Why is English language proficiency important?

These extracts from ICAO's *Manual on the Implementation of ICAO Language Proficiency Requirements* explain why ICAO strengthened its language proficiency requirements.

1.   Background to strengthened ICAO Language Proficiency Requirements

1.1 Over 800 people lost their lives in three major accidents (one collision on the ground, one accident involving fuel exhaustion and one controlled flight into terrain). In each of these seemingly different types of accidents, accident investigators found a common contributing element: 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 the accident. In addition to these high-profile accidents, multiple incidents and near misses are reported annually as a result of language problems, instigating a review of communication procedures and standards worldwide. Such concern was heightened after a 1996 mid-air collision in which 349 passengers and crew members were killed in an accident in which insufficient English language proficiency played a contributing role.

1.2 Accident investigators usually uncover a chain of events lining up in an unfortunate order and finally causing an accident. In some instances, the use (or misuse) of language contributes directly or indirectly to an accident.

At other times, language is a link in the chain of events which exacerbates the problem. There are three ways that language can be a contributing factor in accidents and incidents:

- incorrect use of standardized phraseologies;
- lack of plain language proficiency;
- and the use of more than one language in the same airspace.

1.3 Incorrect use of standardized phraseologies.

The purpose of phraseologies is to provide clear, concise, unambiguous language to communicate messages of a routine nature. One study of real en-route radiotelephony communications (Mell 1992) revealed that 70 per cent of all speech acts uttered by native and non-native speakers, and for which a phraseology is prescribed, are not compliant with the recognized standards. For phraseologies to have the most significant safety impact, all parties need to use ICAO standardized phraseology … while ICAO standardized phraseology has been developed to cover many circumstances, it cannot address all pilot and controller communication needs. It is widely acknowledged by operational and linguistic experts that no set of standardized phraseologies can fully describe all possible circumstances and responses.

1.4 Lack of plain language proficiency.

This is often cited as having played a contributing role in some accidents. In one example, the controller last in contact with the unilingual English-speaking crew which strayed off course and crashed into a mountainside acknowledged to accident investigators that the flight's position reports were incongruent with where he understood their position to be. However, by his own admission, he lacked plain English proficiency to clarify his doubts or to notify the crew that they were off course.

1.5 The use of two languages in the same airspace.

This can have an impact on the situational awareness of flight crews who do not understand all the languages used for radiotelephony in that airspace and has been cited in several accident reports as a contributing factor.

1.6 While the focus of ICAO language proficiency requirements is on improved aeronautical radiotelephony communications, language also plays a role in cockpit resource management (CRM) and has been cited as a contributing factor in incidents/accidents where miscommunication happened within a flight crew. By meeting language proficiency requirements, flight crews, especially multi-national flight crews, will have the added safety benefit of better CRM.

1.7 Concern over the role of language in aviation accidents and incidents has been expressed from several quarters. Data obtained from the ICAO Accident/Incident Data Reporting System (ADREP) database, United States National Transportation and Safety Board reports (ASRS), the United Kingdom Mandatory Occurrence Reporting System (MORS) and Confidential Human Factors Incident Reporting Programme (CHIRP) corroborate that the role of language in accidents and incidents is significant. A number of fatal and non-fatal accidents appear in the ICAO ADREP which cite 'language barrier' as a factor. These data are further supported in two recent reports by Eurocontrol (Van Es 2004; Van Es Wever & Verbeek 2006).

1.8 Academic studies in such fields as natural language processing (Cushing 1994) and sociolinguistics (Linde 1988) have also examined and highlighted the role of language proficiency and language use in aviation incidents and accidents.