

The Value of Content-based Language Training for the Aviation Industry

Ms. Elizabeth Mathews
Aviation English Services
emathews@aeservices.net

Brief Summary

The adoption of the ICAO Language Proficiency Requirements introduce a very large and high-stakes English language training need into the aviation industry. The ICAO guidance manual (Document 9835) suggests *Content-based Language Training* as an effective solution. The value of a content-based aviation English approach to language training for pilots and controllers is examined.

Introduction

Prior to the adoption of strengthened Language Proficiency Standards and Recommended Practices by the ICAO Council in 2003, English language training for pilots or air traffic controllers had, to a large extent, been seen as important item to include in a budget—when possible. The length and quality of aviation English training, when conducted, was driven largely by time and budgetary constraints, and—equally important—there was no target proficiency level towards which to aim. The 2008 ICAO language testing Standards and Recommended Practices completely change the context of how English language training will occur in the aviation industry.

Having to demonstrate ICAO Operational Level 4 English language proficiency in order to earn a license to operate internationally will require that pilots and air traffic controllers remain in English language training until the target level is obtained. That is, aviation English training will be driven by the target—Operational Level 4—rather than solely by time and/or economic constraints.

This shift in the requirements for English training in the industry necessitates a significant investment of time and financial resources, for individuals, airlines, air traffic service providers, training organizations, and national economies. The safety and economic impact of the ICAO language Standards obligate aviation English training providers to provide the most economical, efficient, and effective programs possible.

The ICAO *Document 9835: Manual on the Implementation of ICAO Language Proficiency Requirements* recommends **Content-based language training** as a way to economize and to maximize the effectiveness of an aviation English program.ⁱ

A changed landscape for Aviation English

While the ICAO Language Standards apply to all languages used for radiotelephony communications, the greatest training challenge falls on the teaching of English. The most significant change in how English must be taught stems from the establishment of clear training targets, described in the ICAO Language Proficiency Rating Scale, for speaking and listening *proficiency*.

The requirement for speaking and listening proficiency means that aviation English testing must comprise *proficiency* tests, and not ‘pen-and-paper, grammar-focused, or indirect tests of knowledge about English. Rather, Proficiency tests assess a candidate’s ability to use the language, in other words, their

communicative competence. Testing for compliance with the ICAO Language Proficiency Standards must include direct tests of speaking and listening proficiency.

This is important because test method affects training design, a phenomenon called *test washback*. Test washback refers to the effect a test has on training, or how the test method ‘washes back’ into the training. Typically, perhaps naturally, people want to see a direct correlation between training and testing; we want to learn what we will be tested on. In some fields, the correlation is obvious: in knowledge-based learning—history, mathematics, English literature, ground school for flight training—a direct teach/test correlation may be possible, and may, in fact, be a principle of good curriculum design.

Language proficiency

However, language proficiency is not merely knowledge of a set of grammar rules or vocabulary. Language proficiency is a complex interaction of knowledge with a number of skills and abilities. Linguists continue to work to define what it means to know a language. In the 1980’s, the linguists Michael Canale and Merrill Swainⁱⁱ developed (adapted from the work of sociolinguist Dell Hymes and extended more recently by Professor Lyle Bachmanⁱⁱⁱ) a working definition of communicative competence that continues to be refined and elaborated. Communicative competence includes at least the following skills:

Grammatical competence	How the language is structured; how words and rules work.
Sociolinguistic competence	Understanding the social context in which language is used.
Strategic competence	Including compensation strategies, the ability to negotiate meaning, to clarify.
Discourse competence	How sentences or utterances combine to make coherent, whole texts.

In addition to the areas of linguistic competence necessary to be proficient in a language, other factors impact language use: context, knowledge of the world, verbal working memory, and verbal processing abilities. The point of this necessarily too brief introduction to linguistic competence is to illustrate that language learning is a complex process, and does not lend itself to simple memorization of lists of items.

Operational Level 4

Although understanding what constitutes language proficiency is complex, the ICAO Operational Level 4 is a practical and achievable level of proficiency.

It is important to educate stakeholders—the pilots and air traffic controllers, their managers and administrators, and their civil aviation authorities—about the nature of language *proficiency* testing and training so that they are better able to make informed choices. Like flight training itself—an activity that requires a mature and serious commitment of time and effort to achieve target levels of competency—so too does English language training for the aviation industry require time and effort.

Fit for duty

In some ways, language learning is somewhat akin to physical or athletic skills, in that increasing physical health or prowess is possible but always requires a commitment of time and effort. How quickly someone can become physically fit depends on a number of factors, including the person’s level of physical fitness to start, as well as how much time each day he or she devotes to exercise. The length of time required to reach a fitness target varies from person to person, but there are some general constraints under which we all must operate. Even with the best diet and exercise plan, improving one’s level of physical fitness

takes time. Measurable improvement will not be achieved overnight, nor after a week or two of, even, intensive exercise. Positive results will begin to be evident after a month or so of committed effort. Other people will need longer to show good results, perhaps two, three, or four months—again depending on the amount and quality of effort expended and starting levels.

Increasing one's language proficiency is similar. It is no more possible to 'cram' for a language proficiency test than it is to prepare overnight, or in one week, or perhaps even one month, for a fitness exam.

