Factors Affecting Students' Speaking Skills in Aviation English: Grammar, Vocabulary and Pronunciation Mastery

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Abstract: Previous research or pertinent studies are essential for a scientific article or research paper. This article reviews the factors influencing students' ability to speak English in the aviation field, focusing on the mastery of speech, vocabulary, and pronunciation. This study is a comprehensive literature review in the domain of English language learning. The objective of this article is to construct a hypothesis regarding the inter-variable influence for conducting further research. The findings of this literature review indicate that: 1) Students' speaking abilities in Aviation English are significantly influenced by their linguistic mastery, which encompasses grammar, syntax, and overall language structure; 2) Their proficiency in Aviation English is also heavily dependent on their vocabulary, specifically the technical and industry-specific terms used in aviation; and 3) Their pronunciation in Aviation English plays a crucial role in their overall speaking abilities, impacting their clarity, intelligibility, and effective communication in professional aviation settings. This review aims to provide a foundation for future studies to explore these interrelated factors in greater depth.

Keyword: Students' Speaking Skills in Aviation English, Grammar Mastery, Vocabulary and Pronunciation.

INTRODUCTION

In the world of aviation, the ability to communicate effectively in English is one of the crucial factors that affect safety and operational efficiency. ICAO (International Civil Aviation Organization) has established English language standards for aviation personnel, including pilots and air traffic controllers, to ensure clear and timely communication in routine and emergency situations. Failures in communication, often caused by an inability to master good grammar, vocabulary, and pronunciation, can result in potentially fatal miscommunication (Nguyen, 2021)

Aviation English involves not only the use of standard phraseology but also the ability to communicate in plain language for non-routine or emergency situations. Therefore, a good mastery of grammar, vocabulary, and pronunciation is essential for aviation students to

communicate effectively and reduce the risk of miscommunication. (Stéphanie Lopez, 2014; Gabrielė Masiulioniene, 2023). Studies have shown that aviation students often face challenges in mastering English, especially in terms of speaking performance. These difficulties are often rooted in a lack of a deep understanding of grammar, vocabulary limitations, and repeated mispronunciation. In addition, the pressure to communicate effectively in an often high-risk and stressful environment adds to the situation's complexity. (Mahmood, 2023; Galina Sorokoumova, 2021)

Aviation students who cannot meet ICAO standards often have to undergo additional training or can even be hampered in their careers. For example, one study found that many pilots and air traffic controllers who failed ICAO's English proficiency tests had to repeat the training, leading to increased costs and time required to achieve the required competencies. (Pacheco, 2024). Although the importance of mastery of grammar, vocabulary, and pronunciation has been recognized, there is still a gap in research on the specific factors that affect the speaking performance of aviation students. Many studies focus on linguistic aspects in general without paying attention to the specific context of flight. In addition, although there is an aviation English curriculum designed in accordance with ICAO guidelines, the effectiveness of teaching methods and training materials in improving students' speaking skills still needs to be further explored. (Sneha Basak, 2023). This study seeks to fill this gap by identifying and analysing factors that specifically affect students' ability to speak aviation English. As such, the results of this study are expected to significantly contribute to developing more effective curricula and teaching methods, as well as help aviation students achieve the level of language proficiency needed for safety and success in their careers. For information, this article discusses the influence of grammar, vocabulary, and pronunciation mastery on students' speaking skills in aviation English, a literature review study on English language learning.

Based on the background, several key research questions can be formulated to develop hypotheses for future studies. These questions aim to investigate the factors influencing students' speaking abilities in Aviation English. Firstly, we need to explore the extent to which mastery of grammar impacts students' ability to effectively communicate in Aviation English. This involves examining how grammatical knowledge contributes to the accuracy and fluency of their spoken language within the context of aviation. Secondly, we must consider whether a robust vocabulary affects students' speaking skills in Aviation English. This inquiry delves into the significance of having a comprehensive understanding of industry-specific terms and general vocabulary, and how this knowledge facilitates clearer and more precise communication. Lastly, it is crucial to investigate the influence of pronunciation on students' speaking skills in Aviation English. This entails understanding how proper pronunciation enhances intelligibility and communication efficiency, which are critical in the high-stakes environment of aviation. These questions collectively aim to build a foundation for hypotheses that can guide further empirical research, ultimately contributing to the improvement of English language training programs for aviation students.

