Research Paper
JBER Scope: Education

English Listening and Speaking Difficulties and Self-Directed Enhancement Strategies among Undergraduate Aviation Business Students at North Bangkok University

Chanyapak Boonyakiat [1]*, Kris Lietz[2], Kitpinit Usaho[3]

[1,2,3] North Bangkok University, Bangkok, Thailand
✉: * 95chanyapak@gmail.com
(*Author Corresponding Email)

Received: 25 June 2026; Revised: 24 July 2026; Accepted: 27 July 2026
© The Author(s) 2026

Abstract

The objectives of this sequential mixed-methods research study were: 1) to examine the primary English listening and speaking difficulties experienced by undergraduate Aviation Business students at North Bangkok University (NBU) across linguistic, sociolinguistic, strategic, and affective dimensions; 2) to explore the self-directed enhancement strategies utilized by these students outside formal classroom boundaries; and 3) to propose an evidence-based, five-dimensional communicative enhancement framework tailored for their professional development. The target population comprised 400 undergraduate Aviation Business students within the Faculty of Arts. Criterion-based purposive sampling was employed, with inclusion criteria requiring Year 3 or Year 4 enrollment and completion of at least two Aviation English course units. All 200 students meeting these criteria constituted the study sample. Two primary research instruments were deployed: a 5-point difficulty rating questionnaire (n=200) to investigate core communicative difficulties across four theoretical constructs, and a semi-structured interview protocol (n=15) to explore autonomous learning practices. Quantitative data were analyzed using standard statistical procedures, yielding frequency counts, percentages, arithmetic means ($\bar{x}$), and standard deviations (S.D.). Qualitative data underwent verbatim transcription and thematic content analysis. Content validity was established via an Index of Item-Objective Congruence (IOC) evaluation by three specialists, yielding congruence scores between 0.66 and 1.00. The quantitative results indicated that Affective Factors presented the highest dimension-level difficulty ($\bar{x}$ = 4.43, S.D. = 0.55), with spontaneous production anxiety ($\bar{x}$ = 4.62) and fear of grammatical evaluation ($\bar{x}$ = 4.58) as the most acute individual items. Linguistic Competence ranked second at a Very High level ($\bar{x}$ = 4.25), with decoding verbal instructions over background noise as the most demanding single item ($\bar{x}$ = 4.54). Strategic and Sociolinguistic Competence constraints were also prominent. Qualitatively, three self-directed behavioral themes emerged: independent audiovisual immersion for accent adaptation, low-stakes AI-assisted practice for anxiety reduction, and collaborative peer role-plays for register-shift training. Synthesizing these findings, a five-dimensional communicative enhancement framework is proposed, organized across learner strategies, instructor approaches, classroom management, instructional materials, and assessment practices.

Keywords: English Listening and Speaking Difficulties, Self-Directed Enhancement Strategies, Aviation Business, North Bangkok University

1. Introduction

In the contemporary landscape of globalized commerce and mobility, English has solidified its position as the primary lingua franca of international trade, technology, and transport (Crystal, 2003; Boonsuk & Ambele, 2021). For nations such as Thailand, which depend heavily on international tourism, cross-border logistics, and global hospitality, English communicative proficiency has long been integrated as an integral part of the national education system (Boonsuk & Ambele, 2021). Despite substantial institutional investment, many Thai students operating in English as a Foreign Language (EFL) contexts continue to display persistent gaps in active communicative skills—specifically listening and speaking—due to a structural lack of authentic language exposure and deep-seated foreign language anxiety (Lestari & Wahyuni, 2022; Malik et al., 2025).

The aviation industry represents a sector where English language proficiency carries particular safety significance. While the majority of aviation English research has historically focused on pilot–air traffic control (ATC) radiotelephony communication, this study is situated within the distinct communicative context of cabin crew and ground operations personnel, whose language demands—though equally safety-relevant—differ substantially in register, interactional unpredictability, and cultural complexity (Satvindar Singh et al., 2021). These frontline professionals serve as the primary interface between an airline's operational core and its international passengers. In non-routine or emergency scenarios, cabin crew members must process and execute verbal instructions while simultaneously communicating clearly with passengers across a range of accents and registers. Communication breakdowns in such contexts may carry significant safety consequences, as documented by aviation regulatory bodies (European Union Aviation Safety Agency [EASA], 2024; International Civil Aviation Organization [ICAO], 2024).

