UDC 378.147:656.071.1

*L.P. Korol, lecturer*

*(National aviation university, Kyiv)*

**PRONUNCIATION ISSUES AND THEIR INFLUENCE ON THE FLIGHT SAFETY**

*Problematics of misunderstandings due to poor pronunciation because of speaker carrying a regional or non-regional dialect or accent, as well as their negative influence on the process of R/T communication are the focal point of attention in our research.*

The International Civil Aviation Organisation (ICAO) has established English language proficiency requirements (LPRs) for all pilots operating on international routes, and all air traffic controllers who communicate with foreign pilots. These standards require pilots and air traffic controllers to be able to communicate proficiently using **both ICAO phraseology** and plain English. All Air Traffic Controllers and Flight Crew Members engaged in or in contact with international flights **must be proficient in the English language** as a general spoken medium and not simply have a proficiency in standard ICAO Radio Telephony Phraseology. Those who do not have English proficiency must acquire it, or risk removal from international flight routes.

In order to conform with ICAO Language Proficiency requirements, Pilots, Air Traffic Controllers and all others who use English in R/T communication on international routes must be at ICAO English Language Level 4 (Operational) or above. An individual must demonstrate proficiency at Level 4 in all six categories in order to receive a Level 4 rating. Pronunciation is clearly differentiated among these categories, moreover, ICAO holistic descriptors of speaker's proficiency relate to such issues as accuracy and clarity of communication, as well as intelligibility of a dialect or accent involved in the process of R/T communication. As the ICAO advises, pronunciation must be given high priority.

In order to investigate the issue of correlation between speaker's pronunciation and flight safety first of all we should define such notions as pronunciation, intelligibility, dialect, accent etc.

Pronunciation refers to the ability to use the correct stress, rhythm, and intonation of a word in a spoken language.[3] A word can be spoken in different ways by various individuals or groups, depending on many factors, such as: the area in which they grew up, the area in which they now live, if they have a speech or voice disorder, their ethnic group, their social class, or their education. Included in the general pronunciation umbrella are the following:

* Stress – The emphasis of words or parts of words (syllables), but also can include weak sounds;
* Rhythm – The speed of communication, including when to pause and when to speed up;
* Intonation – The high, middle and low levels of speech, especially noted in asking questions.

Pronunciation in a second or foreign language involves more than the correct articulation of individual sounds. It involves producing a wide range of complex and subtle distinctions which relate sound to meaning at several different levels. Speech/Pronunciation forms the vehicle for transmitting the speaker's meaning. If the listener does not understand the message, no communication takes place, and although there are other factors involved, one of the most important is the intelligibility of the speaker's pronunciation Inadequate instruction in speech/pronunciation can result in a complete breakdown in communication.

Intelligibility is a key part of Aviation English, as in context of communication this term is linked to how a person is understood, namely it is a measure of how comprehendible speech is, or the degree to which speech can be understood. Intelligibility is affected by spoken clarity, explicitness, lucidity, comprehensibility, perspicuity, and precision [1]. Thus a speaker may not use immaculately built grammatical structures or correct intonation patterns all the time, but he/she is comprehended without any problems by other communicants.

However, one should not mistake intelligibility with accuracy, because accuracy of speech depends on the linguistic correctness of structures that a speaker tends to use. This is especially relevant to ICAO Level 4. The ICAO pronunciation requirements for this level state that pronunciation, stress, rhythm and intonation can be influenced by the first language or regional variation but only sometimes interfere with ease of understanding.[2] To put it in another way the other person must be able to understand you but you do have the space to make a few mistakes.

The difference between such notions as accent and dialect should also be contemplated. An accent is a manner of pronunciation peculiar to a particular individual, location, or nation. An accent may identify the locality in which its speakers reside (a geographical or regional accent), the socio-economic status of its speakers, their ethnicity, their caste or social class, their first language (when speaking a second language imperfectly), and so on.

Accents typically differ in quality of the voice, pronunciation and distinction of vowels and consonants, stress, and prosody. Although grammar, semantics, vocabulary, and other language characteristics often vary concurrently with accent, the word 'accent' may refer specifically to the differences in pronunciation, whereas the word 'dialect' encompasses the broader set of linguistic differences. Often 'accent' is a subset of 'dialect'.

Non-native pronunciations of English result from the common linguistic phenomenon in which non-native users of any language tend to carry the [intonation](http://en.wikipedia.org/wiki/Intonation_(linguistics)), phonological processes and pronunciation rules from their mother tongue into their English speech. They may also create innovative pronunciations for English sounds not found in the speaker's first language. English is unusual in that speakers rarely produce an audible release between consonant clusters and often overlap constriction times. Speaking English with a timing pattern that is dramatically different may lead to speech that is difficult to understand.

More transparently, differing phonological distinctions between a speaker's first language and English create a tendency to neutralize such distinctions in English, and differences in the inventory or distribution of sounds may cause substitutions of native sounds in the place of difficult English sounds and/or simple deletion. This is more common when the distinction is subtle between English sounds or between a sound of English and of a speaker's primary language. While there is no evidence to suggest that a simple absence of a sound or sequence in one language's phonological inventory makes it difficult to learn, several theoretical models [4] have presumed that non-native speech perceptions reflect both the abstract phonological properties and phonetic details of the native language.

While discussing the issues that arise with the individual pronunciation we should not omit the idiolects, that can considerably impair the intelligibility of communicant’s speech. An idiolect is a variety of language that is unique to a person, as manifested by the patterns of vocabulary, grammar, and pronunciation that he or she uses. Conceptually, the language production of each person, the idiolect, is unique; linguists disagree what underlying knowledge of a language, or of a given dialect, is shared among the speakers.

Thus we may state that pronunciation of the speaker in R/T communication may be impaired by such subjective issues as accent, dialect and idiolect. In order to achieve necessary intelligibility and accuracy of speech one should eliminate the influence of abovementioned issues and pay closer to standardizing pronunciation. We suggest to investigate further the means of this standardization.

**Conclusions**

Although English has been the international aviation language since 1951, formal language proficiency testing for key aviation personnel has only recently been implemented by the International Civil Aviation Organization (ICAO). It aims to ensure minimum acceptable levels of English pronunciation and comprehension universally, but does not attend to particular regional dialect difficulties. However, evidence suggests that voice transmissions between air traffic controllers and pilots are a particular problem in international airspace and that pilots may not understand messages due to the influence of different accents when using English.Consequentially the significant influence of pronunciation deviations in R/T communication should be considered, as they can impair flight safety due to miscommunication problems.

**References**

1. Moore, C.J. (1997). An introduction to the psychology of hearing. Academic Press. 4th ed. Academic Press. London.
2. ICAO. (2004). Publication of Doc 9835-AN/453, Manual on the Implementation of ICAO Language Proficiency Requirements.
3. Beech, John R.; Harding, Leonora; Hilton-Jones, Diana (1993) Assessment in speech and language therapy. CUP Archive. p. 55.
4. Hallé, Pierre A.; Best, Catherine T.; Levitt, Andrea; Andrea (1999), "Phonetic vs. phonological influences on French listeners' perception of American English approximants",Journal of Phonetics 27 (3): 281–306