The ability to speak in aviation English refers to the verbal communication skills that students in aviation must possess to interact effectively in a professional context. This includes the ability to convey information clearly and precisely, both in routine and emergency situations, using internationally recognised aviation-specific terminology. This skill is crucial given that English is the standard language used in global aviation communication, and miscommunication can be fatal. Therefore, flight students must be trained intensively in these abilities to ensure safety and efficiency in flight operations. (Mahmood, 2023; Bani-Salameh, 2016)

The ability to speak in aviation English consists of several important dimensions that need to be considered. First, *fluency* or fluency in speaking, where students must be able to

speak in a natural rhythm without many pauses or interruptions. Second, *accuracy*, which includes the use of correct grammar and appropriate vocabulary. Third, *pronunciation*, which ensures that the words are pronounced correctly so that they can be clearly understood by the listener. fourth, *interactive communication*, which involves the ability to interact effectively with air traffic controllers, colleagues, and other related parties in diverse situations. Fifth, *Comprehension,* which refers to the ability to understand instructions and information provided in English.

Indicators of speaking ability in aviation English can be measured through various aspects of student performance (1) *Clarity of* speech is the main indicator, which ensures that students can speak clearly and can be understood by the audience. 2) *Use of aviation terminology* is also important, as it demonstrates understanding and skills in the specific context of aviation. (3) Response time measures the speed and efficiency of responding to communication, especially in emergency situations. (4) Listening comprehension assesses the ability to listen to and understand instructions and information from other parties. Finally, (5) Situational Adaptability assesses students' ability to adapt to various communication situations that may occur in the aviation environment, including emergency and non-emergency scenarios.

Achieving skills in grammar is essential for improving speaking ability, as it establishes the basic structure for effective and accurate communication. Recent research highlights the importance of a strong understanding of grammar in enabling students to produce sentences that are not only accurate but also effectively communicate complex concepts. (Dong, 2024) In addition, the integration of grammar education into speaking exercises has shown a substantial improvement in language students' fluency and confidence. Studies show that students who engage in speaking practices that focus on deliberate grammar are more likely to internalize grammatical principles and demonstrate the spontaneous application of these norms in real-life contexts. This method not only strengthens their understanding of grammar principles but also improves their skills in English communication. Integrating regular grammar exercises into real-life situations helps students overcome obstacles that often occur in spoken language, including doubts and inaccuracies, resulting in increased independence and fluency in communication. (Maruâ, 2020)

Additionally, having a strong grasp of grammar is essential in a professional environment where accurate communication is essential. Studies have shown that people who have competent grammatical abilities are more skilled in managing professional meetings, such as business meetings and presentations, where accuracy and accuracy of the spoken language is essential. In aviation, the use of accurate grammar is essential to avoid communication errors that can potentially result in serious consequences. Therefore, acquiring skills in grammar not only improves casual conversational abilities but also equips students to focus more where proficient communication is essential to ensure safety and productivity (Chitra, 2024; Rajprasit, 2022).

Skills in improving speaking skills by equipping students with an important lexicon to articulate their thoughts clearly and accurately. Research has shown that having a broad lexicon empowers students to participate in more complex discussions and express their ideas more effectively. Expanding vocabulary allows students to choose the right words that effectively convey their intended meaning, thus facilitating smooth communication (Muhammad Nasrullah, 2024).

Additionally, a strong vocabulary allows speakers to diversify their language usage, increasing the engagement and dynamics of their speech. Combining word acquisition with oral communication exercises has proven to be a successful approach to improving linguistic skills. Evidence suggests that engaging in speaking activities to practice new words improves students' ability to retain and use these terms in subsequent meetings. This method not only

helps in maintaining the language, but also in understanding the context in which the words can be used. Using phone-assisted language learning technology to practice vocabulary in real- life situations has been found to improve retention and practical use of new words, resulting in increased speaking speed. (Istikomah, 2021; Hamidah, 2023).

This approach enhances the practical application of passwords, thus making them an essential component of students' active language skills. In addition, the importance of terminology in professional communication is unpredictable. In fields such as aviation, having a broad lexicon is essential for clear and accurate discourse, which can have substantial safety consequences. The proficient use of vocabulary in a specialized professional setting improves an individual's communication skills, thereby minimizing the possibility of misinterpretation. In fields such as tourism and hospitality, having a broad vocabulary allows professionals to engage in more complex and sophisticated conversations with clients, thereby improving the quality of services provided.

