COGNITIVE ANALYSIS OF AVIATION TERMS ACROSS LANGUAGES

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Annotation. This thesis discusses how aviation terms are understood across different languages from a cognitive perspective. The study focuses on how people use their background knowledge, experience, and thinking processes to understand aviation vocabulary. It also looks at how differences between languages can influence the way these terms are interpreted. In some cases, direct translation does not give the exact meaning, which may lead to misunderstanding. The findings show that learners understand aviation terms better when they are presented in context, such as real communication situations.

Key words: cognitive linguistics, aviation terminology, multilingual communication, ESP, aviation English.

Modern aviation communication relies on the correct application of technical vocabulary - most of which is in English. English has become the standard language of international aviation so pilots, air traffic controllers, and other professionals in other countries can communicate without difficulty. Yet in the real world, many of these professionals are using English as a second or even third language. Misinterpreting even one term can have devastating consequences, both linguistically and safety-wise. For instance, a pilot who misunderstands the instruction *"climb to flight level 180"* might incorrectly interpret the altitude and fail to reach the assigned level on time. Similarly, confusion between the commands *"taxi to runway"* and *"hold short of runway"* can create dangerous situations on the ground. [4,80] These examples show that even simple terms can have critical implications if they are not fully understood.

One of the main difficulties arises from the fact that aviation terminology is not always intuitive for non-native speakers. Many terms have specific meanings that differ from their general usage in everyday English. [1,34] For example, the word hold in daily language may mean *"to keep something,"* but in aviation it refers to a specific maneuver where an aircraft flies a predetermined pattern while waiting for further instructions. Learners often rely on their prior experiences and mental images to interpret such terms, which can sometimes lead to partial or incorrect understanding.

Learning language involves perception, memory, association, and interpretation. Learners tend to associate new information with what they already know. If a student hears the word descend, they might imagine an elevator going down or a bird flying lower. [2,98] If they are not seeing accurately, for example, if they're seeing a slow speed rather than a controlled rate of descent, they may not receive the instruction properly. Cross-linguistic differences also play a significant role in how aviation terminology is perceived. Not all languages express meaning in the same way, and direct translation may not fully reflect the original concept. For example, in some languages, there is no exact equivalent for the phrase "maintain heading," which in aviation means to continue flying in a specific direction. A learner might translate it word-for-word and interpret it as *"keep your position,"* which changes the intended meaning. Another example can be seen with the term *"cleared for takeoff."* Some learners mistakenly associate the word cleared with "cleaned" instead of "authorized," which may lead to confusion.

Another important factor in understanding aviation terminology is context. Studies and practical observations show that terms are learned more effectively when they are presented in realistic communication settings. For instance, when students listen to an actual dialogue such as:

Controller: *"Flight AZ123, descend to 5000 feet."*

Pilot: *"Descending to 5000 feet, AZ123*". [5,122]

they can see how the term descend is used in a real interaction. Similarly, role-play activities where one student acts as a pilot and another as an air traffic controller allow learners to practice using terminology actively. Flight simulators also provide valuable experience by combining visual, auditory, and situational elements, helping learners connect language with real actions.

In addition, comparing correct and incorrect usage can improve understanding. For example:

Incorrect: *"Go down to 5000"*

Correct: *"Descend to 5000 feet"*

This comparison helps learners recognize the importance of standard phraseology in aviation communication. [1,38]

Emotional and psychological factors should also be considered. In high-pressure situations, such as emergency communication, even well-trained professionals may experience stress that affects their comprehension. For example, a pilot under stress might mishear *"turn left heading 270"* as *"turn right heading 270."* This highlights the importance of repeated practice and familiarity with standard expressions. [3,53]

They also suggest that aviation English instruction should involve more than just vocabulary study. It should include activities designed to increase learning, both cognitive and practical, such as reviewing real flight audio records, identifying the most common terms, and discussing their meaning. Students could also use their learning in solving problems such as finding miscommunication or interpreting directions. Diagrams of flight paths or holding patterns could be helpful to aid understanding. In addition, instructors should consider learners' linguistic backgrounds. [6,138] For example, teachers can highlight differences between English aviation terms and their equivalents in the learners' native language, explaining potential areas of confusion. This helps learners build a more accurate and reliable understanding of terminology.

In conclusion, the understanding of aviation terminology across languages is a complex process influenced by cognitive mechanisms and individual linguistic backgrounds. Real-life examples demonstrate that misunderstandings can occur at different levels, from vocabulary interpretation to contextual usage. Therefore, a teaching approach that combines theoretical knowledge, practical application, and cognitive development is essential. Such an approach not only improves language proficiency but also enhances safety and efficiency in aviation communication.

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