COMMUNICATION IN AVIATION MAINTENANCE

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The public and specialists often consider the human failure to be a consequence of errors caused by a human factor for many reasons. However, it is necessary to notice that the notion " human factor" does not express only errors connected with the human failure but it covers other notions such as workplace safety, environment influence, psychical readiness, etc. Generally, the "human factor" can be defined as a part of professional maturity of each worker and is based on knowledge of physical, psychical and social factors which create a security culture in aviation. From the point of view of theorists, the human factor is an applied sociological – biological science discipline investigating the critical points and functions in complex systems in which human beings are central operative, productive and control factors.

K e y w o r d s. communication process, barriers to communication, communication of aviation maintenance, regulatory requirements

1 INTRODUCTION

The inherent necessity of human beings is their ability to communicate. Aviation is not an exception; communication is here irreplaceable part of workers´ performance in a work position. The ability to communicate effectively should be a matter of course especially for managers and key workers.

2 EFFECTIVE COMMUNICATION PROCESS

There have been hundreds of definitions of communication developed over the years. For our purposes, **communication is the *dynamic and irreversible* process by which we engage and interpret messages within a given situation or context.**

The ability to communicate effectively at work, home, and in life is probably one of the most important sets of skills a person needs. What would our life and world be like without communication? We cannot get along without it. It is also not easy, and we all have probably had experiences where our communication failed or ran into a barrier. So, if we can understand the communication process better and improve it, we will become a more effective and successful communicator.

The communication process is a simple model that demonstrates all the factors that can affect communication. Communication is effective if the message that is received is the same one that is sent.

- **Thought**: First, information exists in the mind of the sender. This can be a concept, idea, information, or feelings.
- **Encoding**: Next, a message is sent to a receiver in words or other symbols.
- **Decoding**: lastly, the receiver translates the words or symbols into a concept or information that he or she can understand.

During the transmitting of the message, two elements will be received: content and context. **Content** is the actual words or symbols of the message which is known as *language* - the spoken and written words combined into phrases that make grammatical and semantic sense. We all use and interpret the meanings of words differently, so even simple messages can be misunderstood. And many words have different meanings to confuse the issue even more. Context is the way the message is delivered and is known as *paralanguage* - it is the non verbal elements in speech such as the tone of voice, the look in the sender's eyes, body language, hand gestures, and state of emotions (anger, fear, uncertainty, confidence, etc.) that can be detected. Although paralanguage or context often cause messages to be misunderstood as we believe what we see more than what we hear; they are powerful communicators that help us to understand each other. Indeed, we often trust the accuracy of nonverbal behaviors more than verbal behaviors.

Some leaders think they have communicated once they told someone to do something, „I don't know why it did not get done. I told Jim to do it". More than likely, Jim misunderstood the message. A message has not

been communicated unless it is understood by the receiver (decoded). How do you know it has been properly received? We should know that it is done by two-way communication or feedback. This feedback tells the sender that the receiver understood the message, its level of importance, and what must be done with it. Communication is an exchange, not just a give, as all parties must participate to complete the information exchange.

2.1 Barriers to Communication

Anything that prevents understanding of the message is a barrier to communication. There are two types of barriers—internal and external. Examples of internal barriers are fatigue, poor listening skills, attitude toward the sender or the information, lack of interest in the message, fear, mistrust, past experiences, negative attitude, problems at home, lack of common experiences, and emotions. Examples of external barriers include noise, distractions, e-mail not working, bad phone connections, time of day, sender used too many technical words for the audience, and environment. Barriers keep the message from being understood. When communicating, watch out for barriers. Monitor the actions of the receiver. Watch her body language; check to make sure the message the receiver received is the one sent—ask questions and listen.

There are many physical and psychological barriers:

- **Culture, background;**
- **Noise;**
- **Ourselves;**
- **Perception;**
- **Message**
- **Environmental**
- **Smothering;**
- **Stress.**

These barriers can be thought of as filters, that is, the message leaves the sender, goes through the above filters, and is then heard by the receiver. These filters muffle the message. And the way to overcome filters is through active listening and feedback.

Active Listening

Hearing and listening are not the same things. *Hearing* is the act of perceiving sound. It is involuntary and simply refers to the reception of aural stimuli. Listening is a selective activity which involves the reception and the interpretation of aural stimuli. It involves decoding the sound into meaning.

Listening is divided into two main categories: passive and active. Passive listening is little more that hearing. It occurs when the receiver of the message has little motivation to listen carefully, such as when listening to music, story telling, television, or when being polite.

