



Integrative Skills Approach in Teaching English for Aircraft Maintenance Engineering

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ABSTRACT

Effective English and safe communication are crucial within the aviation industry. This study aims to explore English instructors' perceptions and practices regarding the integrative skills approach in teaching English to Lion Group staff in the field of Aircraft Maintenance Engineering. Adopting a qualitative case study design, the research involved three instructors who were purposively selected for their reported implementation of the integrative skills approach in their teaching. Data were collected through interviews, classroom observations, and documentation, then analysed using thematic analysis. The findings reveal that the instructors hold positive perceptions of the integrative skills approach, believing that it effectively enhances learners' English proficiency. They emphasised that the approach increases student engagement and motivation and provides a more holistic learning experience. However, the instructors also noted that its success largely depends on teachers' preparedness and students' readiness. In practice, they implemented structured pedagogical frameworks, such as the six-stage model (lead-in, meaning-focused input, language-focused learning, meaning-focused output, feedback and assessment, and follow-up activities), employed authentic materials, and incorporated reflective learning components. In conclusion, the integrative skills approach is perceived as an effective method for developing English proficiency and communicative competence in aviation contexts for Aircraft Maintenance Engineering.

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INTRODUCTION

English is an essential international language in the aviation industry. Every aviation worker is required to be able to communicate in English, including those working in ground operations and maintenance (Alketbi & Sipos, 2025; Mahmood et

al., 2023). All aviation workers are required to be able to communicate effectively in English to ensure the safety and security of aviation services (Yang et al., 2025). A small communication error can trigger a fatal accident in aviation. Therefore, English language skills, particularly English for Specific Purposes (ESP), are a mandatory skill for all workers in the aviation industry.

Considering the crucial importance of English language skills for aviation workers, effective and high-quality English courses are necessary for all aviation workers and prospective workers in the industry. These English courses should develop comprehensive English language skills, namely speaking, listening, reading, and writing. However, unfortunately, many English courses for aviation workers still focus on a single skill, such as speaking, listening, reading, or writing. Some courses even focus solely on introducing specific vocabulary without developing comprehensive communication skills. This approach does not align with the conditions or needs of workers in real-world work situations, where they are required to communicate comprehensively, speaking, listening, reading, and writing simultaneously.

Learning approaches play a crucial role in improving the quality of learning. The implementation of learning approaches affects students' motivations, engagements, and achievements (Costa & Reis, 2025; Lin et al., 2022; Valente, 2023). One learning approach believed to have a positive impact on students' overall English language skills is the integrative skills approach (Loi & Hong, 2025; Poon, 2011; Thuratham, 2024; Wangmanee, 2024). This is because the integrative approach combines receptive (listening and reading) and productive (speaking and writing) skills in a single, meaning- and context-oriented learning activity (Pardede, 2019). Therefore, learning with an integrative approach is believed to make learning more authentic and collaborative. In the context of English for Specific Purposes (ESP), skills integration allows students to practice professional communication that aligns with the technical requirements of the job.

However, to date, research on the application of the integrative skills approach has been limited to general English instruction. This approach has rarely been implemented in the context of English for Aircraft Maintenance Engineering. Previous studies have rarely examined how instructors apply this approach in the aviation industry environment, which has particular technical and operational characteristics. Furthermore, there is limited research exploring the perceptions and actual practices of instructors at large companies, such as the Lion Group, which has its own internal training system for maintenance staff.

Lion Group is one of the largest airlines in Southeast Asia. The company maintains high standards for effective English communication, particularly to ensure the safety and security of its aviation services. To achieve these standards, English instructors tasked with developing technical English skills for Aircraft Maintenance Engineering workers have implemented an integrative skills approach in the learning

process. Therefore, exploring the perceptions and teaching practices of Lion Group instructors is crucial to understanding the effectiveness of implementing an integrative skills approach in the real-world context of the aviation industry.

