Developing an Air Travel Picture Dictionary in Enhancing Vocabulary Mastery Among Air Transport Management Students: A Need Analysis

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Abstract
Proficiency in English, particularly in the specialized vocabulary of the aviation industry and air travel tourism, is crucial for effective communication and understanding. This study aims to explore the demand for an Air Travel Picture Dictionary among Air Transport Management students, addressing their specific linguistic challenges. Employing the first stage of the Research and Development (R&D) framework - Need Analysis, which is part of the Analysis, Design, Development, Implementation, and Evaluation (ADDIE) model, this research utilizes a mixed-methods approach. Data was gathered from 141 Air Transport Management students, selected through random sampling, and complemented by semi-structured interviews with lecturers and industry practitioners. The findings reveal a significant reliance on English within the aviation sector, with specialized terminology being particularly prominent and crucial. Despite acknowledging its importance, students identified gaps in their vocabulary skills, notably in pronunciation, word meaning, word-class identification, and spelling. While online resources like Google Translate and search engines are commonly used for assistance, along with support from instructors and peers, traditional general English dictionaries and reference materials are less favored. Specialized aviation dictionaries specifically catering to air travel are seldom used. There is a pronounced interest among students for a bespoke Air Travel Picture Dictionary. Such a resource, they suggest, should encompass comprehensive vocabulary listings, pronunciation guides, clear word definitions, word class categorization, and visually engaging thematic illustrations that reflect the air travel process. This tool is envisioned to not only enhance their vocabulary but also to aid in better understanding the practical aspects of air travel in the aviation industry.

Keywords: Air travel, English for a specific purpose, picture dictionary; need analysis; Air Transport Management

INTRODUCTION
Since the historic Chicago Convention in 1944, English has been recognized as the official language of aviation, a status that underscores its critical role in international air travel and safety. This decision was not merely symbolic; it was a response to the growing
need for a common linguistic framework in the skies, essential for ensuring clear communication in an increasingly interconnected world. Nearly five decades later, the International Civil Aviation Organization (ICAO) took a significant step in formalizing the use of English in civil aviation. In September 1994, the ICAO began specifically mandating English proficiency for pilots and air traffic controllers (ATC), acknowledging the unique and technical nature of communication in this field. This specialized form of English, commonly referred to as Aviation English, has since become a cornerstone of aviation communication and safety (Breul, 2013).

The impetus for this regulation by the ICAO can be traced back to a series of critical accidents attributed to miscommunication between pilots and ATCs. Fiset et al. (2023) have extensively documented these incidents, highlighting the tragic consequences of linguistic misunderstandings. These incidents not only underlined the importance of a common language but also propelled English to the forefront as the mandated lingua franca of the civil aviation industry. This historical backdrop sets the stage for our current exploration into the role and efficacy of English in aviation, specifically examining the need for innovative tools like an Air Travel Picture Dictionary to enhance comprehension and proficiency in Aviation English among Air Transport Management students.

Proficiency in English is not just desirable but essential. The field of air travel tourism, a critical component of the aviation industry, presents a unique linguistic challenge (Gössling & Peeters, 2007). Students in this field often struggle with the mastery of aviation-specific vocabulary. Their difficulties span understanding definitions, descriptions, pronunciation, and appropriately using these terms within the correct sentence context. This challenge becomes more pronounced in the stages of air travel tourism, encompassing everything from pre-departure to post-arrival experiences. This specialized vocabulary includes terms related to travel documents, equipment, airport and airline facilities, types of baggage, and various activities encountered in these environments. Recognizing this gap, the primary aim of this article is to explore and develop a model for a picture dictionary tailored to English in air transport management. This initiative falls under the broader English for Specific Purposes (ESP), which provides an effective framework for addressing the specialized linguistic needs of this field. As such, this study is not only an exploration of language use in aviation but also contributes to the material development aspect of language teaching and learning.