At North Bangkok University (NBU), the Aviation Business major within the Faculty of Arts focuses on developing this hybrid of customer service proficiency and operational safety readiness. However, undergraduate students routinely encounter linguistic and psychological barriers when transitioning from classroom English to the communicative demands of actual airline environments. Processing diverse international accents, decoding instructions amid background noise, and sustaining professional composure under pressure remain persistent challenges (Lestari & Wahyuni, 2022). Because formal classroom hours are limited, students increasingly look beyond instructional boundaries, adopting self-directed strategies and leveraging digital platforms to build communicative readiness. While general EFL difficulties have been widely studied, a gap remains regarding empirically grounded profiles specific to aviation business students in Thailand. This study therefore investigates the multidimensional listening and speaking difficulties experienced by NBU aviation business students, examines the structure of their autonomous learning practices, and proposes a contextually grounded five-dimensional enhancement framework.

2. Literature Review

From a cognitive perspective, listening comprehension is an active, multi-layered process requiring the simultaneous execution of distinct perceptual stages (Goh, 2017). Phonological processing involves sound discrimination and word recognition within a continuous speech stream, a task severely complicated in aviation by intense acoustic interference such as engine roar or terminal echo. This is heavily tied to bottom-up decoding, in which the listener constructs meaning from phonemes, syllables, and lexical units (Goh & Vandergrift, 2022). Conversely, top-down processing draws on the listener's prior knowledge, procedural schemata, and situational awareness to predict and interpret contextual meaning (Goh, 2017). Within the aviation context, failure at either processing level—such as an inability to recognize a technical term under time pressure—can disrupt the comprehension chain and

compromise subsequent operational output.

Understanding communicative competence requires a multi-component perspective. Linguistic competence forms the fundamental baseline, encompassing grammatical syntax, phonology, and specialized technical lexis. In aviation English for Specific Purposes (ESP), domain-specific vocabulary mastery is operationally critical, as lexical imprecision or phonological ambiguity in safety-critical contexts can compromise communication effectiveness (Basturkmen, 2018; Fitria, 2022). Sociolinguistic competence governs contextual appropriateness, register management, cross-cultural sensitivity, and the politeness-firmness continuum—the capacity to project a warm service persona during routine flight stages while shifting instantly to a firm, authoritative register during safety-critical moments (Satvindar Singh et al., 2021). Strategic competence functions as a linguistic safety net, enabling communication repair through circumlocution, paraphrasing, and clarification check-backs when breakdowns occur (Basturkmen, 2018).

The broader context of English language learning is shaped by the ESL–EFL distinction. In ESL environments, learners are embedded in English-dominant societies with continuous authentic exposure, whereas EFL learners encounter English predominantly within formal classroom settings that lack naturalistic socio-cultural interaction (Crystal, 2003; Boonsuk & Ambele, 2021). This artificiality produces well-documented challenges across Southeast Asian EFL contexts: strong first-language interference, teacher-centered instructional models, large class sizes, and an emphasis on passive reading and grammatical accuracy over oral fluency (Renandya & Farrell, 2018). These conditions activate what Krashen (1985) termed the affective filter—a psychological barrier driven by language anxiety, low self-efficacy, and fear of public error that impedes spontaneous speech generation. Within English for Specific Purposes (ESP) and aviation English specifically, instruction must move beyond formulaic scripts to equip students with adaptive plain English communication alongside standardized phraseology, preparing them to handle non-routine operational scenarios that scripted content cannot anticipate (Basturkmen, 2018; ICAO, 2024).

A synthesis of relevant empirical investigations confirms the persistence of these barriers. Locally, Kongsomboon et al. (2023) investigated aviation students' speaking development following COVID-19 online instruction, noting that restricted interactive models heightened communicative isolation and oral anxiety, while integrated digital tools showed promise in supporting individualized recovery. Thuratham (2022) found that task-centered group configurations produced more significant improvements in airline-focused EFL performance than individual approaches. Michael et al. (2025) identified real-time accent comprehension and pronunciation clarity as the primary English deficiencies among Thai airline call center personnel, reinforcing the necessity of targeted ESP intervention. Internationally, Sylvia et al. (2024) demonstrated oral fluency gains through industry-aligned digital E-modules, while Mahmood et al. (2023) documented aviation maintenance trainees' multifaceted experiences with English, finding that autonomous self-directed learning practices served as significant resources for sustaining language development despite reported difficulties. Hamzah et al. (2023) found that diverse accents, inadequate fundamental English proficiency, and non-standard phraseology use constitute significant communication challenges among pilots and air traffic controllers in non-native speaker contexts, recommending that aviation language training be designed to simulate real-life operational conditions as closely as possible.