Specifically, this study aims to explore English instructors' perceptions of the effectiveness of an integrative skills approach in teaching English for Aircraft Maintenance Engineering and to identify actual teaching practices implemented by instructors in the context of Lion Group staff training. The research findings are expected to provide conceptual and practical contributions to the development of a more communicative and contextual Aviation English teaching model.

METHOD

This research was conducted using a qualitative case study design. This design was chosen in accordance with the research objective, which was to explore the application of the integrative skills approach in English language learning for Aircraft Maintenance Engineering. The exploration focused on the perceptions and procedures for implementing the integrative skills approach among English instructors at Lion Group training centers. Through a qualitative case study design, researchers were able to conduct an in-depth and authentic exploration.

This study involved three English instructors at Lion Group training centers, selected purposively. These three instructors are English instructors for Aircraft Maintenance Engineering who specifically stated they apply the integrative skills approach in their learning process. Furthermore, they are English instructors who have worked at Lion Group for more than two years and are still actively teaching English for Aircraft Maintenance Engineering at Lion Group training centers.

Data collection was conducted through in-depth interviews and observations. Researchers interviewed and observed the three instructors to explore their perceptions regarding the use of the integrative skills approach. Interviews were audio-recorded (with consent) and transcribed verbatim for analysis. Observations and interviews were also conducted to observe and get detail explanation on the implementation of the lesson and identify how the instructor implemented the integrative skills approach. Specifically, observations focused on lesson planning and sequencing of integrative skills activities, interaction patterns (teacher-student, student-student), integration of receptive and productive skills in tasks, and use of authentic materials and assessment procedures. An observation checklist was used to guide data collection based on elements of the six-stage model (lead-in, input, focus on form, output, feedback, follow-up). Besides, researchers also conducted document analysis to triangulate data obtained from interviews and observations. Documents analyzed included instructional documents, such as lesson plans, teaching materials, worksheets, and students' written outputs. This provided a clearer picture of how the integrative skills approach was implemented.

Data were analyzed using thematic analysis following Braun and Clarke's (2022) framework. The steps included: (1) Familiarization by reading and re-reading interview transcripts, observation notes, and documents; (2) Generating initial codes, by identifying meaningful units related to perceptions, strategies, challenges, and outcomes; (3) Searching for themes by grouping codes into broader themes; (4) reviewing themes by refining and validating themes across data sources for consistency; (5) Defining and naming themes by formulating clear definitions and supporting each theme with direct evidence (quotes or field notes); and reporting by presenting findings in narrative form with thematic interpretation.

RESULTS AND DISCUSSION

Results

English Instructors' Perceptions toward the Integrative Skills Approach

The interviews revealed that the three English instructors had a positive perception of the implementation of the integrative skills approach. This positive perception was evident in the instructors' responses, which generally stated that the integrative skills approach met the needs of Aircraft Maintenance Engineering staff. Aircraft Maintenance Engineering staff require the ability to listen, speak, read, and write simultaneously. Therefore, they need to be accustomed to mastering all four language skills simultaneously. This is evident in the following interview excerpt.

"In aviation, you cannot separate the skills. When engineers read a maintenance manual, they also discuss it, write reports, and listen to instructions. So, teaching should reflect that integration." (Instructor A, Interview, March 2025)

The interview results also suggest that implementing the integrative skills approach will provide authentic experiences for Aircraft Maintenance Engineering staff. In other words, the integrative skills approach will train students to communicate effectively in real-world situations they encounter when working in Aircraft Maintenance Engineering.

Furthermore, the implementation of the integrative skills approach is also considered to increase student motivation and engagement in the learning process. This approach allows students to practice using English more effectively in the context of their work. Because it aligns with their needs in the workplace, they become more engaged and understand the benefits of the learning process. This is implied in the following interview excerpt.