Correspondingly, Ezeh et al. (2022) emphasize the need for specialized reference materials. To enhance vocabulary mastery in this specific context, the development of a tailored dictionary is proposed. Such a dictionary would not only serve as an effective reference tool but also assist students in navigating and comprehending the intricate web of English terms used in air travel and transport management (Tono, 2012). The envisioned Picture Dictionary would thus be a significant step in bridging the linguistic gap in this specialized field, enhancing both the learning and practical application of Aviation English.

Previous research has demonstrated the effectiveness of picture dictionaries in aiding English language learning. Wright (1989) pointed out a key advantage of using pictures: they offer comprehensive visual representations of places, objects, or figures, providing a learning experience vastly different from text-based methods. Additionally, thematic picture dictionaries have been shown to enhance student literacy, as indicated by
studies from Ratminingsih et al. (2021), Suniyasih et al. (n.d.), and Wulandari et al. (2021). The use of pictures in learning materials serves multiple purposes. They not only illustrate and spark imagination but also make the learning process more engaging and enjoyable. Pešková (2008) notes that pictures are particularly effective because they mirror real-life experiences, capture learners’ attention, and offer diverse learning opportunities.

In the realm of English for Specific Purposes (ESP), the use and development of dictionaries have been a subject of keen interest among researchers. For instance, Prayudi et al. (2019) conducted a study using a Research & Development (R&D) design to create a tourism accounting terminology dictionary. This dictionary, tailored to specific working contexts, industry groups, and types of financial reports, proved to be valid, practical, and effective in enhancing both students’ and practitioners’ learning experiences in Tourism Accounting.

Acknowledging the need for more innovative and efficient reference materials, Rohani & Suyono (2021) developed an Android mobile-based glossary for Business Administration and Accounting. This bilingual e-glossary, created using the Design and Development Research (DDR) method, includes terms used in business administration and accounting, complemented by relevant pictures. This digital glossary has been recognized as interesting, user-friendly, and significantly supportive of students’ learning. Such developments underscore the growing recognition of visual aids in language learning, particularly in ESP. The success of these projects provides a strong foundation for developing a specialized picture dictionary for Air Transport Management, potentially revolutionizing the way students engage with and master Aviation English.

However, there is a notable gap in educational resources for aviation, particularly in the development of picture dictionaries focused on air transport management and air travel tourism. This picture dictionary is anticipated to enhance vocabulary knowledge in aviation, especially air travel tourism, and assist students in mastering English for professional aviation contexts. Recognizing the need for this educational tool, this study embarks on a need analysis, as defined by Pica (2002) and Jeczelewski (2016) to determine the specific linguistic needs of learners. The primary objective is to assess the demand for a Picture Dictionary of English for Air Travel, aiming to support Indonesia’s expanding aviation sector and set a standard for similar resources globally.

**METHOD**

This study, conducted as part of a Research and Development (R&D) framework, specifically focuses on Need Analysis, the first of the five stages in the ADDIE model (Analysis, Design, Development, Implementation, and Evaluation) as outlined by Kurt (2015). The primary objective of this Need Analysis is to assess the requirement for a Picture Dictionary of Air Travel that addresses existing challenges in the field. Employing a mixed-method approach, as suggested by Rao (2003) and Creswell (2014), this study integrates both qualitative and quantitative data for a comprehensive analysis. The quantitative data was collected through an online questionnaire distributed via Google Form to 141 students from an Air Transport Management program at an Aviation college in Yogyakarta. These students, comprising 84 females and 57 males, had completed at least their first year of study and were selected using random sampling. The questionnaire, drawing inspiration from previous literature (Rohani & Suyono, 2021; Waters &
Hutchinson, 1991), included a mix of closed questions with Likert-scale responses and open-ended questions for more detailed feedback (Cohen et al., 2018).