Despite this growing body of evidence, empirically grounded studies specifically profiling the multidimensional listening and speaking difficulties of aviation business students in Thailand—and systematically examining their autonomous self-directed learning behaviors outside the classroom—remain limited. Most existing studies have focused either on general EFL difficulties or on pilot and ATC communication, leaving the distinct communicative

challenges of cabin crew and ground operations personnel underexplored. The present study therefore addresses this gap by providing a quantitative difficulty profile across four communicative competence dimensions, a qualitative examination of students' self-directed learning strategies, and an evidence-based five-dimensional enhancement framework tailored to the Aviation Business program at NBU.

3. Research Objectives

The objectives of this research are:

1. To examine the primary English listening and speaking difficulties experienced by undergraduate Aviation Business students at North Bangkok University across linguistic, sociolinguistic, strategic, and affective dimensions.
2. To explore the self-directed enhancement strategies and autonomous learning behaviors utilized by these students outside formal classroom boundaries.
3. To propose an evidence-based, five-dimensional communicative enhancement framework specifically tailored for the professional and operational development of the students.

4. Research Methodology

Population and Sample Group

This study employed a sequential explanatory mixed-methods design (Creswell & Plano Clark, 2018), in which quantitative data were collected and analyzed first, followed by qualitative data collection to explore and explain the quantitative findings in greater depth. The target population comprised 400 undergraduate students enrolled in the third and fourth years of the Aviation Business program within the Faculty of Arts at North Bangkok University (NBU) during the 2026 academic year. Criterion-based purposive sampling was employed. Inclusion criteria were: (1) current enrollment in Year 3 or Year 4; (2) documented completion of at least two core Aviation English course units; and (3) written informed consent. Upper-year students were selected because they had accumulated sufficient Aviation English coursework to provide informed self-assessments of their communicative difficulties, and because a substantial proportion had completed or were undertaking supervised industry internships with airline operators, providing direct first-hand exposure to the communication demands under investigation. Of the 210 Year-3 and 190 Year-4 students in the target population, 108 and 92 respectively met all criteria and enrolled, yielding a study sample of 200 participants representing the complete eligible subset of the target population.

Research Instrument

Two primary instruments were used. The first was a questionnaire with Part 1 capturing demographic profiles and Part 2 assessing listening and speaking difficulties across 20 items distributed evenly across four constructs—Linguistic Competence, Sociolinguistic Competence, Strategic Competence, and Affective Factors—on a 5-point difficulty rating scale (5 = Very High; 1 = Very Low). Content validity was established through an Index of Item-Objective Congruence (IOC) evaluation by three specialists in English language education and aviation English, with all 20 items achieving acceptable scores of 0.66–1.00. The second instrument was a semi-structured interview protocol designed to explore students' autonomous learning practices outside the classroom.

Data Collection

This study was conducted in accordance with the ethical guidelines of North Bangkok University, and ethical clearance was obtained from the relevant institutional committee prior to data collection. All participants provided written informed consent. The quantitative questionnaire was administered digitally to all 200 participants. Following initial quantitative analysis, a subgroup of 15 students was selected for semi-structured follow-up interviews

through maximum variation purposive sampling, ensuring representation across difficulty-score profiles, career tracks, and year groups. Each interview lasted 30–45 minutes and was conducted in Thai and English according to participant preference. Sessions were audio-recorded with written consent and transcribed verbatim. Thai-language responses were translated into English by the researcher and verified for accuracy against the original recordings.

Data Analysis

Quantitative data were analyzed using frequency counts, percentages, arithmetic means ($\bar{x}$), and standard deviations (S.D.), interpreted against a five-level equal-interval classification derived from the 5-point scale range: 4.21–5.00 (Very High), 3.41–4.20 (High), 2.61–3.40 (Moderate), 1.81–2.60 (Low), and 1.00–1.80 (Very Low). Qualitative data were analyzed through open coding, codebook development, and progressive consolidation into overarching themes, with thematic saturation assessed by the absence of new codes across the final three interviews. Mixed-method integration was achieved through data triangulation at the interpretation stage, with qualitative themes mapped against quantitative difficulty profiles to identify convergent and complementary patterns.