"My students are more active when they work on integrated tasks. For example, when they listen to a recording of a maintenance

report, then write their own and present it. They see the real use of English.” (Instructor C, Interview, March 2025)

These findings are also supported by observations, which show that when the teaching and learning process uses an integrative skills approach, students become more active. They all have the opportunity to practice using language, both orally and in writing, tailored to topics relevant to their work in Aircraft Maintenance Engineering. They practice conversation, listening to instructions, taking notes, and reading instructions in a single session. This learning process also demonstrates that students are truly positioned as the center of learning.

Data obtained during observations, conducted over several sessions, revealed that students appeared enthusiastic about participating in learning activities. This was evident in their active participation in each learning activity. Students did not participate out of compulsion, but because they enjoyed the learning process and understood the benefits of practicing their English skills during the lesson. Students engaged in role-plays, reading, writing, and listening during each learning session.

For example, in one learning session on the topic "Reporting Aircraft Damage," the English instructor began the lesson with a listening activity. The instructor played a recording of a conversation between a technician and a supervisor discussing minor aircraft damage. Students listened and noted key words they learned from the audio. Next, they discussed their findings with their deskmates to confirm their understanding and discuss what the technician and supervisor were saying in the conversation. The learning activity then continued with a role-play, where one student played the technician and the other played the person discussing the aircraft inspection results. During the role-play, students were required to use the technical vocabulary and professional expressions they had identified in the conversation they had previously listened to. Observations revealed that students appeared confident, provided feedback to each other, and frequently corrected each other's language errors during the interaction. After the role-play, the instructor instructed students to write a damage report (logbook entry) based on the simulation results. This writing assignment not only practiced technical writing skills but also strengthened the connection between receptive skills (listening and reading) and productive skills (speaking and writing).

Based on these observations, it is clear that the implementation of integrative skills learning has been shown to encourage students to communicate actively and collaboratively, and hone their problem-solving skills. Students are encouraged to master not only the form of language but also its meaning and context in real-world work situations. For example, when there are disagreements about the correct technical terminology, students exchange ideas and refer to aircraft maintenance

manuals to ensure accurate language usage. Furthermore, interactions during the activities demonstrate that integrative learning enhances students' sense of responsibility and emotional engagement in the learning process. They appear more motivated because the activities are realistic and relevant to the work environment they will face in aircraft maintenance.

Implementation of a Structured Pedagogical Framework

To find out in detail how the stages of the integrative skills approach are implemented by instructors at Lion Group, researchers conducted observations, interviews, and documentation. From the data obtained, it was found that English instructors at Lion Group apply a systematic and planned learning framework. The stages carried out were inspired by the concept of the Four Strands by Nation (2001). These stages were adjusted in such a way as to become a six-stage model that suits the learning needs of English for Aircraft Maintenance Engineering. The six stages include: Lead-in (opening/introduction), Meaning-focused input (understanding meaning through authentic input), Language-focused learning (focus on the form and structure of language), Meaning-focused output (production of meaningful language), Feedback and assessment, and Follow-up activities. By carrying out these stages, the learning process runs in an integrated and progressive manner, from understanding the context to communicative language production, while maintaining a balance between receptive skills (listening and reading) and productive skills (speaking and writing).

a. Lead-in and Meaning-Focused Input Stages

In the lead-in phase, instructors build students' prior knowledge by linking the subject matter to their workplace context in aircraft maintenance. To build this prior knowledge, instructors begin the lesson by showing short videos, photos, or brief case studies about processes related to aircraft inspection or repair. Documentation revealed that the use of media to initiate the learning process was planned and communicated in the lesson plan. Instructors consistently provided relevant learning media to begin the lesson. This strategy was used to capture students' attention and mentally prepare them for the topic, as demonstrated by one instructor who stated:

“I usually start with something familiar to them—for example, a short video about aircraft inspection. After that, I ask a few questions to help them guess the topic. This helps them connect the material to their own experiences.” (Instructor B, Interview, March 2025)