To enhance the data set, qualitative insights were gathered through semi-structured interviews with two non-English lecturers and three practitioners from various aviation sectors. These interviews aimed to understand the target and learning needs, focusing on vocabulary and specific terminology in aviation. Both the questionnaire and interview formats were peer-reviewed to ensure content validity, following guidelines by Brod (2009) and Mahajan (2017). This process involved refining unclear questions and removing ineffective ones based on expert feedback. Moreover, an Analysis of the questionnaire responses was conducted using SPSS 22 to produce descriptive statistical interpretations like frequency and percentage. The interview data were analyzed as per the method outlined by Miles & Huberman in Sugiyono (2014), involving data reduction, display, and conclusion/verification. The results from both the questionnaire and interviews were then compared to identify correlations or discrepancies, thereby providing a holistic view of the need for the proposed Picture Dictionary in the aviation sector.

FINDING AND DISCUSSION
Students’ Necessity

To evaluate students’ perceptions of the need to learn English and specialized vocabulary within aviation, a set of closed questions was administered using a Likert scale ranging from 1 to 4. This approach assessed the students' views on the significance of English for aviation and their grasp of specialized aviation terminology.

Table 1. Necessity to learn English and specialized vocabulary

<table>
<thead>
<tr>
<th>No</th>
<th>Aspects</th>
<th>Unimportant</th>
<th>Slightly Important</th>
<th>Important</th>
<th>Very Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Importance of English in Aviation Industry</td>
<td>0%</td>
<td>3.5%</td>
<td>7.1%</td>
<td>89.4%</td>
</tr>
<tr>
<td>2</td>
<td>Importance of Vocabulary or Specialized Terms</td>
<td>0%</td>
<td>4.3%</td>
<td>27.7%</td>
<td>68.1%</td>
</tr>
<tr>
<td>3</td>
<td>Intensity of Vocabulary or Specialized Terms</td>
<td>2.1%</td>
<td>8.5%</td>
<td>40.4%</td>
<td>48.9%</td>
</tr>
</tbody>
</table>

The questionnaire revealed significant insights into students’ perceptions of the importance of English and specialized vocabulary in the aviation industry. Firstly, the overwhelming majority of students, accounting for 89.4%, acknowledged the critical importance of English in the aviation industry by rating it as "Very Important." This strong consensus underscores the pivotal role of English in aviation, aligning with global standards and practices in the field. Additionally, the importance of mastering specialized vocabulary was also highly recognized, with 68.1% of respondents rating it as "Very Important" and 27.7% as "Important," indicating a clear understanding among students of the need for specific linguistic skills in aviation. Furthermore, when it came to the intensity of specialized terms used within the sector, nearly half of the students (48.9%) felt that it was "Very Important," while 40.4% considered it "Important." These responses reflect a substantial appreciation among the student cohort for the depth and complexity of aviation terminology, further highlighting the necessity for focused linguistic training in this specialized area. The indispensable role of the English language extends beyond the
confines of Air Transportation coursework and extends to professional environments, particularly within the civil aviation industry. The lecturers and practitioners also shared the same opinions:

“English is absolutely essential and holds a predominant role, particularly in reservation-related aspects such as passenger names, itineraries, service details, etc. and the entirety of documents or issued tickets—all of which are presented in English.”

(Practitioner 1)

“English is important for officers working in the field of air travel, with active utilization of English most frequently observed in immigration and tourist information service. Specialized English vocabulary and terminology play a substantial role, encompassing aspects such as regulations, types of travel documents, information specified on documents, and categorization of goods as seen in Customs, for instance.”

(Lecturer 2)

The significance of English proficiency in the air transport sector, particularly for airport staff, has been well-documented in previous research (Cahyani & Drajati, 2017). These studies highlight that insufficient English language skills can hinder job performance and communication capabilities in this field. Further emphasizing this point, Rahmadani et al. (2023) found that for passenger-handling officers, a lack of confidence in using English, especially when servicing international passengers, is a notable concern. This issue stems from the integral role that English plays in the aviation industry, where it is the primary medium of communication within airlines and airports and is crucial in understanding both domestic and international aviation regulations. Therefore, it is imperative for professionals in these sectors, particularly those in operational roles, to be proficient in specialized aviation vocabulary. This necessity extends to individuals currently undergoing training or education in aviation-related fields, underscoring the importance of acquiring specific aviation terminology to ensure future career readiness and effective communication in the global aviation environment.