5. Findings

Part 1: Demographic Profiles

Table 1: Summary of Participant Demographic Profiles

Demographic Variables	Categories	Frequency (f)	Percentage (%)
Gender	Male	84	42.0
	Female	116	58.0
Year of Study	Year 3	108	54.0
	Year 4	92	46.0
Previous TOEIC Score Parameters	Below 400	24	12.0
	401–600	122	61.0
	601–750	44	22.0
	Above 750	10	5.0
Primary Career Objective	Cabin Crew Operations	134	67.0
	Ground Service Operations	66	33.0

According to Table 1, the sample comprised more female (58.0%, n=116) than male (42.0%, n=84) students, consistent with the gender profile of cabin crew-oriented aviation programs in Thailand. Third-year students accounted for 54.0% (n=108) and fourth-year students for 46.0% (n=92). A majority of 61.0% (n=122) reported prior TOEIC scores within the 401–600 range, reflecting a mid-level proficiency baseline. Regarding career trajectory, 67.0% (n=134) targeted Cabin Crew Operations and 33.0% (n=66) aimed for Ground Service Operations.

Part 2: Quantitative Strand – Listening and Speaking Difficulties (Research Objective 1)

Tables 2–5 present the dimension-level means and standard deviations for each construct, interpreted against the five-level classification described in Section 4.

Table 2: Statistical Analysis of Linguistic Competence Difficulties

Item No.	Statement (n=200)	Mean ($\bar{x}$)	S.D.	Interpretation
1	Understanding specialized technical aviation terminology during sudden listening tasks.	4.42	0.58	Very High
2	Pronouncing airline-specific technical terms accurately during emergency training drills.	4.18	0.62	High
3	Maintaining grammatical accuracy while formulating sentences during safety announcements.	3.86	0.71	High
4	Decoding verbal English instructions amid constant operational background noise (e.g., engine sounds).	4.54	0.51	Very High
5	Instantly processing spoken numerical coordinates, flight levels, or time schedules.	4.24	0.66	Very High
	Linguistic Dimension Total	**4.25**	**0.62**	**Very High**

Table 2 shows that Linguistic Competence difficulties were rated at a Very High cumulative level ($\bar{x} = 4.25$, S.D. = 0.62). The most acute item was decoding spoken instructions amid operational noise (Item 4: $\bar{x} = 4.54$), followed by understanding specialized technical terminology (Item 1: $\bar{x} = 4.42$) and processing numerical flight-level data (Item 5: $\bar{x} = 4.24$).

Table 3: Statistical Analysis of Sociolinguistic Competence Difficulties

Item No.	Statement (n=200)	Mean ($\bar{x}$)	S.D.	Interpretation
6	Transitioning smoothly from a polite service register to an authoritative safety command.	4.38	0.54	Very High
7	Selecting the correct level of formality based on passenger background and age.	3.64	0.68	High
8	Modifying tone and vocabulary to remain culturally respectful to diverse international travelers.	3.92	0.59	High
9	Interpreting unscripted plain English idioms or casual expressions used by native passengers.	4.26	0.61	Very High
10	Adapting airline Standard Operating Procedures (SOPs) to handle unique passenger conflicts.	4.12	0.63	High
	Sociolinguistic Dimension Total	**4.06**	**0.61**	**High**

Sociolinguistic Competence produced a High cumulative mean ($\bar{x} = 4.06$, S.D. = 0.61). The greatest difficulty was transitioning from a service register to an authoritative safety command (Item 6: $\bar{x} = 4.38$), followed by interpreting unscripted native passenger idioms (Item 9: $\bar{x} = 4.26$).

Table 4: Statistical Analysis of Strategic Competence Difficulties

Item No.	Statement (n=200)	Mean ($\bar{x}$)	S.D.	Interpretation
11	Paraphrasing or simplifying complex instructions immediately when a passenger looks confused.	4.31	0.56	Very High
12	Using alternative words or descriptions when a specific aviation term cannot be recalled.	4.15	0.60	High
13	Confidently requesting clarification or slower speech when encountering an unfamiliar international accent.	4.46	0.52	Very High

Item No.	Statement (n=200)	Mean ($\bar{x}$)	S.D.	Interpretation
14	Integrating physical gestures or visual aids smoothly to repair a communication breakdown.	3.48	0.74	High
15	Formulating precise confirmation checks or verbal read-backs under time pressure.	4.22	0.57	Very High
	Strategic Dimension Total	**4.12**	**0.60**	**High**

Strategic Competence generated a High cumulative mean ($\bar{x}$ = 4.12, S.D. = 0.60). The most demanding items were requesting clarification when encountering unfamiliar accents (Item 13: $\bar{x}$ = 4.46) and paraphrasing instructions for confused passengers (Item 11: $\bar{x}$ = 4.31). Integrating gestures or visual aids (Item 14: $\bar{x}$ = 3.48) presented the lowest difficulty in this dimension.

