Adapting Training to International Standards: A Case Study in Aviation English Training

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Abstract

The International Civil Aviation Organization (ICAO) has mandated that pilots and air traffic controllers around the world meet or exceed a set standard of English Language Proficiency by 2008. This paper presents a case study of an English language training company’s adaptation of its Aviation English training program to match ICAO goals and to help clients meet the mandated level of proficiency.

Keywords: training, Aviation English, ESL, ESP

Introduction

While developing and delivering training to an international audience is always challenging, undertaking this task to help multinational clients meet an international professional standard can be daunting. While the case study presented in this paper deals with English language training within the field of aviation, the same review and adaptation process could apply to all training companies, especially those that deal with high stakes training – for example, within the medical arena – and/or those whose training content is overseen or certified by professional or governmental regulatory agencies.

In the current case study the professionals being trained are non-native English speaking air traffic controllers (ATCs) and commercial airline pilots. The standard for them to reach is a newly mandated level of English language proficiency, especially in the area of radiotelephony, the specialized system of terminology and phraseology used by pilots and air traffic controllers to communicate during takeoff, flight, and landing.

Communication Errors Cause Aviation Disasters

Communication problems between pilots and ATCs have contributed, directly or indirectly, to some of the most disastrous aviation accidents in history. An analysis of past accidents reveals that common factors associated with poor communication include confusing phraseology, similar aircraft call signs, ambiguity, inference problems, and a host of other linguistic issues, including problems arising from unclear English or heavy foreign accents and poor enunciation.[1-3] In fact, the worst aviation disaster in history – the KLM-Pan American crash on takeoff at Tenerife in the Canary Islands in 1977 – was caused by a combination of situational factors and communication errors between native and non-native English speakers. In this case, the misunderstandings/misinterpretations between the Spanish-speaking air traffic controller and the Dutch-speaking KLM pilot – both of whom were communicating in English -- resulted in 583 deaths.

Communication error is the most frequently cited problem element of incidents reported to the Aviation Safety Reporting System (ASTS).[4] This is consistent with research studies that show more than 70% of airline accidents involved some degree of human error and many of these errors were associated with failures in communication.[5-7] The increasing occurrences of runway incursions and the inherent dangers of ground operations have also highlighted the tragic results of miscommunication.[8] While not all of these involve non-English-speaking pilots or air traffic controllers, language problems are pervasive. This makes all of us who travel concerned stakeholders in the success or failure of the training process for this group of professionals.
English for International Aviation

English is truly the *lingua franca* of the world. In fact, today, more people speak English as a second language than as a native language. It is also true that English has long been accepted as the international language for aviation and that the majority of aviation personnel in the world speak English as a second or foreign language.

Even with this linguistic situation, until recently, there has been no set requirement or standard to ensure that pilots and air traffic controllers are able to speak English well enough to communicate effectively. In many countries (including the U.S.), there was only a form that pilots had to fill out, answering the basic question, “Do you speak English?” with a simple “yes” or “no” required. While there has long been a recognition of the need for high quality English, the complicated process of trying to set a standard applicable to all countries, to ascertain a way to measure it, and then to devise some method of enforcement has been too difficult to achieve. However, the International Civil Aviation Organization (ICAO) Council, a member organization of the United Nations, recently tackled this monumental task.

On March 5, 2003, the ICAO adopted proposed amendments, contained as standards and recommended practices, to the ICAO Annexes to address aviation related language proficiency requirements.[9] All airlines and aviation organizations must comply with these newly adopted English language proficiency requirements by 2008. This means that worldwide proficiency levels have been defined and training needs have been identified. While the ICAO does not have a standardized test instrument to measure its required proficiency level, other organizations are developing formal testing instruments and methods.

The new ICAO mandate is a solid step to raising the overall English proficiency level of pilots and air traffic controllers around the world, which should result in a significant decrease in communication-related aviation accidents. This is especially important not only to the flying public whose safety is directly affected but also to the population on the ground over whose cities pilots from other nations must fly.

Implications for Training

The new ICAO mandate makes it essential for aviation personnel to improve their level of English since this high-stakes requirement will affect the employability of cockpit crews and air traffic controllers in all United Nations member states.

Another consequence of this mandate is the need for all training companies and educational institutions teaching Aviation English to re-evaluate their training methods and materials and to adapt their programs to meet the ICAO’s standards.

Virtual Languages Learning Academy (ViLLA) is a U.S. company that delivers web-based English language training in both Aviation English and Business English. ViLLA has worked with the ICAO and other aviation authorities, such as the Federal Aviation Administration (FAA) and IATA (International Air Transport Association) since the beginning of its development of an Aviation English curriculum. Nevertheless, the recent ICAO mandate required ViLLA to re-analyze its entire Aviation English course offerings to see if they provided the appropriate training to help its students meet the mandated ICAO proficiency level.

ViLLA, along with all other Aviation English training companies, faced the immediate major challenge of trying to determine how ICAO defined its five levels of English proficiency. To make the task more difficult, ICAO did not correlate its levels with any standardized English exam. The only guideline given was a set of descriptors of linguistic skills to be met by the trainee at each level.