Students’ Lacks

The research findings indicate that students have a decent understanding of air travel procedures and required documentation, as reflected in their written responses. However, when it comes to the specialized knowledge expected of them in their prospective roles within the aviation industry, particularly in air travel contexts, there is a noticeable deficiency. This gap in understanding, especially in the areas of vocabulary and specialized terminology critical to the field, has been corroborated by feedback from lecturers and industry practitioners during interviews.

Table 2. Specialized Vocabulary Mastery

<table>
<thead>
<tr>
<th>No.</th>
<th>Topic</th>
<th>Very Poor</th>
<th>Poor</th>
<th>Good</th>
<th>Very Good</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ticketing and Reservation</td>
<td>0.0%</td>
<td>0.0%</td>
<td>58.6%</td>
<td>41.4%</td>
</tr>
<tr>
<td>2</td>
<td>Check-in</td>
<td>0.0%</td>
<td>0.0%</td>
<td>58.5%</td>
<td>41.5%</td>
</tr>
<tr>
<td>3</td>
<td>Airport Security</td>
<td>2.4%</td>
<td>1.7%</td>
<td>56.1%</td>
<td>39.8%</td>
</tr>
<tr>
<td>4</td>
<td>Prohibited Items and Dangerous Goods</td>
<td>5.6%</td>
<td>3.9%</td>
<td>52.9%</td>
<td>37.6%</td>
</tr>
<tr>
<td>5</td>
<td>Boarding</td>
<td>3.4%</td>
<td>2.4%</td>
<td>55.2%</td>
<td>39.0%</td>
</tr>
<tr>
<td>6</td>
<td>Aircraft Cabin</td>
<td>7.3%</td>
<td>5.1%</td>
<td>51.2%</td>
<td>36.4%</td>
</tr>
<tr>
<td></td>
<td>Service</td>
<td>Very Good</td>
<td>Good</td>
<td>Very Good</td>
<td>Good</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------</td>
<td>----------</td>
<td>--------</td>
<td>----------</td>
<td>--------</td>
</tr>
<tr>
<td>7</td>
<td>Baggage Claim</td>
<td>5.0%</td>
<td>3.5%</td>
<td>53.5%</td>
<td>38.0%</td>
</tr>
<tr>
<td>8</td>
<td>Lost and found</td>
<td>7.5%</td>
<td>5.3%</td>
<td>51.1%</td>
<td>36.2%</td>
</tr>
<tr>
<td>9</td>
<td>Immigration</td>
<td>5.5%</td>
<td>3.8%</td>
<td>53.0%</td>
<td>37.7%</td>
</tr>
<tr>
<td>10</td>
<td>Customs</td>
<td>5.0%</td>
<td>3.5%</td>
<td>53.5%</td>
<td>38.0%</td>
</tr>
<tr>
<td>11</td>
<td>Customer Service</td>
<td>2.5%</td>
<td>1.8%</td>
<td>56.0%</td>
<td>39.7%</td>
</tr>
</tbody>
</table>

The research findings predominantly indicate a high level of confidence among students in their proficiency across various aviation service areas. Notably, a substantial majority of students perceive their skills as 'Good' or 'Very Good' in key domains. For instance, in 'Ticketing and Reservation', a significant 41.4% rate their skills as 'Very Good', and 58.6% as 'Good'. This trend of strong confidence is similarly reflected in 'Check-in' procedures, where 41.5% of students feel their skills are 'Very Good', and 58.5% rate them as 'Good'. Moreover, in 'Airport Security', a considerable 39.8% of students consider their skills 'Very Good', with 56.1% rating them as 'Good'. The 'Prohibited Items and Dangerous Goods' category also sees a majority feeling confident, with 37.6% rating their skills as 'Very Good' and 52.9% as 'Good'. The 'Boarding' process follows this pattern, with 39.0% of students feeling 'Very Good' about their skills and 55.2% rating them as 'Good'.

