

ICAO Language Proficiency in Ab-Initio Flight Training

Ms. Angela C. Albritton
Aviation English Consultant
acalbritton@yahoo.com

Brief Summary

Ab-initio cadets are selected using rigorous selection processes. However, assessment procedures that are used to test a cadet pilot's English language skills for safe and efficient flight training often do not adhere to the same high standards. Ensuring appropriate language testing prior to commencing flight training and utilizing content-based language training in accordance with the new ICAO requirements can lead to fewer delays and failures in ab-initio flight training.

Introduction

As demand for air travel continues to increase internationally, there is a growing need for pilots in many parts of the world. "Boeing predicts that China alone needs 2 600 new airplanes over the next two decades and will require 55 000 new pilots in the upcoming decade" ("Paradoxes Hamper China's Aviation Growth"). In order to deal with this pilot shortage, some airlines have started their own ab-initio flight training programs or send their cadet pilots to a number of large flight training organizations in English speaking countries. Although these airline cadet pilots are often selected using rigorous selection processes, the assessment procedures that are used to ascertain whether the cadet pilot's English language skills are sufficient for safe and efficient flight training are often invalid, not standardized or in worst cases even non-existent and not in line with the new ICAO language proficiency standards. It is often a lack of a non-native English speaking flight student's communicative language proficiency which causes training delays or failure to complete the program.

Problems Associated with Inadequate Assessment

Some airlines and flight training organizations, uncertain of how to evaluate a cadet's English skills, have looked to universities or the business community for guidance in this matter. They have required evidence of a student pilot's English language proficiency in the form of norm-referenced language tests, such as the TOEFL, TOEIC, IELTS or other grammar-based pen and paper assessment tests. In the past, this practice was understandable, as there was no international language standard to which the flight training community could adhere. However, relying on scores from norm-referenced language tests, such as the TOEFL often causes two problems: accepting students into flight programs who do not have sufficient speaking skills for safe flight or efficient training and disqualifying other students who do have sufficient speaking skills for safe flight training but do not meet the required TOEFL score (ICAO Document 9835: Manual on the Implementation of ICAO Language Proficiency Requirements).

Few studies have been conducted on how non-native English speaking language skills influence the flight training process in an English speaking environment. Furthermore, only limited guidance on this subject is given from the civil aviation authorities, such as the FAA Advisory Circular No. 60-28. Responsibility for language assessment is placed upon medical examiners, flight instructors and/or check pilots, none of whom have received official language training in oral proficiency assessment and/or calibration training as part of their own certification process.

Another approach to dealing with the language proficiency question is to send cadet pilots with inadequate language skills to English-speaking countries for flight training in the hope that the students will pick up enough language skills during training. In addition to the lack of correspondence with the high safety standards in all other aspects of aviation training, this mindset can also prove to be rather costly. Patrick Murphy, a flight training director with more than 25 years of experience in working with international flight students both in the United States and China, knows this first hand. "Airlines are often not aware that the financial cost of extra flight training that must be given to a cadet who is deficient in English or that the failure of just one or two students due to insufficient English skills can provide enough of a financial loss to an airline to pay for a quality aviation English program."

Other training organizations that have extensive experience working with pilots, such as the Defense Language Institute are already aware of the benefits of investing in assessment and language training before commencing flight training. These organizations use oral language proficiency and placement testing in order to maximize training effectiveness and safety. Flight students deserve to know their language proficiency level prior to beginning training and how much time is needed for them to progress to an operationally safe level of English prior to flying in English-speaking airspace.

As extensive flight training is taking place in English speaking countries and with the implementation of the March 2008 ICAO language requirements, the need for preparing non native English speaking flight students with communicative language skills prior to commencing flight training is becoming keenly obvious. This is where operators can benefit greatly by introducing a language protocol in accordance with the new language proficiency requirements for pre-selection and placement based on the resources they have available.

Language Protocol for Pre-selection

In order to decrease the chances of a cadet pilot delaying or failing to complete his training due to insufficient language skills, airlines and/or flight training organizations need to standardize their methods of testing flight training students prior to the commencement of their flight training. For reasons mentioned previously, norm-referenced language tests, such as the TOEFL are not appropriate to test flight readiness. Semi-direct and/or direct testing, such as an oral proficiency interview (OPI) have been found to be an effective assessment, if conducted by trained, certified and calibrated raters who are familiar with the ICAO standards and the rating scale (ICAO Doc 9835).

OPIs have been successfully used for many years by training organizations, such as the Defense Language Institute. However, research into oral proficiency testing demonstrates that untrained raters are less consistent than dedicated, trained raters. In order to maintain the high standards of the aviation industry, operators need to ensure that their language raters have the appropriate qualifications and commitment to their professional field. Resources such as ICAO Doc 9835: Manual on the Implementation of ICAO Language Proficiency Requirements and the ICAO Rater Training CD are available and will help ensure that all personnel involved are held to the same standards.

Once OPIs have been conducted, raters can provide needs analyses in order to give personnel in charge of pilot selection and flight training directors an understanding of the specific language needs of individual cadets and/or larger training groups in accordance with the ICAO Rating Scale. This information can provide valuable information to an organization in respect to ab-initio selection and/or resources needed to place student pilots into effective training programs appropriate to their skills.

