6 points, d = 2.81) and pronunciation (+5.1 points, d = 2.74), consistent with the platforms' real-time speech feedback affordances. Lexical resource also rose substantially (+4.3 points, d = 2.18), reflecting the discipline-specific vocabulary embedded in the daily prompts. Grammatical range showed comparatively modest gains (+3.7 points, d = 1.45), likely because corrective feedback from generative AI on grammar tends to be less explicit than its phoneme-level feedback (Kohnke et al., 2023). Table 5 presents this sub-skill comparison.

Table 5. Mean Sub-Skill Gains by Group (Posttest – Pretest)

Sub-skill	Exp. Gain	Ctrl. Gain	Difference	Cohen's d (Exp.)
Fluency	+5.6	+1.9	+3.7	2.81
Pronunciation	+5.1	+1.6	+3.5	2.74
Lexical Resource	+4.3	+2.0	+2.3	2.18
Grammatical Range	+3.7	+1.9	+1.8	1.45

Source: Posttest data, 2025.

These results align with and extend findings from Tai and Chen (2024) and Kim et al. (2021), who reported moderate-to-large gains in speaking from AI-mediated interventions. The present effect size (d = 1.61) substantially exceeds the average (d = 0.58) reported in Bibauw et al.'s (2022) meta-analysis of dialogue-based CALL studies, suggesting that the micro-task structure, brief, daily, and contextually anchored, amplifies the impact of AI affordances. The discipline-anchored design appears particularly relevant: students reported recognizing the language they practiced as immediately usable in their coaching tasks, an alignment consistent with Hutchinson and Waters' (1987) ESP relevance principle and Hyland's (2022) emphasis on disciplinary engagement.

Daily habit formation and self-efficacy

Habit formation was operationalized as the number of weeks in which a student completed at least five sessions. By Week 8, 87.5% of experimental-group students (28/32) had reached the habit threshold, compared with 18.8% (6/32) in the control group, who continued to practice mainly during scheduled classes. Trajectory analysis (Table 6) reveals an inflection between Weeks 3 and 4 in the experimental group, consistent with the early-stage automaticity reported in Lally et al. (2010) and the cue–behavior–reward dynamics described by Wood and Rünger (2016).

Table 6. Weekly Habit Adherence Rate (% of Students Completing ≥5 Sessions per Week)

Week	Experimental (%)	Control (%)	Difference (%)
1	46.9	12.5	+34.4
2	56.3	15.6	+40.7
3	65.6	15.6	+50.0
4	75.0	18.8	+56.2
5	78.1	18.8	+59.3
6	81.3	18.8	+62.5
7	84.4	21.9	+62.5
8	87.5	18.8	+68.7

Source: Habit log and AI platform analytics, 2025.

Daily speaking time also rose markedly. Average daily AI-mediated practice in the experimental group reached 11.4 minutes by Week 8, compared with 1.7 minutes in the control group. Crucially, 73% of experimental-group participants reported using AI platforms outside the assigned tasks, evidence that practice spilled into autonomous use, an outcome rarely captured in earlier AI-CALL research (Fryer et al., 2020) and aligned with Liu and Ma's (2024) finding that perceived usefulness of AI tools predicts actual extracurricular use among EFL learners.

Self-efficacy showed parallel improvement. The experimental group rose from M = 2.71 (SD = 0.52) to M = 4.12 (SD = 0.46), while the control group rose from M = 2.67 (SD = 0.49) to M = 3.18 (SD = 0.55). The between-group difference in gain was significant ($t(62) = 5.78$, $p < .001$, $d = 1.45$). This finding corroborates Bandura's (1997) proposition, and Mills, Pajares, and Herron's (2007) empirical support of it in language learning, that mastery experiences accumulated through repeated, manageable, successful performances are the strongest source of self-efficacy. Micro-tasks, by design, manufacture frequent mastery experiences.

Table 7. Self-Efficacy Comparison (Pretest vs. Posttest)

Group	Pre M (SD)	Post M (SD)	Gain	Cohen's d
Experimental	2.71 (.52)	4.12 (.46)	+1.41	2.87
Control	2.67 (.49)	3.18 (.55)	+0.51	0.98
Difference	–	–	+0.90	1.45

Note: 1–5 Likert scale; posttest difference $t(62) = 5.78$, $p < .001$.

Discussion

Student perceptions and challenges

Thematic analysis of 12 semi-structured interviews yielded four interrelated themes: reduced affective barrier, autonomy and ownership, contextual relevance, and persistent technical and linguistic friction.

Reduced affective barrier

All twelve interviewees reported diminished anxiety when speaking with AI compared to peers or the lecturer. As Participant E07 explained, the AI did not laugh, judge, or interrupt, allowing her to attempt sentences she would never risk in class. This finding closely mirrors Kim et al. (2021), Tai and Chen (2024), and Zou et al. (2020), who attribute lowered anxiety to the perceived non-evaluative nature of AI interlocutors. From a Bandurian (1997) lens, repeated low-stakes speaking turns rebuild self-efficacy that classroom embarrassment had previously eroded.

Autonomy and ownership

Students described the routine as something they began to own rather than perform for the lecturer. Participant E11 noted that he started practicing on the bus to campus, repurposing previously idle time. This shift from compliance to ownership echoes Self-Determination Theory (Ryan & Deci, 2017), in which autonomy support fuels intrinsic motivation. The micro-task design appears to lower the entry cost of practice, making autonomous engagement plausible even on busy days.