Similarly, in the 'Aircraft Cabin' area, 36.4% of students rate their skills as 'Very Good', and 51.2% as 'Good'. The 'Baggage Claim' area shows a strong sense of proficiency among students, with 38.0% considering their skills 'Very Good' and 53.5% as 'Good'. In 'Lost and Found' services, 36.2% rate their skills as 'Very Good', and 51.1% as 'Good'. Regarding 'Immigration' and 'Customs' services, a significant proportion of students feel adept, with 37.7% rating their skills in 'Immigration' as 'Very Good' and 53.0% as 'Good', while in 'Customs', 38.0% feel 'Very Good' about their skills and 53.5% rate them as 'Good'.

Finally, in 'Customer Service', a notable 39.7% of students feel 'Very Good' about their skills, and 56.0% rate them as 'Good'. Furthermore, these findings clearly suggest that the majority of students are confident in their abilities across various sectors of aviation services, indicating a strong foundation in their educational preparation in these areas. In the interviews, the participants agreed that mastering the specific vocabulary can help the students comprehend the general concept of Air Travel procedures.

"Proficiency in specific terminology and English vocabulary forms the foundational knowledge required for inputting passenger data into reservation system as well as reservation and ticketing in a broader concept." (Practitioner 2)

The findings presented in the following sections reveal the challenges students face when acquiring vocabulary and terminology associated with air travel, as well as their utilization of the available learning tools or resources.
Figure 1. Problems in Vocabulary Learning

Figure 1 shows that most students (61.0%) encountered difficulties correctly pronouncing words related to air travel. This issue reflects a phonological challenge in language acquisition, which is common when learning a foreign language, especially when learning specialized terminology. Approximately half of the students (49.6%) struggle with understanding or defining words or phrases. This challenge points to issues in semantic comprehension, where students may need help grasping the meanings and contextual usage of specific terms. Additionally, a significant portion (41.8%) finds distinguishing word classes, such as nouns, adjectives, and verbs, challenging. It indicates a challenge in morphological awareness, where students may struggle with recognizing the grammatical characteristics of words. Furthermore, about a third of students (34.75%) experience difficulties correctly writing or spelling words or concepts. It points to orthographic challenges, where students may need help with the written representation of terms. In addition, all the lecturers in the interviews admitted that students tend to lack pronunciation and knowledge of meaning.

“Frequently, students struggle with accurate pronunciation and recall of vocabulary. Additionally, when questioned about specific terms, they encounter difficulty articulating their meanings.” (Practitioner 3)

“In general, students understand the procedures of making travel papers. Nonetheless, students continue to mispronounce English and technical vocabulary; for example, ‘passport’ is pronounced ‘password’ /ˈpɑːs.wɜːd/ and face difficulties when attempting to define a vocabulary in their own language.” (Lecturer 2)

To address these challenges, students use various learning resources, from most to least used, respectively, as displayed in Figure 3. The most frequently used resource is Google Translate (82.3%). Search engines (56.7%) are also commonly employed for additional contextual information and clarification. Then, students seek assistance from colleagues (46.1%) and lecturers (32.6%), especially during the lectures. General English dictionaries (29.1%) and reference books (23.4%) are used but to a lesser extent,
suggesting that students resort to more general language references when specialized aviation dictionaries still have room for improvement. Specialized aviation vocabulary dictionaries (21.3%) are the least accessed.

“Up to this point, students have primarily utilized materials such as books or handouts created by me.” (Practitioner 1)

“I often tell students that they can Google unfamiliar terms, but they often come across terms that do not match the aviation world. Therefore, I often tell them that, if possible, they should cross-check with their teacher or lecturer about the term, or they can also cross-check with practitioner lecturers.” (Practitioner 3)

“Typically, students ask directly, and I provide explanations. No extra resources, such as glossaries/dictionaries, have been used in class thus far, aside from the mandatory reference books I utilize. However, students are permitted to consult references from various sources. For regulatory information, official websites are mostly recommended, with the exception of platforms like Blogspot.” (Lecturer 1)