A sample language protocol is illustrated below:

A cadet pilot's OPI rated at:

1. ICAO Operational Level 4 or higher would be able to begin flight training, but could benefit from specialized language support during their flight training, such as intensive ATC communication practice and possible individual language tutoring on an as needed basis.
2. Strong ICAO Pre-operational Level 3 would be able to begin flight training within an estimated 4 – 8 weeks of intensive 5 - 6 hour per day/5 days per week of communicative aviation English language training. The course should be content-based using authentic materials from flight training in order to complement ground school. Student progress will vary depending on the language learning environment, the student's linguistic background, education and personality factors.
3. Weak ICAO Pre-operational Level 3 would be able to begin flight training within an estimated 12 – 16 weeks of intensive 5 – 6 hour per day/5 days per week of communicative aviation English language training. The same content-based materials could be used as for strong ICAO Pre-operational Level 3, however more specific ESL modifications would need to be made and additional activities added to the curriculum in order to deal more effectively with the students' lower proficiency. Student progress will vary depending on the language learning environment, the student's linguistic background, education and personality factors.
4. Students whose individual language skills are rated at an ICAO Elementary Level 2 would likely require a minimum of 6 months or more of content-based aviation English and general English in an intensive, highly communicative language environment. Student progress will vary depending on the language learning environment, the student's linguistic background, education and personality factors.

Due to the length of language training required to obtain ICAO Operational Level 4, which can range from just a few weeks for students at a strong ICAO Pre-operational Level 3 to possibly many months required for cadet pilots at an ICAO Elementary Level 2 or lower, a strong case can be made for pre-selecting ICAO Operational Level 4 language qualified flight students.

“It is important to note that a high score on an oral proficiency test will not completely guarantee that an individual will never encounter communication problems during flight. In the specialized environment of aviation communications, even native-speakers of English may at times encounter communication difficulties, however they should have the skills to handle any unclear communications, much as would a native-speaker of English.” (Mathews, n.d.)

Designing a Content-based Aviation English Curriculum for Ab-initio Training

Once organizations have conducted a language needs analysis, they can then move to the next step, namely if required, designing a content-based aviation English curriculum for their ab-initio students who do not meet ICAO Operational Level 4 language proficiency. All language learning has some focus and “content-based language learning incorporates subject matter content into language learning activities and has proven effective.” (ICAO Doc 9835 Paragraph 4.4.11) Flight training providers can use their own training curriculums as a foundation upon which to build. By using their own ground school lessons, materials and other resources commonly used during the flight training process, qualified language staff can, with input from the flight training department, develop a content-based aviation English program, which incorporates standard radiotelephony practice, but includes all other linguistic aspects of flight training as well. Resources already available at the flight training facilities can be utilized for this.

Many large flight training providers have learning centers where computers are available for listening and viewing aviation CDs, DVDs and other computer based training. These materials can also function to enhance a student's listening comprehension and vocabulary skills in accordance with two of the ICAO holistic descriptors. By using a blended learning approach, with computer based training and classroom activities that are designed based on language functions, events, domains and tasks association with flight training, good learner progress can occur. Examples of appropriate aviation functions and domains can be found in ICAO Doc 9835, Appendix B.

When designing a curriculum for aviation English for ab-initio training it is important to include activities from many different flight training tasks. Designing a curriculum with mostly ATC communication practice will surely help the student pilot feel more confident in handling standard radio calls, but will not be of much use when he or she has to debrief with their flight instructor, request a weather briefing, speak to a dispatcher, report a technical problem, receives a non-standard clearance by an air traffic controller or any of the other tasks related to their training. Therefore a large variety of commonly used resources should be utilized to ensure that the student has had a broader range of aviation English exposure. This can include resources such as flight training manuals, checklists, aeronautical charts, aviation pictures in addition to activities such as total physical response (TPR), chair-flying, simulations based on actual instructor/student, dispatcher/student and mechanic/student interactions, interactions with a weather briefer, ATC communications, role-playing, attending safety seminars, etc... These resources and activities can all be extremely valuable language learning tools when introduced in a language learning scenario.

As an example, some of the larger flight training organizations in the United States incorporate the FAA Industry Training Standards (FITS) into their flight program and make use of scenario-based training. The emphasis is on pilot training in technically advanced aircraft which requires realistic scenario based training to develop a pilot's higher order thinking skills. This scenario based learning can also be applied to language learners. Students review a scenario and can work together as language training partners with language learning objectives being for instance "describing the source of the problem", "stating possible consequences of the problem" and "describing a procedure to rectify the problem". In a content-based language learning environment, the objectives are not to just memorize vocabulary for random language activities, but to review and strengthen language skills commonly used in carefully selected aviation-related scenarios, which can aid in better comprehending and dealing with similar situations later.

Conclusion

The ICAO language proficiency requirements are setting a new standard for determining a minimum level of language proficiency for ab-initio training. It is beneficial for airlines and their flight training providers to ensure that a standard protocol is in place for their flight students to receive valid and reliable language assessments in accordance with these new ICAO language proficiency requirements prior to commencing flight training. By placing Pre-operational flight students into content-based aviation English classes, which make language learning an integral part of the flight training process, good progress can occur. The use of realistic flight training scenarios and authentic training materials, based on an actual flight training curriculum, not only help to prepare student pilots for ICAO Level 4 proficiency, but also provide pilot cadets with much valuable aviation content information in order to proceed through their flight training with fewer delays and/or failures related to insufficient language skills.

References

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