THE MOST COMMON ERRORS IN AVIATION ENGLISH COMMUNICATION

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ABSTRACT

This research entitled "The Most Common Errors in Aviation English Communication". This study aims to determine the common errors that used in aviation English communication. This research confirms that some pilots do not pay attention to their mistakes during communication. The article examines few words and terms which usually can be heard between pilots and Air Traffic Controllers (ATC) that are deviated from the standard English communication. The theoretical part of this article explains the definition of Standard English Communication that defined by International Civil Aviation Organisation (ICAO) and the main theory used for this study is taken from ICAO Annex 10.

Keywords: English, Aviation, communication errors, terms

Introduction

English is the universal language of communication used in aviation. The language is used in English since there was a recommendation from the International Civil Aviation Organization (ICAO) for the safety concerns and prevention of communication misunderstanding which causes incidents, accidents, and occurrences. It is basically English, but it is used and spoken in terms and phrases to avoid confusion with similar sounding consonants, numbers and the most important to have an effective communication in a short period of time.

Terminology in aviation refers to the standardized words and phrases agreed on for use in radiotelephony communication. It is an example of a language for specific purposes, in other words a language that is used in constrained and predictable ways for a limited range of communicative events (Basturkmen and Elder, 2004). While there are different terminologies in aviation, such as those of the Federal Aviation Administration (FAA) and the European Organisation for the Safety of Air Navigation (Eurocontrol), the ICAO places great emphasis on the importance of using standard ICAO terminology and hinders optimum communication (ICAO, 2004, pp. 2–3).

Aviation professionals must have a proficiency in the English language, especially when it comes to English aviation terminology, that is why ICAO requires a defined level of English language proficiency in the context of aeronautical communication (ICAO Doc 9835). However, insufficient English language proficiency on the part of the flight crew or a controller had played a contributing role in the chain of events leading to multiple incidents and near misses or even high-profile accidents.

Terminology use differs from phase to phase (i.e., from preparing to take off through to landing and parking at the gate). Pilots are potentially involved in all phases of the communication, but they contact an associated air traffic sector only when necessary, during their operations. Controllers, on the other hand, while they are concerned only with particular phases - departure and arrival, approach, and mid-air - engage far more intensively and actively in radiotelephony communication than pilots.

There are several common terminologies used in aviation communication such as, *Roger*, *Heading*, *Final*, *Downwind*, *Disregard*, etc. The terms might occur in affirmative or interrogative utterances and according to the ICAO manual (ICAO, 2004, pp. 3–5), the terms should be specific, explicit, and direct. Here are some examples of using common terms in aviation communication:

JAKARTA CONTROL: PK-RAW RIGHT HEADING 280, MAINTAIN 8000

PK-RAW: MAINTAIN 8000, RIGHT HEADING 280, PK-RAW

JAKARTA CONTROL: P-AW DIRECT CKG, DESCENT 7000

PK-RAW: REQUEST MAINTAIN HEADING 280 DUE TO WEATHER, P-AW

JAKARTA CONTROL: P-AW MAINTAIN HEADING 280, DESCENT 7000, REPORT CLEAR OF WEATHER

PK-RAW: DESCENT 7000 ON HEADING 280, WILL REPORT CLEAR OF WEATHER, P-AW

PK-RAW: P-AW REQUEST HEADING 260

JAKARTA CONTROL: P-AW CONFIRM HEADING 260?

PK-RAW: DISREGARD, P-AW

As we see in the example above, the messages are in short, specific, explicit, and direct based on ICAO standard. However, there are some wrong terms used in the communication. This research aims to analyse the most common errors and wrong terminologies used between pilots and controllers in Indonesia that found within 10 years of flying experience. Therefore, the interpretation of certain errors will also be analysed.

The ICAO phonetic alphabet has assigned the 26 code words to the 26 letters of the English alphabet in alphabetical order. With short and simple words, ICAO's phonetic alphabet lowers the chance of misunderstandings and increases operational safety for passengers and crew. Because some letters sound similar (M and N or G and J), it can generate confusion between two people communicating with different accents or when the communication lines are poor. Pronunciation of numbers in aviation communication is also quite different with English pronunciation. Let's take a look at the letters and numbers that are associated with the aviation phonetic alphabet.