Table 5: Statistical Analysis of Affective/Psychological Difficulties

Item No.	Statement (n=200)	Mean ($\bar{x}$)	S.D.	Interpretation
16	Overcoming intense nervousness when required to speak English spontaneously.	4.62	0.49	Very High
17	Preventing a cognitive freeze caused by an overwhelming fear of making grammatical errors.	4.58	0.51	Very High
18	Maintaining focus and concentration when a passenger speaks at a rapid native rate.	4.28	0.55	Very High
19	Overcoming insecurity regarding personal accent characteristics when addressing fluent speakers.	4.14	0.67	High
20	Managing communication stress during high-stakes simulated emergency evaluations.	4.51	0.53	Very High
	Affective Dimension Total	**4.43**	**0.55**	**Very High**

Affective Factors produced the highest dimension-level cumulative mean across all four constructs ($\bar{x}$ = 4.43, S.D. = 0.55). Spontaneous production anxiety (Item 16: $\bar{x}$ = 4.62) and cognitive freeze from fear of grammatical error (Item 17: $\bar{x}$ = 4.58) were the most acute items, followed by stress during high-stakes simulated emergency evaluations (Item 20: $\bar{x}$ = 4.51).

Part 3: Qualitative Strand – Self-Directed Enhancement Strategies (Research Objective 2)

Semi-structured interviews with 15 purposively selected students yielded three core behavioral themes. Where participants responded in Thai, quotations were translated into English by the researcher and verified for accuracy against the original recordings.

Theme A: Independent Audiovisual Immersion for Accent Adaptation. Participants consistently reported that classroom listening materials were too uniform and too quiet to reflect real operational conditions:

> *"The listening tracks in class are too clean. Real passengers do not talk like that. I watch airline vloggers and flight safety documentaries on YouTube every night. I turn off the subtitles to force my brain to decode the fast speech and different accents, like Indian or French English." (Participant 04, Year 4, Cabin Crew)*
>
> *"Airport announcements are full of echo and noise. I practice listening to unscripted travel vlogs with background noise on purpose to mimic the terminal environment." (Participant 11, Year 3, Ground Staff)*

This theme converges with the high difficulty ratings for acoustic decoding (Item 4: $\bar{x}$ = 4.54) and accent-related clarification (Item 13: $\bar{x}$ = 4.46), indicating that students intuitively target their most prominent receptive barriers through autonomous immersion.

Theme B: Low-Stakes Digital Practice for Anxiety Reduction. Students leveraged private digital tools to practice oral production without fear of peer or instructor evaluation:

> *"I am terrified of making grammar mistakes in front of my professor. To practice, I talk to an AI voice assistant on my smartphone. I pretend I am giving an in-flight passenger briefing. If the AI does not understand me, I know my pronunciation needs work. It does not judge me, so my anxiety drops." (Participant 09, Year 4, Cabin Crew)*
>
> *"I use smartphone voice recording tools to practice emergency evacuation commands like 'Unfasten seatbelts, evacuate this way!' I record myself, play it back, and adjust my tone until I sound authoritative instead of nervous." (Participant 15, Year 3, Cabin Crew)*

This theme maps directly onto the highest-rated affective items (Items 16–17: $\bar{x}$ = 4.62 and 4.58), confirming that low-stakes private practice is a key strategy for managing the evaluative anxiety that most severely limits oral output.

Theme C: Collaborative Peer Role-Plays for Register-Shift Practice. Upper-year students organized independent peer scenarios to rehearse the service-to-safety register shift:

> *"My friend and I practice the service-to-safety switch. One of us acts as an aggressive passenger refusing to turn off a phone at the boarding gate, and the other has to use polite but firm English to resolve it. This peer practice helps us handle unexpected interactions." (Participant 02, Year 4, Ground Staff)*

This theme directly addresses the highest-rated sociolinguistic item (Item 6: $\bar{x}$ = 4.38), showing that students are aware of the register-shift challenge and have developed peer-based routines to compensate for scripted classroom instruction.

Part 4: Proposed Five-Dimensional Communicative Enhancement Framework (Research Objective 3)

Synthesizing the quantitative findings from Part 2, the qualitative themes from Part 3, and the theoretical frameworks reviewed in Section 2, a five-dimensional communicative enhancement framework is proposed. Each dimension is grounded in the empirical findings and supported by established ESP and EFL literature.

