

2. Hobbs R., Jensen A. The Past, Present, and Future of Media Literacy Education. *Journal of Media Literacy Education*, 2013. 1(1). <https://doi.org/10.23860/jmle-1-1-1>.

3. Nykyporets S. S., Melnyk O. D., Ibrahimova L. V., Boiko Yu. V., Kulkharchuk H. V. Fostering critical thinking in technical university students in foreign language classes: strategies and approaches for cultivating analytical proficiency. *Вісник науки та освіти. Серія «Педагогіка»*. 2023. № 8(14). С. 344–360. [https://doi.org/10.52058/2786-6165-2023-8\(14\)-344-360](https://doi.org/10.52058/2786-6165-2023-8(14)-344-360)

4. Nykyporets S. S., Melnyk O. D., Ibrahimova L. V., Hadaichuk N. M., Derun V. H. Advancing critical thinking skills among higher education students through English language instruction: contemporary approaches and strategies. *Перспективи та інновації науки. Серія «Педагогіка»*. 2024. № 1(35). Pp. 34–45. DOI: [https://doi.org/10.52058/2786-4952-2024-1\(35\)-34-45](https://doi.org/10.52058/2786-4952-2024-1(35)-34-45).

5. Nykyporets S. Utilizing a case study approach to foster critical thinking in foreign language teaching for masters in power engineering. Collection of scientific papers «ΛΟΓΟΣ», Cambridge, August 18, 2023. P. 191–196. DOI: <https://doi.org/10.36074/logos-18.08.2023.54>.

6. Zrnc A., Požnen M., Lavbič D. Users' ability to perceive misinformation: An information quality assessment approach. *Information Processing & Management*. 2022. Vol. 59, Issue 1. DOI: <https://doi.org/10.1016/j.ipm.2021.102739>.

DOI <https://doi.org/10.36059/978-966-397-502-3-92>

Radul S. H.,

*Candidate of Pedagogic Sciences, Associate Professor,
Associate Professor at the Department of Professional
and Aviation Language Training
Ukrainian State Flight Academy
Kropyvnytskyi, Ukraine*

BARRIERS TO VERBAL COMMUNICATION IN AVIATION SAFETY

Effective communication has consistently been identified as crucial factor in all areas of human interaction. It plays a vital role in organizational and managerial performance, contributing to success in any field, including within the aviation industry. Numerous studies highlight the critical role of communication in aviation safety.

Young emphasized this link, stating that: «The overall objective is to prevent accidents through improved communication in air carrier operations, and keep safety at the highest possible level» [6, p. 14].

Neville points out the crucial role of communication in aviation incidents and accidents, emphasizing its significance :«...communication is especially critical, because it is typically through communication that other human factors are actually realized or made possible across members of crew, such as information gathering and sharing, planning, leadership, decision-making, and identification and management of errors and problems» [4, p. 5].

Sexton and Helmreich argue that communication is of great importance for flight safety and efficiency, as the crew must exchange information, issue orders, acknowledge commands, conduct briefings, make callouts, and ask questions [5].

Communication-related issues have represented significant portion of NASA's Aviation Safety Reporting System (ASRS) database since it was established. Between 1976 and 1981, the first five years of the reporting system, over 70% of the reports submitted to the ASRS were either directly or indirectly connected to communication problems [1]. The Tenerife disaster, the deadliest crash in aviation history, can largely be attributed to communication failures. Other notable accidents, such as the Avianca crash near JFK's Jamaica Bay and the 1995 American Airlines crash in Columbia, were also partly caused by communication issues. In fact Flight Safety Information reports that «Between 1976 and 2000, more than 1100 passengers and crew lost their lives in accidents in which investigators determined that language barriers had played contributory role» [2, p. 12].

Kanki and Palmer outline comprehensive framework for the functions of communication in aviation safety, which includes: 1) providing information; 2) fostering interpersonal relationships; 3) promoting predictable behavior patterns; 4) sustaining focus on tasks and monitoring; and 5) serving as tool for management [3, p. 112].

It is significant to identify and comprehend the barriers to verbal communication in aviation safety. The characteristics of language and its usage often result in misunderstandings, which can be attributed to five main barriers: lack of shared experience, confusion between the symbol and the object it represents, excessive use of abstractions, and external factors or interference.

Lack of Shared Experience

The lack of shared experience between the communicator (instructor) and the receiver (learner) is likely the most significant obstacle to effective communication. Communication can only be effective to the degree that the experiences (physical, mental, and emotional) of the participants are similar. The learner's previous experiences with the words and concepts being referenced determine how the learner will respond to what the instructor says. An instructor's words can only convey the intended meaning if the

learner has some familiarity with the objects or concepts those words represent. Since learner's experiences shape their vocabulary, it is crucial for instructors to speak the same language as the learners.