Table 1 Relevant Previous Research

Author (year)	Previous Research Results	Similarities to this article	Differences with this article
(Amrullah, 2022)	Mastery of grammar, and motivation in learning have a positive and significant effect on students' speaking skills. Vocabulary and pronunciation are not specifically discussed in this study	Grammar mastery affects students' speaking ability in English	Learning motivation affects students' speaking ability in English.
(Suprayetno, 2023)	Vocabulary has a positive and significant effect on speaking ability while pronunciation has no effect on reading ability	Vocabulary Affects Students' Speaking Ability in English	Pronunciation has no effect on students' speaking ability in English.
(Bashori, 2022)	Mastery of Grammar and Pronunciation has a positive effect on speaking ability	Mastery of Grammar and Pronunciation has an effect on Students' Speaking Ability in Aviation English	Learning Environment Affects Students' Speaking Ability in Aviation English
(Kurniawan, 2017)	Mastery of grammar and vocabulary has a positive impact on students' speaking skills.	Mastery of Grammar & Vocabulary affects Students' Speaking Ability in English.	Writing exercises have an effect on students' speaking skills in English.
(Shalihah, 2022)	Confidence, motivation has a positive and significant effect on Students' Speaking Ability in English.	-	Confidence, motivation has a positive and significant effect on Students' Speaking Ability in English.
(Thi, 2020)	Vocabulary and listening exercises have an effect on speaking skills in English	Vocabulary Affects Students' Speaking Ability in Aviation English	Listening Practice Affects Students' Speaking Ability in Aviation English

METHOD

This scientific essay employs qualitative research methods, specifically through a comprehensive study of existing literature, often referred to as library research. This approach involves a meticulous examination of theoretical frameworks and the analysis of correlations or impacts between various variables presented in books and journals. These sources are accessed both in traditional physical libraries and through digital platforms such as Mendeley, Google Scholar, and other online repositories. The qualitative research

methodology necessitates a consistent and structured engagement with library studies, adhering to established methodological principles to ensure rigor and validity.

One of the primary motivations for utilizing qualitative research is its exploratory nature (Nurdiansyah, 2022). This exploratory aspect is particularly valuable when delving into complex phenomena that require a nuanced understanding, such as the factors influencing students' speaking abilities in Aviation English. By systematically reviewing and synthesizing a wide range of literature, qualitative research enables the identification of patterns, relationships, and underlying themes that may not be immediately apparent through quantitative methods.

In this context, the literature review serves as a critical tool for uncovering insights into how variables like grammar mastery, vocabulary, and pronunciation impact students' communication skills in the aviation sector. It allows researchers to construct a coherent narrative that links theoretical concepts with empirical findings, thus providing a solid foundation for hypothesis development and future research directions. Moreover, the qualitative approach facilitates an in-depth exploration of the intricacies and subtleties inherent in language learning, which are often overlooked in more statistically driven studies.

Ultimately, by leveraging the strengths of qualitative research and library studies, this essay aims to contribute to a deeper understanding of the educational dynamics at play in Aviation English proficiency. It underscores the importance of a well-rounded and methodologically sound approach to exploring educational phenomena, thereby advancing the field and informing effective pedagogical practices.

RESULTS AND DISCUSSION

Based on the study of relevant theories and previous research, the discussion of *this literature review* article in the concentration of English education are: (1). The Effect of Grammar Mastery on Students' Speaking Ability in Aviation English. Grammar Mastery affects Students' Speaking Ability in Aviation English, where dimensions or indicators of Grammar Mastery such as sentence structure, word form and rich meanings affect the dimensions or indicators of Students' Speaking Ability in Aviation English, (Amrullah, 2022). To improve Students' Speaking Skills in Aviation English by paying attention to Grammar Mastery, what must be done by the management is to provide grammar special lessons on a regular basis and integrate grammar learning with speaking practice. Mastery of Grammar affects the Ability of Students to Speak in Aviation English, if the Mastery of Grammar is perceived well by the interlocutor, this will be able to improve the quality of clarity of communication, professionalism, especially the Ability to Speak Students in Aviation English. Grammar mastery affects students' speaking ability in Aviation English, this is in line with research conducted by (Kurniawan 2017; Amrullah, 2022; Bashori, 2022; Tarihoran, 2017; Wello, 2021). (2). The Effect of Vocabulary on Students' Speaking Skills in Aviation English Vocabulary affects the Students' Speaking Ability in Aviation English, where the dimensions or indicators of vocabulary are the breadth of vocabulary, the depth of vocabulary and the depth of context affect the dimensions or indicators of Students' Speaking Ability in Aviation English.

