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Title

An Analysis of U.S. Air Traffic Controllers' Speech Speed Rates

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Abstract

  We measured the rate of speed of the speech of air traffic controllers in their communications with pilots in aircraft departing from and arriving at three American international airports. We found a median rate of speech of 6.1 syllables per second. A review of a previous study of speech rates in various media found median rates of 5.1 in movies and 4.7 in news. We tentatively suggest that air traffic control speech is often much faster than everyday speech. A review of another study found that 21.2% of words heard in sentences spoken at 6 syllables per second were missed or misheard by non-native English speakers with very high levels of English ability even when they listened to the sentences repeatedly, and that the missed words increased to 32.7% at 7 syllables per second and 40.6% at 8 syllables per second. We note the importance of English in aviation and the dangers of misheard communications, and recommend more listening training at high speech speeds for pilots who are non-native English speakers.