Dimension 1 – Learner Strategies: Motivated by Qualitative Themes A and B, which demonstrated that students already engage in autonomous digital immersion and AI-assisted practice, this dimension proposes formally embedding these self-directed behaviors within the curriculum. Scaffolding existing autonomous practices reduces the affective filter (Krashen, 1985) and builds the acoustic processing skills most severely rated in this study (Item 4: $\bar{x}$ = 4.54).

Dimension 2 – Instructor Approaches: Motivated by the affective barrier ($\bar{x}$ = 4.43) and the register-shift difficulty (Item 6: $\bar{x}$ = 4.38), instructors should design explicit register-shift simulation tasks and provide feedback focused on communicative effectiveness rather than grammatical accuracy alone, consistent with ESP course design principles (Basturkmen, 2018).

Dimension 3 – Classroom Management: Motivated by the acoustic decoding difficulty (Item 4: $\bar{x}$ = 4.54) and Thuratham's (2022) evidence that group-based tasks outperform individual configurations, learning environments should incorporate realistic background noise and multi-accent audio input, and favour collaborative structures that reduce the public error exposure activating the affective filter.

Dimension 4 – Instructional Materials: Motivated by the convergence of all four dimensions at High-to-Very-High difficulty levels and by Qualitative Theme C's evidence that

students construct unscripted role-plays independently because scripted content is insufficient, course materials should integrate authentic aviation media, non-routine scenario modules, and tasks that expose students to naturalistic passenger language variation (Basturkmen, 2018; ICAO, 2024).

Dimension 5 – Assessment Practices: Motivated by the acute evaluative anxiety in Items 17 and 20 ($\bar{x}$ = 4.58 and 4.51), assessment should include regular low-stakes formative oral tasks alongside summative evaluations that simulate realistic operational contexts, with feedback addressing both linguistic accuracy and overall communicative effectiveness.

6. Conclusion

This study addressed three research objectives through a sequential explanatory mixed-methods design. Regarding Research Objective 1, the quantitative findings established that all four communicative competence dimensions presented at High-to-Very-High difficulty levels. Affective Factors produced the highest dimension-level mean ($\bar{x}$ = 4.43), with spontaneous production anxiety and fear of grammatical evaluation as the two most acute individual items. Linguistic Competence ranked second ($\bar{x}$ = 4.25), with acoustic decoding under operational noise as the most critical single item ($\bar{x}$ = 4.54). Strategic and Sociolinguistic Competence also presented significant barriers, particularly in accent-related clarification ($\bar{x}$ = 4.46) and register shifting ($\bar{x}$ = 4.38).

Regarding Research Objective 2, the qualitative strand revealed three autonomous behavioral themes: independent audiovisual immersion targeting acoustic and accent barriers, AI-assisted private practice targeting evaluative anxiety, and peer role-plays targeting the register-shift challenge. Each theme maps directly onto the quantitative difficulty dimensions, demonstrating convergent patterns between the two strands.

Regarding Research Objective 3, the integration of both strands with the communicative competence and affective filter theoretical frameworks yielded a five-dimensional communicative enhancement framework organized around learner strategies, instructor approaches, classroom management, instructional materials, and assessment practices, each grounded in the empirical findings of this study.

Several limitations should be acknowledged. First, purposive sampling from a single institution restricts external validity; findings should not be generalized to all Thai aviation business students without multi-site replication. Second, both instruments relied on self-report data, measuring perceived difficulties rather than directly observed communicative performance. Third, the cross-sectional design captures a snapshot at one point in time; longitudinal changes remain unexplored. Fourth, the qualitative subgroup (n=15) from a single institution may not capture the full diversity of autonomous strategy types across broader populations. Fifth, internal consistency reliability (Cronbach's alpha) was not assessed in the present study, and construct validity was not independently verified through confirmatory factor analysis. Future replication studies should address these through full reliability and validity reporting.

7. Discussion

The finding that decoding spoken commands amid operational noise (Item 4: $\bar{x}$ = 4.54) emerged as the most difficult single item is consistent with cognitive models of listening comprehension, which suggest that real-world processing requires active filtering of acoustic interference—a function rarely trained in studio-controlled classroom materials (Goh, 2017). When intense background noise disrupts phonological input signals, bottom-up lexical decoding may fail, preventing rapid terminology recall under operational time pressure. This is consistent with Michael et al. (2025), whose investigation of Thai airline call center personnel identified noise-disrupted speech and rapid native delivery as prominent operational

deficiencies, and with Limprasert and Witthawassamrankul (2016), who noted that acoustic training is systematically underrepresented in EFL aviation curricula.