Letter	*Word*	*Approximate pronunciation*	
		International Phonetic Convention	*Latin alphabet representation*
A	**Alfa**	'ælf□	AL FAH
B	**Bravo**	'br□:'vo	BRAH VOH
C	**Charlie**	't□□:li *or* '□□:li	CHAR LEE *or* SHAR LEE
D	**Delta**	'delt□	DELL TAH
E	**Echo**	'eko	ECK OH
F	**Foxtrot**	'fBkstrBt	FOKS TROT
G	**Golf**	gulf	GOLF
H	**Hotel**	ho:'tel	HO TELL
I	**India**	'indi□□	IN DEE AH
J	**Juliett**	'd_u:li□et	JEW LEE ETT
K	**Kilo**	'ki:lo	KEY LOH
L	**Lima**	'li:m□	LEE MAH
M	**Mike**	m□ik	MIKE
N	**November**	no'vembe	NO VEM BER
O	**Oscar**	'Bsk□	OSS CAH

P	**Papa**	pe'p□	PAH PAH
Q	**Quebec**	ke'bek	KEH BECK
R	**Romeo**	'ro:mi□o	ROW ME OH
S	**Sierra**	si'er□	SEE AIR RAH
T	**Tango**	't ængo	TANG GO
U	**Uniform**	'ju:nifB:m *or* 'u:nifBrm	YOU NEE FORM *or* OO NEE FORM
V	**Victor**	'vikt□	VIK TAH
W	**Whiskey**	'wiski	WISS KEY
X	**X-ray**	'eks'rei	ECKS RAY
Y	**Yankee**	'j ænki	YANG KEY
Z	**Zulu**	'zu:lu:	ZOO LOO

Note. — In the approximate representation using the Latin alphabet, syllables to be emphasized are underlined.

Numeral or numeral element	Pronunciation
0	ZE-RO
1	WUN
2	TOO
3	TREE
4	FOW-er
5	FIFE
6	SIX
7	SEV-en
8	AIT
9	NIN-er
Decimal	DAY-SEE-MAL
Hundred	HUN-dred
Thousand	TOU-SAND

The syllables printed in capital letters in the above list are to be stressed; for example, the two syllables in ZE-RO are given equal emphasis, whereas the first syllable of FOW-er is given primary emphasis. In addition, every digit of numbers shall be read separately. For example, if the number is 360, shall be read TREE SIX ZERO.

Here is an example of how the Aviation Alphabet would be used between a pilot and the Air Traffic Control Tower:

PK-RAW: JAKARTA, PAPA KILO ROMEO ALFA WHISKEY READY FOR DEPARTURE RUNWAY ZERO SEVEN LEFT

JAKARTA TOWER: PAPA KILO ROMEO ALFA WHISKEY, CLEAR FOR TAKE OFF RUNWAY ZERO SEVEN LEFT

PK-RAW: CLEAR FOR TAKE OFF RUNWAY ZERO SEVEN LEFT, PAPA ALFA WHISKEY

Transmission of time is almost the same as transmission of numbers. When transmitting time,

only the minutes of the hour should normally be required. Each digit should be pronounced separately. However, the hour should be included when any possibility of confusion is likely to result (ICAO ANNEX 10). For example, time 04:26 shall be transmitted ZERO FOW-er TOO SIX. Here is another example of transmitting time:

JAKARTA CONTROL: PK-RAW REPORT YOUR ESTIMATE

PK-RAW: ESTIMATE TKG AT WUN ZERO TREE TOO, P-AW

All numbers used in the transmission of altitude below some specific altitudes which is called "Transition Altitudes", cloud height, visibility, and runway visual range (RVR) information, which contain whole hundreds and whole thousands, shall be transmitted by pronouncing each digit in the number of hundreds or thousands followed by the word HUNDRED or THOUSAND as appropriate. For example, 10000 feet is ONE ZERO THOUSAND, 14500 is ONE FOW-er THOUSAND FIFE HUN-dred. According to the ICAO ANNEX 10, the word "To" after a verb for reporting or requesting an altitude shall be emitted to avoid confusion, as in the following example:

JAKARTA CONTROL: PK-RAW CLIMB SIX THOUSAND

PK-RAW: CLIMB SIX THOUSAND, P-AW

Each aircraft has a registration number or a regular flight number that is used for their callsign during communication. For example, in Indonesia, registration numbers start with PK which are contain 5 alphabetic letters (e.g., PK-RAW) but if there is a regular flight, the aircraft callsign for the communication will be the flight number (e.g., BATIK AIR 235). Based on ICAO standard, if the callsign is the aircraft registration number, the first call to the ATC will be reading the whole numbers e.g., PK-RAW, thereafter, the first and the last 2 letters will be read. For example, the first call is PK-RAW, and the rest of the calls are P-AW. It is to avoid confusion since there are many registration numbers with similar letters, as seen in the following example:

JAKARTA CONTROL: PK-RAW, RIGHT HEADING 280

PK-RAW: HEADING 280, P-AW

JAKARTA CONTROL: PK-SRA, TURN LEFT HEADING 160

PK-SRA: TURN LEFT, HEADING 160, P-RA

For a transmission of a frequency, all digits of the numerical designator should be transmitted, except in the case of the last digits being zeros, in which case only the first digits should be transmitted. Observe the following examples:

JAKARTA CONTROL: PK-RAW, CONTACT 118.1

PK-RAW: CONTACT WUN WUN AIT DECIMAL WUN, P-AW

JAKARTA CONTROL: PK-SRA, CONTACT INFO 8431

PK-SRA: CONTACT INFO AIT FOW-er TREE WUN, P-RA

Method

This study attempts to answer two research questions. First, what is the effect of aviation communication errors, and second what is the cause of the common errors in communication. There are two ways to conduct research. The first method is to collect data. The data is collected using qualitative method. Data collection techniques carried out widely and in-depth through observation and study documentation. The second method is to analyse the data. The observation was conducted by observing the communication between ATCs and Air Traffics within 10 years in a few countries, especially Indonesia. The participants are Indonesian and foreign pilots who fly in Indonesia and Air Traffic Controllers (ATC) in Indonesia. Data collection is obtained from observation, documentation, experience and analysed and compared with the standard documents such as ICAO (International Civil Aviation Organisation) and CASR (Civil Aviation Safety Regulation) documents.

Result And Discussion

This chapter introduces and discusses the research results. As it was stated in theoretical review, the ICAO places great emphasis on the importance of using standard ICAO terminology for communication, however, there are few common errors that can be heard during communication between pilots and Air Traffic Controls.

One of the errors that has been found is the pronunciation of the ICAO phonetic alphabet that many pilots and Air Traffic Controllers pronounce the same as English pronunciation or sometimes in Indonesia, it is with Indonesian pronunciation. For example:

JAKARTA CONTROL: PK-RAW, PROCEED TO RUNWAY 09 VIA G TAXIWAY

PK-RAW: PROCEED TO RUNWAY ZERO NINE VIA GOLOF TAXIWAY

In this example the pilot is reading back the number 9 as English pronunciation and the letter G (Golf) as Indonesian pronunciation which this example is commonly can be heard, especially in

Indonesia. The cause of wrong pronunciation of the letters may be from lack of practicing English alphabet pronunciation.

As it was mentioned in the review, transmission of an aircraft registration number as its callsign should be all letters for the first transmission, thereafter, the first letter and the last two letters. But there is a common error that some pilots in Indonesia read the last 3 letters only which leads to an unsafe and risky situation if an aircraft with similar letter callsign is flying in the same airport. Here is one of the examples:

JAKARTA CONTROL: PK-RAW, RIGHT HEADING 280

PK-RAW: HEADING 280, P-AW

JAKARTA CONTROL: VH-PAW, TURN LEFT HEADING 160

VH-PAW: LEFT HEADING 160, P-AW

In this example we see that there are two aircrafts with two different registration numbers (PK-RAW and VH-PAW) which one of them is following the ICAO standard by reading the first and the last two letters while the other one is reading non-standard, the last three letters. One of the reasons of this error is infrequently reviewing the radiotelephony manuals.

Another common error that has been heard in Indonesia's aviation communication is transmission of numbers which many pilots in Indonesia pronounce the numbers exactly the same as English pronunciation that sometimes it would be hard to understand in the radio communication and they need to repeat again which leads to traffic disturbance, especially in a busy airport. Moreover, pilots sometimes never mention the decimal if there is a decimal in the number, such as reading back a frequency number or saying their exact distance using decimal. Here is one of the examples:

JAKARTA CONTROL: PK-RAW, REPORT POSITION

PK-RAW: ONE TOO AIT POINT FIFE MILES NORTH OF CKG, P-AW

In this example we see that the pilot is reporting his position saying POINT instead of DECIMAL which every digit of numbers shall be read separately (ICAO ANNEX 10).