Based on observations, the use of these learning media proved effective in enhancing students' prior knowledge and helping them increase their initial focus

and participation. For example, when the instructor showed a video about a "routine maintenance check," students enthusiastically commented, identified technical terms such as landing gear, engine bay, or hydraulic system, and guessed the procedures involved. Furthermore, these initial activities helped establish a professional atmosphere from the beginning of the lesson, ensuring that students understood that the context in which the English they were learning was truly relevant to their work environment in aviation.

b. Language-Focused Learning and Meaning-Focused Output Stages

After students' initial knowledge is established, the instructor directs them to enter a learning phase focused on language-focused learning. Students at this stage are directed to pay attention to specific linguistic features, such as the use of imperative verbs for work instructions (e.g., check, tighten, inspect), passive sentence patterns (e.g., the panel is removed), and technical vocabulary frequently appearing in maintenance manuals. Students are then instructed to connect their learning of language structures with meaning-focused output activities. This activity aims to equip students with the ability to use English in professional contexts. One instructor explained:

"After reading a section of the maintenance manual, I ask them to summarize the content verbally in pairs and then write a short report. This way, they practice speaking and writing based on what they've read." (Instructor A, Interview, March 2025)

Data from classroom observations also showed that instructors effectively integrated reading, speaking, and writing skills into a single learning session. This was evident in one learning session, where after reading a text about fuel system inspection procedures, students were asked to underline key technical terms, discuss in pairs to re-explain the procedure in their own words, conduct an oral briefing as if they were reporting to a superior in the hangar, and write a simple report in the form of a maintenance log entry. These activities automatically led students to apply language contextually and authentically. They also strengthened the connection between form, meaning, and function of the language being learned. Furthermore, student interaction during the discussions fostered critical thinking and two-way communication skills, which are crucial in aircraft maintenance work.

c. Feedback dan Follow-up Activities Stages

Based on data obtained from observations and interviews, it was found that the fifth and sixth stages of the integrative skills approach focused on providing feedback and follow-up activities. Observations also revealed that feedback was

provided both verbally and in writing, depending on the type of activity. Feedback not only highlighted grammatical or pronunciation errors but also emphasized clarity of message and accuracy of technical terms. One instructor explained:

“Sometimes I let students evaluate their peers’ oral reports. This way, they become more aware of their language use and learn to reflect on their own mistakes.” (Instructor C, Interview, March 2025)

Observations show that this peer feedback strategy increases students’ metacognitive awareness of language use. They become more critical and reflective in their speaking and writing. Furthermore, instructors conduct follow-up activities such as vocabulary reviews or grammar mini-lessons based on errors frequently encountered during the main activity. For example, after a simulation session on reporting errors, instructors display several incorrect sentences from students’ work and then discuss the correct forms. This follow-up activity has been shown to help students deepen their understanding of previously meaningful language forms, rather than simply memorizing grammar rules. Thus, this stage strengthens the integrative learning process by linking communicative experiences with explicit learning.

Overall, the research findings indicate that implementing a structured six-stage learning model provides an effective framework for integrating all four language skills in a balanced manner. This approach enables students to: Build an understanding of professional contexts early on, Develop linguistic competence through meaning-based activities, Enhance reflective awareness through peer feedback, and Strengthen language retention through planned follow-up activities. Thus, the implementation of this learning model not only improves students’ technical English skills, but also fosters professional communication skills, collaboration, and self-confidence that are much needed in an aircraft maintenance work environment.

Discussion

This study found that instructors at Lion Group had a positive perception of the implementation of an integrative skills approach in English for Aircraft Maintenance Engineering. This approach can meet students’ needs to develop authentic and professional communication skills in the aviation workplace. This finding aligns with the findings of Dudley-Evans and St. John (2008) and Basturkmen (2010), who emphasized that ESP learning must be tailored to students’ needs, contextualized, and prepared to use English appropriately for the work they will undertake.