To improve students' speaking skills in Aviation English by paying attention to vocabulary, what must be done by management is the provision of learning materials such as vocabulary, the use of educational technology to conduct periodic evaluations of feedback. Vocabulary affects the Speaking Ability of Students in Aviation English, if the vocabulary is perceived well by listeners/consumers, this will be able to improve the quality of efficiency and confidence and this greatly affects the Speaking Ability of Students in Aviation English. Vocabulary has an effect on Students' Speaking Ability in Aviation English, this is in line with research conducted by: (Kusuma, 2018; Mubarak, 2019; Nahdiana, 2022). (3) The

Effect of Pronunciation on Students' Speaking Ability in Aviation English. Pronunciation affects the Student's Speaking Ability in Aviation English, where the dimensions or indicators of pronunciation are phonetic accuracy, intonation and fluency which affect the dimensions or indicators of Students' Speaking Ability in Aviation English.

To improve the Speaking Ability of Students in Aviation English by paying attention to Pronunciation, what must be done by the management is to provide phonetic and pronunciation training, use technology and tools and conduct periodic evaluations and feedback Pronunciation affects the Students' Speaking Ability in Aviation English, if the pronunciation is perceived well by listeners / consumers then this will be able to improve quality of message clarity, credibility and professionalism, communication efficiency and confidence in the Students' Speaking Skills in Aviation English. Pronunciation has an effect on Students' Speaking Ability in Aviation English, this is in line with research conducted by: (Brigitha, 2023; Ismanthono, 2019; Ellys Lestari Membayun, 2021).

This article's framework of thought can be outlined as follows, taking into account the problem formulation, theoretical studies, pertinent prior research, and the examination of the influence between factors. According to the conceptual framework, students' speaking proficiency in Aviation English is mostly determined by their command of syntax, vocabulary, and pronunciation. In particular, the framework postulates: Grammar Mastery (H1): Students' capacity to form correct and coherent sentences is greatly impacted by their knowledge of grammatical structures, and this improves their speaking skills overall. Vocabulary (H2): Students' verbal clarity and specificity are influenced by their extensive and accurate vocabulary, which is especially important when it comes to aviation-specific phrases.

Pronunciation (H3): Misunderstandings in aviation can have major repercussions, thus accurate pronunciation is crucial for understanding and productive communication. Together, these hypotheses (H1, H2, and H3) imply that better pronunciation, grammar, and vocabulary will result in increased speaking proficiency ($\varepsilon 1$) in Aviation English. Figure 1's conceptual framework offers an organised method for comprehending how various language elements interact and how they affect communication abilities in the aviation industry as a whole. It provides a basis for subsequent empirical study that aims to confirm these connections and provide guidance for successful teaching tactics.

Based on the information of *Conceptual framework* above, Mastery of Grammar, Vocabulary, and Pronunciation affects Students' Speaking Ability in Aviation English. Apart from these three exogenous variables that affect the Students' Speaking Ability in Aviation English, there are many other variables that affect it, including: Learning motivation (Amrullah, 2022; Shalihah, 2022), learning environment (Bashori, 2022), confidence and motivation: (Shalihah, 2022), listening exercises (Thi, 2020), writing exercises (Kurniawan, 2017) and vocabulary and writing skills (Suprayetno, 2023).

CONCLUSION

Based on the theory, relevant articles and discussions, a hypothesis can be formulated for further research are grammar mastery affects students' speaking ability in Aviation English. Vocabulary affects students' speaking ability in aviation English and pronunciation affects students' speaking ability in Aviation English. Based on the conclusion above, the suggestion in this article is that there are many other factors that affect the Speaking Ability of Students in Aviation English, apart from the Mastery of Grammar, Vocabulary, and Pronunciation at all types and levels of organizations or companies, therefore further studies are still needed to find out what other factors can affect the Speaking Ability of Students in Aviation English besides The variables that are researched in this article. Other factors such

as learning motivation, learning environment, confidence, writing practice, and listening practice.

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