Figure 2. Available Resources

The bar graph presents the percentage of respondents who utilize various resources to access aviation vocabulary. The most popular resource is "Access Google Translate," used by 82.27% of respondents, indicating a strong preference for this tool. The second most used resource is "Access Search Engines (Google, Yahoo, etc.)," with 56.74% of respondents relying on it for vocabulary access. Consulting friends is another common method, with 46.10% of respondents choosing this option, while 32.62% of respondents ask lecturers for assistance. The use of a "Consult General English Dictionary" is less common, with only 29.08% of respondents using this resource. A smaller percentage of respondents use more specialized resources; "Read Reference Books" is used by 23.40% of respondents, which suggests a moderate engagement with in-depth written materials. The least utilized resource is "Consult Specialized Aviation Dictionary," with only 21.28% of
respondents reporting its use. This data may indicate a gap in the availability or awareness of specialized aviation dictionaries among the respondents.

**Students’ Wants**

Table 3 illustrates that most students (87.9%) perceive a specialized air travel vocabulary dictionary as highly useful. This high level of perceived need underscores the recognition among students of the dictionary's value as an extra reference. In other words, this reflects the students' recognition of the dictionary’s utility as a supplementary tool for learning and comprehending air travel terminology.

<table>
<thead>
<tr>
<th>Aspects</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very unneeded</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Unneeded</td>
<td>17</td>
<td>12.1%</td>
</tr>
<tr>
<td>Needed</td>
<td>58</td>
<td>41.1%</td>
</tr>
<tr>
<td>Very Needed</td>
<td>66</td>
<td>46.8%</td>
</tr>
</tbody>
</table>

Based on the interview findings, it is anticipated that the picture dictionary can serve as an additional resource for both educators and practitioners, assisting them in enhancing students' comprehension of vocabulary related to specific topics.

“I aspire that the developed book later can be beneficial to me as well.” (Practitioner 1)

This echoes the studies by Tong et al. (2021) that show that dictionaries can help students learn new words and unexceptionally specialized vocabulary. To further enhance their understanding, students express a need for specific components in the dictionary. These components, orderly from the most selected, include vocabulary, pronunciation, definition, word class, and visualization, as displayed in Figure 3 below.

Figure 3. Dictionary Components

Vocabulary, or the word itself, is the main component that forms the foundation of the dictionary and provides students with the essential terms and phrases they need to
grasp. As the fundamental and smallest unit of language, the dictionary is also the foundation for efficient communication when learning a second language (Afzal, 2019; Suniyasih et al., 2020) which includes pronunciation guides and word meanings to assist students in both articulating the terms correctly and comprehending their significance. Classification of word classes, such as nouns, for various contexts (e.g., processes, places, tools, documents) helps students understand the roles and applications of these terms. Finally, including visual aids, such as illustrations and visualizations that demonstrate items, drawings, and actions, plays a crucial role in enhancing students' understanding, allowing for the creation of a direct link between an item and a foreign term without the need for a mother tongue. A study mentioned that when a lexical unit refers to a specific item, visual presentation might be quite useful in Aviation English (Tokar & Fainman, 2019). Visuals provide context, helping students relate terms to real-world situations and concepts.

The following findings in this study reveal specific preferences and requirements of students regarding the presentation and content structure of an air travel vocabulary dictionary. As displayed in Figure 4, the majority of students prefer colorful illustrations in the vocabulary dictionary (56.7%). Colorful visuals can enhance the visual appeal of the dictionary, making it more engaging and memorable for students. In aviation terminology, using color can also help differentiate and highlight important concepts, aiding in comprehension and recall which corresponds with research findings by Zakiyuddin et al. (2022) indicating that including colored line drawings and pictures considerably improves meaning comprehension when compared to vocabulary lists without illustration. The result of the questionnaire resonates with one of the interview results, saying that

“This dictionary would be very useful if it can provide colorful illustrations and consider the real situation and condition of the real world. So, the students can depict reality.” (Practitioner 3)
Furthermore, in Table 5, most students (72.3%) desire the dictionary to be structured according to topics corresponding to the sequence of the air travel procedure. In the context of air travel, organizing vocabulary based on the line of techniques aligns with how students would encounter and apply this knowledge in real-world situations, making it more practical and applicable. One of the good qualities of the picture dictionary by Zhao and Xu (2022) is that it is organized thematically rather than alphabetically.