Next common error, which is almost the same as the numbers, is transmission of time. As it was mentioned above, each digit of time should be pronounced separately but some pilots do not follow the ICAO standards. Observe the following example:

JAKARTA CONTROL: PK-RAW REPORT YOUR ESTIMATE

PK-RAW: ESTIMATE MIDNIGHT DOUBLE FOW-er, P-AW

In this example we see that the pilot for transmitting the estimate which is at 00:44, reading DOUBLE FOW-er instead of reading each digit separately, e.g., FOW-er FOW-er. In addition, the pilot is using the word midnight instead of reading ZERO ZERO. There are no words such as Midnight, Morning, Afternoon, etc. in aviation communication when transmitting time except for greetings e.g., Good Morning. This error is becoming part of the aviation communication culture in Indonesia since many pilots and Air Traffic Controllers like to follow others or their seniors instead of referring to the radiotelephony manuals.

Other communication error is reporting altitudes which commonly can be heard, especially in Indonesia. Based on ICAO standard, all numbers used in the transmission of altitude, shall be transmitted by pronouncing each digit in the number of hundreds or thousands followed by the word HUNDRED or THOUSAND as appropriate, however, altitudes or heights are commonly transmitted in standard English language. Moreover, sometimes pilots or ATCs never omit the word "TO" after a verb for requestion or reporting an altitude. Following examples show the common errors for reporting an altitude:

JAKARTA CONTROL: PK-RAW, DESCENT 11000

PK-RAW: DESCENT ELEVEN THOUSAND. P-AW

JAKARTA CONTROL: PK-SRA, CLIMB TO 1000

PK-SRA: CLIMB TOO WUN THOUSAND

In this example, PK-RAW is instructed to climb to 11000 feet and the pilot should follow ICAO standard and read back WUN WUN THOUSAND that the pilot is following non-standard terminology. In the second part of the example, the ATC is using non-standard word "TO" after the verb "Descent" that causes misunderstanding the message and the pilot intends to descent to 21000 feet. The reason for this error as the same as many errors in communication is lack of studying the radiotelephony manuals and understanding the concept of using terminologies.

Transmission of frequencies is the same as numbers, therefore, each digit should be pronounced separately, but many pilots read back the frequencies non-standard as their convenience, as seen in the following examples:

JAKARTA CONTROL: P-AW CONTACT APPROACH 119.1

PK-RAW: CONTACT APPROACH ELEVEN NINE ONE, P-AW

JAKARTA CONTRO: PK-SRA, CONTACT TOWER 123.5

PK-SRA: CONTACT TOWER WUN TOO TREE FIFE, P-RA

In this example, both aircrafts are following the ATC's instruction but transmitting wrong terminology. In this case, the correct read back for PK-RAW is CONTACT APPROACH WUN WUN NIN-er DECIMAL WUN and for PK-SRA is CONTACT TOWER WUN TOO TREE DECIMAL FIFE. One of the reasons of this error is being rushed during communication especially in a busy airport.

Conclusion

In conclusion, aviation communication is the means by which aircraft crews connect with other aircraft and people on the ground to relay information and the information should be transmitted in English since there is a recommendation from the International Civil Aviation Organization (ICAO) for the safety concerns. Safe and expeditious air traffic depends upon accurate and efficient communications between pilots and controllers. Ineffective communication consequences can be life-threatening and drastic. Communication misunderstandings are frequently reported in incidents, accidents, and occurrences. According to the ICAO ANNEX 10, terminology in radiotelephony communication should be specific, explicit, and direct, and a wrong terminology leads to an unsafe and risky situation, especially when one of the parties does not identify or recognise an error, since then they are unable to recover from the situation themselves.

References

International Civil Aviation Organization (ICAO). 2010. *Manual on the Implementation of ICAO Language Proficiency Requirements*. Second Edition. Chicago.

International Civil Aviation Organization (ICAO). 2001. *Aeronautical Mobile Communications Panel.* Alaska

International Civil Aviation Organization (ICAO). 2018. *Aeronautical Telecommunications Annex 10*. Seventh Edition. Chicago

Civil Aviation Safety Regulation (CASR). 2018. *General Operating and Flight Rules.* Jakarta