The implementation of learning that combines and practices all language skills in a single session, in a work-based context, reflects the reality of communication in aircraft maintenance, where listening, speaking, reading, and writing are used simultaneously

throughout the operational process. This study's findings support Richards' (2006) opinion that an integrative approach is important for improving students' ability to transfer linguistic knowledge to real-world tasks. Thus, in the context of English language learning at Lion Group, the integrative approach not only serves to develop linguistic competence but also serves as a bridge between classroom learning and workplace communication. In other words, the learning process aligns with the functional objectives of ESP learning.

In the instructors' implementation of the integrative skills approach, they followed six stages: lead-in, meaning-focused input, language-focused learning, meaning-focused output, feedback and assessment, and follow-up activities. These stages confirm that the instructors have shifted from traditional, fragmented learning to a task-based integrative learning cycle. Similarly, the use of authentic teaching materials such as maintenance manuals, logbooks, and technical videos is also an important part of the ESP learning process. The use of authentic materials has been shown to increase student engagement while strengthening their contextual understanding of technical language. This supports Hyland's (2017) view that field-specific authenticity can strengthen ESP learners' motivation to learn and their professional identity.

Although the research results demonstrate the effectiveness of the integrative approach, several challenges were identified in the implementation process. These challenges include limited learning time, differences in students' language proficiency levels, and limited access to up-to-date learning materials relevant to the aviation context. An integrative or task-based approach in the ESP context requires institutional support and a longer timeframe to achieve optimal results (Mudinillah et al., 2024; Vásquez et al., 2024).

Mixed proficiency levels require planned scaffolding strategies, such as providing pre-task vocabulary support and multimodal learning resources (audio, video, and visual). Without such support, lower-proficiency students tend to struggle to actively participate in integrative activities. Furthermore, the limited availability of up-to-date, authentic learning materials is a common obstacle in teaching ESP (Tymbay, 2022). This underscores the need for collaboration between educational institutions and the aviation industry to ensure learning materials are consistently updated with the latest technological developments and safety procedures. This kind of collaboration will ensure the relevance and contextual accuracy of Aviation English learning.

Furthermore, one of the most significant findings of this study is increased student engagement and confidence in communication. An integrative approach can facilitate in-depth learning and enhance learner independence by placing language in meaningful contexts (Jovanov et al., 2022). Students demonstrated increased active participation in communication simulations, fault reporting, and logbook writing, indicating that the integrative approach strengthens the cognitive and affective dimensions of learning. This has implications for increased self-confidence, critical thinking skills, and

professionally relevant language fluency. In the aviation context, confident communication skills are not only important but also crucial to ensuring operational safety.

CONCLUSIONS

This study confirms that the application of an integrative skills approach to Aviation English instruction for Aircraft Maintenance Engineering within the Lion Group has significant potential for improving students' communicative and professional competencies. Instructors expressed a very positive perception of this approach, believing that the integration of receptive (listening and reading) and productive (speaking and writing) skills within a single learning cycle provides a more authentic, meaningful, and relevant learning experience to the needs of the aviation workforce. The results also indicate that the implementation of a six-stage structured learning model—from lead-in to follow-up activities—has helped create a systematic and contextual learning process. The use of authentic learning materials such as maintenance manuals, aircraft inspection videos, and technical reports has been shown to increase students' motivation, engagement, and confidence in communicating in English in a professional environment.

Theoretically, this research strengthens the relevance of an integrative approach in the realm of English for Specific Purposes (ESP), particularly for safety- and technical-oriented professions such as Aircraft Maintenance Engineering. This approach supports situated learning theory and the communicative competence framework by positioning language as a tool for professional communication in a real-life context. Practically, the research findings provide a foundation for the development of a task-based and integrative Aviation English curriculum, teacher training in contextual pedagogy, and the development of authentic learning resources aligned with the needs of the aviation industry. With the support of institutional policies and cross-disciplinary collaboration, the integrative approach has the potential to become an effective learning model for producing a communicative, skilled aviation workforce prepared to face the demands of global communication.

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