The thematic 2-dimensional visual illustration is strongly inclined (70.9%), as presented in Figure 6. This preference also aligns with pedagogical theories emphasizing the importance of contextual learning that thematic images representing real-world situations can provide students with a context for the vocabulary they are learning (Chinn, 2011; Ratminingsih et al., 2021; Suniyashih et al., 2020; Wulandari et al., 2021). In addition, it also supports Sun's (2015) claim that the context of learning can help us understand and utilize the words correctly.

The study reveals that students display specific preferences in their learning process, indicating a conscious awareness of their educational needs. This aligns with Nunan's (1997) concept of the second level of autonomous learning, known as the involvement level. According to Nunan, at this stage, learners are capable of choosing not only their materials but also the manner in which these materials are presented. During the needs analysis for a picture dictionary, students actively engaged in selecting the structure and visual layout of the dictionary. This engagement demonstrates that the students have a
clear understanding of their learning preferences, reflecting a level of autonomy in their educational journey.

“That’s excellent; it provides an opportunity for independent learning. With this book, they can learn on their own without having to ask teachers or lecturers. So, it's very important to "force" them to learn independently at home so that when they are in class, they are ready with the material. This book is excellent because it gives students the opportunity to learn on their own.” (Practitioner 3)

Interviews with lecturers shed light on various discussion topics, including the role of picture dictionaries in fostering independent study among students. One practitioner highlighted the picture dictionary as a tool that empowers students to learn on their own. This perspective aligns with Ariebowo’s (2021) findings that students prefer materials that facilitate independent learning. Specifically, the visual element in the dictionary aids students in grasping the meanings of terms or words without the need for teacher intervention. Therefore, it is crucial that the images in the dictionary are designed to clearly illustrate the meanings of the terms, enabling students to understand them effortlessly on their own.

CONCLUSION

Students recognize English as essential to the aviation industry, emphasizing a strong necessity to learn it, particularly the specialized terminology that is prevalent and considered critical for professional communication. The research identifies specific areas where students feel they lack proficiency, including the pronunciation and comprehension of aviation terms, as well as identifying word classes and spelling accurately. These challenges could potentially affect their future effectiveness in the aviation field. As a solution, students mainly turn to online tools like Google Translate and general search engines for immediate assistance and, to a lesser extent, seek help from instructors and peers. Interestingly, traditional resources such as general English dictionaries are not as favored, and specialized aviation dictionaries are even less so, indicating a possible disconnect between available materials and student needs. Consequently, there is a clear and strong demand for a bespoke air travel vocabulary dictionary. Students express a preference for a resource that includes comprehensive vocabulary lists, pronunciation guides, clear word definitions, categorization by word class, and visual illustrations. They desire a dictionary that is not only educational but also visually appealing, with thematic illustrations that reflect the chronological journey of air travel. This conclusion points towards the necessity for developing such a dictionary to support the specific learning needs of aviation students effectively.

The study's findings emphasize the critical importance that students place on proficiency in English and specialized aviation vocabulary, recognizing their significant impact on academic success and professional advancement within the aviation industry. The strong demand for tools to aid in mastering aviation-specific terms points to a clear need for a specialized vocabulary dictionary. Such a resource would not only enrich students’ learning experiences but also bolster their future career prospects in the aviation field.
Moreover, the research suggests there is potential for further development of picture dictionaries tailored to different facets of the aviation industry, including airport operations, airline management, and logistics. This opens up numerous opportunities for English for Specific Purposes (ESP) material developers to create resources that cater to the evolving needs of the industry and its learners.

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REFERENCES