The high difficulty rating for register shifting (Item 6: $\bar{x} = 4.38$) reflects the pragmatic challenge of frontline aviation communication. Research on EFL instructional contexts has documented a pattern in which teacher-centered, grammar-focused approaches primarily develop learners' proficiency in formulaic, deferential language patterns rather than assertive communicative registers (Renandya & Farrell, 2018), and this gap may interact with the demands of assertive safety communication in aviation contexts. Individual and contextual variation exists and caution is warranted in generalizing beyond this specific program; nevertheless, the data suggest that this cohort finds abrupt shifts from deferential service English to direct safety commands particularly demanding, consistent with Satvindar Singh et al. (2021) and Basturkmen (2018).

The prominence of Affective Factors as the highest-rated dimension ($\bar{x} = 4.43$) is consistent with Krashen's (1985) Affective Filter Hypothesis. It is important to note that this study measured perceived difficulty through self-report instruments; the findings therefore reflect students' subjective experiences rather than directly observed oral performance. Teacher-centered models that emphasize public error correction may exacerbate these barriers, consistent with findings by Nurdin and Subiyantoro (2023) and Irianti and Musthafa (2022).

The three qualitative themes demonstrate a coherent learner-driven response to the institutional gaps identified quantitatively. Students' use of unscripted audiovisual media targets acoustic and accent barriers most severely rated in the Linguistic dimension. AI voice assistant practice represents an anxiety-management strategy consistent with low-affective-filter learning environments (Krashen, 1985). Peer role-play practice for register shifts indicates metacognitive awareness of the politeness-firmness challenge. This finding has direct implications for Dimension 1 of the proposed framework, suggesting that formalizing these existing autonomous behaviors within the curriculum would be a practical institutional intervention.

8. Recommendations

Based on the empirical findings and the discussion presented above, the following recommendations are proposed for educational practice at NBU and for further research.

Recommendations for Educational Practice at NBU

Formalize Self-Directed Digital Practice within the Curriculum (Dimension 1): NBU should formally embed AI-assisted voice practice and audio self-recording tasks into the syllabus to provide private, low-stakes production opportunities that reduce evaluative anxiety (Items 16–17: $\bar{x} = 4.62$ and 4.58). Prior to institutional adoption, data privacy protocols, potential accent bias in AI speech-recognition systems, and the need for aviation specialist oversight of AI-generated feedback should be carefully considered, and a phased pilot evaluation is recommended.

Introduce Explicit Register-Shift Simulation Tasks (Dimension 2): Instructors should design role-play scenarios requiring timed transitions from polite service English to firm safety commands, providing feedback focused on pragmatic effectiveness rather than grammatical form alone, addressing the most demanding sociolinguistic item ($\bar{x} = 4.38$).

Integrate Operational Acoustic Conditions into ESP Listening Tracks (Dimension 3): Listening materials should incorporate realistic background noise—aircraft engine hum, cabin chatter, terminal echo—to train bottom-up auditory processing under conditions approximating actual operational environments, directly addressing the highest-rated linguistic item ($\bar{x} = 4.54$).

Develop Authentic and Industry-Aligned Instructional Materials (Dimension 4): Course resources should be supplemented with unscripted aviation media, scenario-based digital modules, and non-routine situation tasks that expose students to natural language variation

beyond standardized phraseology.

Design Low-Stakes Formative Oral Assessment (Dimension 5): Assessment should include regular formative oral tasks in low-pressure formats to reduce evaluative stress (Items 17 and 20: $\bar{x}$ = 4.58 and 4.51), with feedback addressing both linguistic accuracy and communicative effectiveness.

Recommendations for Further Studies

Longitudinal Follow-Up Designs: Future research should track students from their final year through initial professional employment to evaluate whether self-directed strategies identified here remain effective in operational settings.

Comparative Multi-Institutional Analysis: Replication across diverse aviation universities in Thailand would identify whether institutional factors moderate the sociolinguistic and affective barriers observed in this study.

Performance-Based Assessment Studies: Experimental designs incorporating objective oral performance measures would enable direct evaluation of whether the proposed framework dimensions produce measurable gains in aviation communicative performance.