With these descriptors in hand, one of the company’s first tasks was to determine how its existing levels of language instruction correlated with ICAO’s five levels. ViLLA’s language program also has five levels of instruction, Basic through Advanced, but there was not an immediate one-to-one correlation between the five ICAO levels and the five ViLLA levels. For example, ViLLA’s first level requires the trainee to be able to understand, recognize, and read a limited number of common words, phrases, and simple sentences. ViLLA recommends that trainees who test below this level should have formal classroom
instruction to learn the fundamental concepts of the language introduced. ICAO’s first level assumes students are not able to function in English at all. Therefore, ICAO’s Level 2 is equivalent to ViLLA’s Level 1 or Basic level.

At the upper levels, comparisons were more direct. ICAO requires trainees to attain a Level 4, or Operational Level, of English proficiency. When trainees complete ViLLA’s fourth or Intermediate level, they should be able to attain this goal. ICAO has a Level 5 or Extended Level beyond the mandated level, which compares to Villa’s Level 5 or Advanced level.

As mentioned earlier, the company used ICAO’s descriptors of English skill achievement for each level. The company had already compared its own levels to a variety of international language exams, including the TOEFL, TOEIC, and IELTS, so the proficiency descriptors used by those testing organizations also helped to refine the comparison.

Fortunately, the ViLLA program was developed in line with the pedagogical principles recommended by ICAO. The fundamental approach to instruction is English for Specific Purposes (ESP), in which trainees learn English while also learning special-topic information, in this case aviation information, technology, and terminology. To accomplish this, the company engaged highly qualified experts (Ph.D’s, flight instructors, aerospace engineers, veteran pilots, etc.) within the aviation industry to write the aviation content for each lesson. Linguistic experts then applied sound pedagogical theory to write a wide variety of English activities based on that aviation content. The resulting modules provide a rich environment for language learning, using interesting and informative lessons that are theme-based and content driven.

In Aviation English, trainees must learn how to deal with radiotelephony requirements; that is, two-way radio communication between the cockpit crew and the tower. In the new ICAO mandate, the requirement for extensive practice with and development of radiotelephony skills is an area of strong emphasis. Even before the mandate, ViLLA addressed this in its early language program development stages by including preparation for ATC communication at its lower levels and then practice with actual tower tapes from both the U.S. and Europe at higher levels. A variety of activities help trainees acquire and practice this specialized listening skill.

From the very beginning of its curriculum development, the most significant challenge that ViLLA had faced in the development of its language training modules was the inclusion of speaking practice for trainees. Since ViLLA provides a web-based program, there are natural limitations to having the students engage in conversation when only the computer is used. From the beginning, the materials writers and developers included a variety of listening opportunities, which were designed to train the listening skills of the participants. At their own pace and as often as they choose, trainees can click and hear the pronunciation of individual glossary items or listen to longer text segments including the Reading Selection itself, short sentences, phrases, definitions, and questions in the listening activities. These listening opportunities provide a solid model for learning pronunciation (both American and British English) and intonation, which the trainees can imitate.

To fully meet the need for trainees to receive instruction in speaking and specific radiotelephony skills, ViLLA recommends a blended learning delivery model, which consists of a combination of online and classroom instruction, to maximize the benefit of the curriculum.[10] A variety of models allow the client (e.g., a large airline) maximum flexibility in designing its training programs. For example, online and face-to-face training can be carried out daily; or classroom instruction can be scheduled at intervals such as two weeks, with trainees using the online courses in between. Either ViLLA’s trainers or the client’s corporate trainers can deliver the instruction. Regardless of how it is delivered, the classroom instruction is based on content contained in the online segments. In addition, a large percentage of the classroom instruction addresses radiotelephony skills needed by aviation personnel, in line with ICAO recommendations.

To further address the need to give trainees practice with spoken English, ViLLA partnered with Emerging Business Systems, Inc. (EBS) of Springfield, Virginia, to develop an innovative voice recognition technology for phonology and phraseology training and has included it in each of its online courses. This development has provided a technological and economic challenge but has
significantly strengthened the ViLLA curriculum, giving it a major competitive advantage in the marketplace. The company is constantly increasing the accuracy and reliability of this specialized training tool.

ICAO’s mandate for pilots and air traffic controllers around the world to achieve and demonstrate Level 4 English language proficiency by the year 2008 has caused most English training organizations to re-evaluate their programs and adapt them where necessary. All training organizations will have to continue to follow other developments that result from ICAO’s new policies. For example, once a specialized, standardized English exam to measure language proficiency levels in terms of the five levels identified by ICAO has been produced, training programs will again have to be evaluated to be assured that the curriculum and courses effectively train aviation personnel for this high-stakes exam and that the programs match the proficiency levels as measured by the exam.

While it is challenging for any organization to have to adapt to a new set of international standards, in this particular case, the benefit of all these required changes and program improvements is safer skies for the flying public around the world.

References


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