Confusion between the Symbol and the Object it Represents

Confusion arises when a word is mistaken for the object it represents. While it's clear that words and their associated meanings can differ, people sometimes fail to recognize this distinction. For example, an aviation maintenance technician (AMT) might be called a mechanic. To many, the word «mechanic» brings to mind someone working on cars. Referring to the person as an «aircraft mechanic» might improve the perception, but neither term fully captures the expertise and training of an AMT. Words and symbols don't always convey the same meaning to everyone. To communicate effectively, speakers and writers must consider potential misunderstandings. Choosing the right words and symbols helps ensure that the message is understood as intended.

Excessive Use of Abstractions

Abstractions are words that are general rather than specific. Concrete words or terms, on the other hand, refer to things that people can directly connect with their own experiences. These words or terms describe ideas that can be perceived or objects that can be visualized. Abstractions, however, represent ideas that cannot be directly experienced and do not evoke clear mental images. For example, the word «aircraft» is an abstract term. It does not bring to mind specific type of aircraft. One person might imagine an airplane, while another might think of a helicopter, and yet another might picture an airship. While abstractions should generally be avoided, there are times when they are necessary and helpful. For instance, «aerodynamics» applies to all aircraft and serves as an abstraction that helps in understanding flight characteristics. The issue with abstractions is that they may not trigger the same specific images or experiences in the minds of learners as the instructor intends. When using such terms, it's important to connect them with concrete experiences through examples and illustrations.

External Factors

Some obstacles to effective communication can be managed by the instructor, while others are external factors beyond their control that hinder the proper execution of process or activity. These factors may involve physiological, environmental, and psychological aspects. To ensure effective communication, the instructor should take these factors into account and minimize their impact whenever possible.

External physiological factors include biological conditions such as hearing loss, injury, physical illness, or congenital conditions. These physiological issues may cause discomfort for the learner and hinder communication. The instructor should adjust their approach to help the learner feel more comfortable and be more open to new ideas. Adaptations

could be as simple as postponing lesson until the learner has recovered from an illness.

Environmental external factors are influenced by external physical conditions. A prime example of this is the noise level in many light aircraft. Not only does noise hinder communication, but it can also lead to long-term hearing damage. A potential solution to this issue is the use of headphones and an intercom system.

A psychological external factor arises from the emotions of both the instructor and the learner during the communication process. If either the instructor or the learner is not fully engaged in the communication, it can hinder effective interaction. Anxiety or distrust between the two parties can interfere with communication, significantly disrupting the exchange of information.

Interference

Interference happens when the message is disrupted, cut off, or altered during the communication process. Even though the sender or receiver may think the message has been transmitted and received clearly, this assumption may be incorrect. Noise and other elements can also distort the message.

Thus, effective communication plays crucial role in aviation safety, whether it involves interactions within the cockpit, between the cabin crew, maintenance teams, or communication between the flight deck and other aviation sectors. Teaching effective communication is key component of aviation safety training for everyone involved in this field. While it may be impossible to completely eliminate the risk of communication breakdowns leading to incidents or accidents, the risk can be significantly reduced by raising awareness of the importance of clear communication. By integrating this awareness into our mindset and adopting proactive communication approach, we can incorporate effective communication practices into every aspect of aviation safety. Additionally, identifying and understanding the barriers to communication further improves the exchange of ideas between instructors and learners.

Bibliography:

1. Billings C. E., Reynard W. D. Dimensions of the information transfer problem. In C. E. Billings & E. S. Cheaney (Eds.), *Information transfer problems in the aviation system* (NASA Technical Paper 1875; pp. 9–15). Moffett Field, CA: NASA-Ames Research Center, 1981.
2. Flight Safety Information. Language proficiency requirements. *Flight Safety Information Quarterly Journal*, 2004. <http://www.fsinfo.org/docs/FSI%202Q04.pdf> (Electronic version retrieved May 1, 2007)
3. Kanki B. G., Palmer M. T. Communication and crew, resource management. In E. Wiener, B. Kanki, & R. Helmreich (Eds.), *Cockpit resource management*, 1993. Pp. 99–136.

4. Nevile M. Communication in context: a conversational analysis tool for examining recorded data in investigations of aviation occurrences. ATSB Research and 33 Analysis Report B2005/0118, ACT Australia. <http://www.atsb.gov.au/publications/2006/pdf/B20050118.pdf> (Electronic version retrieved March 6, 2007)

5. Sexton B.J., Helmreich R.L. Analyzing cockpit communication: the links between language, performance, error, and workload. *Human Performance in Extreme 34 Environments*. 2000. 5. Pp. 63–68. <http://homepage.psy.utexas.edu/HomePage/Group/HelmreichLAB/Publications/pubfiles/pub243.pdf> (Electronic version retrieved April 25, 2007).

6. Young L. B. Communications and pilot/flight attendant crew performance. *The CRM Advocate*, 1994. P. 94. http://s92270093.onlinehome.us/crmdevel/resources/crmadvocate/94_1/94_1/htm (Electronic version retrieved November 12, 2004).