Contextual relevance

The discipline-anchored prompts on coaching, refereeing, and athlete instructions were repeatedly cited as motivating. As Participant E03 said, when he could explain a tactic in English, he started to feel like a real coach, not just a student of English. This corroborates Belcher's (2009) and Anthony's (2018) ESP principle that perceived professional relevance amplifies engagement, and extends it to AI-mediated practice in the Indonesian context (Marzuki et al., 2023; Sumakul & Hamied, 2023).

Technical and linguistic friction

Despite generally positive perceptions, students identified four challenges: (a) intermittent internet connectivity, especially in dormitories; (b) AI mishearing strongly

accented speech; (c) feedback that sometimes felt overly forgiving on grammar; and (d) initial uncertainty about how to phrase prompts. These echo concerns reported by Kohnke et al. (2023) and Sumakul and Hamied (2023), and underline the need for explicit AI-literacy scaffolding within ESP curricula. Notably, students who received a brief AI-literacy module in Week 1 reported fewer prompting difficulties, suggesting that AI literacy is itself a teachable component of micro-speaking pedagogy.

Synthesis, implications, and novelty

Triangulating quantitative and qualitative findings, three integrated insights emerge.

First, the strong proficiency effect (d = 1.61) cannot be attributed solely to AI exposure. Rather, it appears to result from the interaction of three design elements: brevity (90–150 seconds reduces resistance to start), routine (daily cues create habit), and discipline relevance (ESP anchoring sustains motivation). This triadic mechanism of brevity, routine, and relevance offers a refined account of how AI affordances translate into measurable gains, extending earlier explanations focused only on AI features such as real-time feedback or on learner factors such as motivation.

Second, the divergence in habit adherence (87.5% versus 18.8%) suggests that the conventional ESP classroom, even when delivered competently, structurally cannot produce daily speaking practice. This is not a failure of teaching but an architectural limitation: classrooms aggregate practice into discrete, infrequent events. AI platforms, by contrast, distribute practice across the week and integrate it into existing routines such as commuting, pre-training preparation, and evening downtime. The implication for ESP pedagogy is significant: instructors should design for habit architecture, not merely lesson architecture.

Third, the qualitative themes converge on a redefinition of the language learner from a recipient of instruction to an architect of practice. With micro-tasks scaffolding low-cost engagement, students develop what may be termed micro-speaking literacy, that is, the capacity to identify, design, and execute brief speaking opportunities throughout daily life. This construct deserves further empirical refinement and may serve as a learning outcome in its own right.

Practical implications for ESP in Indonesia

For Indonesian ESP programs, especially in non-English departments such as Coaching, Engineering, or Tourism, several practical implications follow. First, lecturers should build a one-week AI-literacy module at the start of each semester, covering prompting, privacy, and feedback interpretation. Second, micro-task banks should be co-designed with subject experts to ensure disciplinary authenticity. Third, weekly classroom sessions should evolve into integration hubs, where students bring AI-generated artifacts such as recordings and transcripts for peer reflection and instructor validation. Fourth, institutional infrastructure such as Wi-Fi, recommended applications, and data plans should be reviewed to remove access barriers.

Theoretical contribution

The novelty of this study lies in four contributions absent from prior literature. First, it conceptualizes and empirically tests micro-speaking tasks as a distinct ESP pedagogical construct. Second, it integrates habit-formation theory into AI-CALL research, treating consistency rather than merely performance as a primary outcome. Third, it coordinates multiple AI platforms in a complementary routine rather than testing them in isolation. Fourth, it situates this innovation in the under-researched Indonesian sport-coaching ESP context, providing a culturally and disciplinarily specific evidence base. Together, these contributions move the field beyond the question of whether AI helps to the more pedagogically generative question of how AI can be choreographed into sustained daily practice that learners own.

Limitations

Several limitations warrant acknowledgment. The study used intact classes rather than randomized assignment, the intervention lasted eight weeks, which is insufficient for full habit consolidation in some learners given Lally et al.'s (2010) estimate that automaticity may take 18–254 days, and the sample was confined to one department at one university. Future research should extend the timeline, replicate across disciplines, and incorporate delayed posttests to assess habit durability.

D. Conclusion and Suggestion

This study set out to evaluate the effectiveness of AI-mediated micro-speaking tasks in enhancing speaking proficiency, daily habit formation, and self-efficacy among ESP learners in the Department of Coaching at Universitas Negeri Padang. Three findings stand out. First,

the experimental group made substantially larger gains in speaking proficiency (+18.7 points) than the control group (+7.4 points), a between-group effect of d = 1.61 that exceeds typical effect sizes reported in AI-CALL meta-analyses. Second, 87.5% of experimental-group students reached the daily-habit threshold by Week 8, compared with 18.8% in the control group, indicating that the micro-task design produces a structural shift in practice frequency, not merely a temporary boost. Third, qualitative evidence demonstrates that students experience reduced anxiety, increased autonomy, and stronger professional identification when AI-mediated practice is designed at a micro-scale and anchored in their discipline.

The novelty of the work lies in operationalizing micro-speaking tasks as a coherent ESP pedagogical construct, integrating habit-formation theory with AI-CALL, coordinating multiple AI platforms across a weekly routine, and providing empirical evidence from an underrepresented Indonesian sport-coaching context. The findings suggest that brief, AI-scaffolded daily practice can transform speaking from an episodic classroom task into a sustained personal habit, reframing the role of the ESP instructor from sole interlocutor to architect of habit-supportive practice.

Two suggestions follow for practice. ESP lecturers are encouraged to embed a short AI-literacy module before introducing micro-tasks, and to convert weekly meetings into integration sessions in which students bring recordings for peer and instructor feedback. For future research, studies should examine the durability of habits beyond the intervention period, extend the framework to other ESP disciplines, and investigate longitudinal links between micro-speaking literacy and professional communicative performance.

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