People speak at 100 to 175 words per minute (WPM), but they can listen intelligently at 600 to 800 WPM. Since only a part of our mind is paying attention, it is easy to go into *mind drift* - thinking about other things while listening to someone. The cure for this is *active listening* - which involves listening with a purpose**.** It may be to gain information, obtain directions, understand others, solve problems, share interest, see how another person feels, show support, etc. It requires that the listener attends to the words and the feelings of the sender for understanding. *It takes the same amount or more energy than speaking*. It requires the receiver to hear the various messages, understand the meaning, and then verify the meaning by offering feedback. The following are a few traits of active listeners:

- Spend more time listening than talking.
- Do not finish the sentences of others.
- Do not answer questions with questions.
- Are aware of biases. We all have them. We need to control them.
- Never daydreams or become preoccupied with own thoughts when others talk.
- Let the other speakers talk. Do not dominate the conversations.
- Plan responses after the others have finished speaking, NOT while they are speaking.
- Provide feedback, but do not interrupt incessantly.

- Analyze by looking at all the relevant factors and asking open-ended questions. Walk others through by summarizing.
- Keep conversations on what others say, NOT on what interests them.

Take brief notes. This forces them to concentrate on what is being said.

Feedback

The purpose of feedback is to alter messages so the intention of the original communicator is understood by the second communicator. It includes verbal and nonverbal responses to another person's message. Providing feedback is accomplished by paraphrasing the words of the sender. Restate the sender's feelings or ideas in your own words, rather than repeating their words. Your words should be saying, „This is what I understand your feelings to be, am I correct?" It not only includes verbal responses, but also nonverbal ones. Nodding your head or squeezing their hand to show agreement, dipping your eyebrows shows you don't quite understand the meaning of their last phrase, or sucking air in deeply and blowing it hard shows that you are also exasperated with the situation.

Feedback is that reaction I have just mentioned. It can be a verbal or nonverbal reaction or response. It can be external feedback (something we see) or internal feedback (something we can't see), like self-examination. It's the feedback that allows the communicator to adjust his message and be more effective. Without feedback, there would be no way of knowing if meaning had been shared or if understanding had taken place.

3. AVIATION MAINTENANCE COMMUNICATION

Verbal communication in the aviation maintenance setting has two important aspects. First and foremost, public safety is dependent, at least in some degree, on efficient and effective verbal messages being passed among maintainers. In addition to the overriding safety concerns, proper communication ensures a cooperative, pleasant, and viable workplace in which people feel they appropriately share information.

Competent communicators have six qualities in common:
1. They are appropriate
2. They are effective
3. They are adaptable
4. They recognize roadblocks to effective communication
5. They understand that competency is a matter of degree
6. They are ethical

3.1 Requirements to communication among aviation maintenance groups

The regulatory issues related to communication in aviation maintenance center around effectively exchanging information within and among the organizations responsible for safe aircraft operation. The Federal Aviation Authority (FAA) oversees aviation maintenance through the Aircraft Maintenance Division of the Office of Flight Standards (OFS). Commercial, i.e., non-general-aviation, maintenance operations fall under either Part 121 or Part 135 of the Federal Aviation Regulations (FAR's). Part 121 deals with scheduled air carriers and part 135 deals with commuters, air taxi, and other commercial operations.

The overwhelming majority of FAA rules and regulations related to maintenance relate to maintaining written manuals, procedures, and repair records. Many of them deal with information that must be transmitted from either the FAA or manufacturers to technicians in the field. For that matter, there are no regulatory requirements governing non-written communication among any of the typical aviation maintenance groups. There is an implicit requirement that is important, i.e., safety-related, information will be passed between shifts and that verbal instructions will be unambiguous. The aviation maintenance community is just now beginning to transfer some of the Crew Resource Management training, experience, and procedures from the operational domain. Since most of the information in such settings is transferred in a non-written form, there are likely to be regulatory initiatives in the maintenance domain.

4 CONCLUSION

We can see a lot of problems in different organizations which are the result of bad or insufficient communication. The communication which is imperfect can cause misunderstanding resulting in fatal consequences. The goal is to decrease the number of accidents.

In conclusion, the communication is a two way process, it is necessary to realize all possible risks in an information transmission process between communicators. The effective communication can occur only if a receiver receives and understands the information in its real meaning; it means the same information which has been sent by a sender.

The study of a communication process is very important because people working in manager and leading positions are the people who are responsible for the stability of work performance and work security. They have to direct their communication to partners, subordinates, colleagues, all staff members, vertically or horizontally. This is the chain of mutual understanding, integration of organization members up side down and side to side.

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