References

Basturkmen, H. (2018). English for specific purposes. In J. Liontas (Ed.), *The TESOL encyclopedia of English language teaching* (pp. 1–6). Wiley. https://doi.org/10.1002/9781118784235.eelt0545

Boonsuk, Y., & Ambele, E. A. (2021). Towards integrating lingua franca in Thai EFL: Insights from Thai tertiary learners. *International Journal of Instruction, 14*(3), 17–38. https://doi.org/10.29333/iji.2021.1432a

Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). SAGE Publications.

Crystal, D. (2003). *English as a global language* (2nd ed.). Cambridge University Press.

European Union Aviation Safety Agency. (2024). *Cabin crew language expectations.* https://www.easa.europa.eu/en/faq/45819

Fitria, T. N. (2022). The implementation of English for specific purposes (ESP) in higher education. *ELT Echo: The Journal of English Language Teaching in Foreign Language Context, 7*(1), 88–99.

Goh, C. C. M. (2017). Cognition, metacognition, and L2 listening. In E. Hinkel (Ed.), *Handbook of research in second language teaching and learning* (Vol. 3, pp. 214–228). Routledge.

Goh, C. C. M., & Vandergrift, L. (2022). *Teaching and learning second language listening: Metacognition in action* (2nd ed.). Routledge.

Hamzah, H., Krish, P., & Hamat, A. (2023). Aviation communication challenges and language training development: Perspectives from pilots and air traffic controllers. *Training, Language and Culture, 7*(1), 86–100.

International Civil Aviation Organization. (2024). *Language proficiency requirements.* https://www.icao.int/safety/airnavigation/pages/peltrgfaq.aspx

Irianti, R. D., & Musthafa, B. (2022). EFL learners' speaking anxiety in online classrooms during the COVID-19 pandemic. *Jurnal Pendidikan Bahasa dan Sastra, 22*(1), 25–35.

Kongsomboon, S., Wongsothorn, A., & Kittidachanupap, N. (2023). English-speaking class's challenge in aviation students after COVID-19. *EAUH Journal of Social Sciences, 9*(2), 11–25.

Krashen, S. D. (1985). *The input hypothesis: Issues and implications.* Longman.

Lestari, A., & Wahyuni, S. (2022). Students' difficulties in speaking English: A case study at EFL classroom. *JEES: Journal of English Education Studies, 3*(2), 149–160.

Limprasert, S., & Witthawassamrankul, K. (2016). English communication problems between

passengers and flight attendants: A review. In *Proceedings of the 8th International Conference on Humanities and Social Sciences* (pp. 1–10). Faculty of Liberal Arts, Prince of Songkla University.

Mahmood, A. S., Saad, N. S. M., & Nur, N. M. (2023). The ups and downs of learning and using English: Aviation students' voices. *International Journal of Language Instruction, 2*(1), 1–15. https://doi.org/10.54855/ijli.23211

Malik, E., Rohmatillah, R., & Rahmawati, I. N. (2025). An analysis of English as a foreign language (EFL) learners' problems in speaking skills based on their perception at senior high school. *Edunesia: Jurnal Ilmiah Pendidikan, 6*(1), 190–206. https://doi.org/10.51276/edu.v6i1.1106

Michael, K. L., Lietz, G., Noicharoen, N., & Natee, N. (2025). English communication challenges and coping strategies of Thai call center staff in a European airline group. *International Journal of Multidisciplinary in Management and Tourism, 9*(2), 223–232. https://doi.org/10.14456/ijmmt.2025.15

Nurdin, N., & Subiyantoro, S. (2023). Factors affecting students' speaking skills in aviation English. *Dinasti International Journal of Education Management and Social Science, 4*(3), 578–586.

Renandya, W. A., & Farrell, T. S. C. (2018). *Teaching and learning second language listening.* Routledge.

Satvindar Singh, R. K., Cheong, C. Y. M., & Rahman, N. A. A. (2021). Spoken and written communication needs of aviation management trainees. *International Journal on Social and Education Sciences, 3*(3), 535–547. https://doi.org/10.46328/ijonses.235

Sylvia, N., Kusumawardhani, P., & Marlina, L. (2024). E-aviation speaking preparation test for aviation vocational school. In *Proceedings of the International Conference on Multidisciplinary Research* (pp. 140–146). Lembaga Penerbitan Universitas.

Thuratham, W. (2022). Individual, pair and group EFL activities for aviation students at a Thai university: A closer look at language achievement and attitudes. *LEARN Journal: Language Education and Acquisition Research Network, 15*(2), 892–921.