Until research is published from aviation-specific programs, we can only estimate 'how long it will take' to achieve Operational Level 4. Research extrapolated from academia and from the few long-term aviation English training programs indicate a minimum of 100 - 200 hours will be required for learners to progress from a mid-to-high Pre-Operational Level 3 to the Operational Level 4.

An aviation English "cram" school will simply, unequivocally, not work.

What does Work Program Delivery and Program Content

That does not mean that it is not possible to establish effective and efficient language training. It is, in fact, quite possible to develop aviation-specific English language programs which are of high value and high-interest to pilots and air traffic controllers.

Two aspects of language training which directly impact program effectiveness are *delivery* and *content*.

Delivery—the role of Computer- or Web-based learning

Pilots and air traffic controllers are busy professionals. Their tight schedules require that we provide some language instruction on-line in order to maximize efficiency. This is obvious but not simple, as developing CBT (or WBT) is more costly than simple classroom materials, and, therefore, more risky to develop. In addition, the effectiveness of computer-based language learning has not been much studied yet. Nonetheless, in the context of aviation English, CBT is essential, and common sense and experience tell us that some aspects of the ICAO proficiency requirements will lend themselves to learning via CBT, such as Vocabulary acquisition, Grammar study and Listening practice. While CBT certainly has a place, it is inevitable that the speaking proficiency requirements necessitate some classroom training, too.

The most effective approach will be one in which the CBT *precedes* and *prepares* the learner for intensive classroom seminars.

Establishing a close relationship between CBT lessons that precede and prepare the learner for intensive classroom seminars enhances the efficiency of classroom time, the more costly part of an aviation English training program, when the 'down' time of the pilot/controller participants is factored in.

Program content

Delivery aside, one of the most important variables that can impact the effectiveness of language teaching is program content. The ICAO Guidance Manual, (Document 9835, Chapter 4.4.11), suggests **Content-based Language Training** (CBLT) as particularly suitable for aviation English training. There are a number of reasons why a **Content-based Aviation English** program represents the most effective and efficient training application.

CONTENT-BASED LANGUAGE TRAINING

Content-based Language Training, or CBLT, is a proven method formalized in bilingual nations (Canada) in order to meet the urgent French and English language training requirements of the Canadian Civil Service, immigrant populations, and secondary education institutions.^{1iv} Content-based Language Learning is a well-researched methodology that combines language learning with the delivery of important informational content. In CBLT, *content* shares equal importance with language instruction. It is not “learning English for the sake of learning English.” The focus is on learning language in the context of learning *about* some other important content information. In other words, language learning occurs while a student is focusing on learning some content.

All language learning requires a content focus. Consider English language training with which you are familiar. Many have had foreign language lessons that looked something like this:

Fill in the correct form of the verb:

Carla (salir) de la casa a las nueve.	[Carla leaves the house at 9:00.]
Juan (ir) al teatro.	[John goes to the theatre.]
El siempre (llegar) tarde al trabajo.	[He always arrives late to work.]
Ellos (comen) arroz.	[They eat rice.]

Some have referred to this as the LENAR Approach: “Learning English for No Apparent Reason.” Those who have endured such language training may recall the frustration and boredom often associated with this type of lesson. What is lacking in the ‘LENAR’ approach is context and meaningful communication.

CBLT is not new. For centuries, perhaps thousands of years, humans have learned foreign languages *in context*. That is, they have learned languages when they needed to understand some important content that was available in the foreign language: for trade, for business, for settling in a new place. Focusing on the language itself as the sole object of study is a relatively new phenomenon. Adopting a Content-based approach is going back to the roots of how humans have learned languages naturally, before we were diverted, with generally unfortunate results, by the teaching of fossilized languages (Latin) to the study of foreign languages as an object of study and interest in and of themselves.

Content is key.

When we understand that every language lesson has some content focus, in addition to the language focus, then it is easy to grasp the sense of making the *content focus* relevant to the learners. Content-based language learning focuses on content that is highly relevant, even necessary, to the learner; it is a proven approach to language learning that does not artificially separate language learning from real communication.

¹ “Content-Based Language Instruction: The Foundation of Language Immersion Education.” Tedick, Diane. Jorgensen, Karen. Geffert, Terri. **The Bridge. ACIE Newsletter.** 4 (3), 1-4. Minneapolis, Minnesota. University of Minneapolis. The Center for Advanced Research on Language Acquisition.

Content-based Aviation English

Every language lesson has some content focus, even lessons which are not part of a content-based approach. It is important to consider the specific needs of the target audience when we design language lesson content. Typically, the traditional aviation English lesson has incorporated a range of aviation content into the language lessons, more or less meaningful, depending on the audience. As an example, consider one common aviation English lesson content focus:

“The Four Forces of Flight.”

This can be a meaningful topic for ab initio trainees, but it is perhaps less interesting, less relevant to the *professional* already-trained pilot or air traffic controller. In that case, the language lessons delivered via this content become the sole focus of the lesson. That is, the *content focus* of the language lesson is familiar to the learner but not meaningful in and of itself. The same may be true, too, for aviation English lessons which focus exclusively on radiotelephony communication or ICAO phraseology, lessons which are of value for ab initio trainees, but likely represent areas with which professional pilots and controllers are already quite familiar. For the professional pilot or controller, an aviation English lesson focusing on radiotelephony, phraseology, or the four forces of flight can deliver language content but do not provide any other meaningful content. (Very familiar or redundant content may be, however, a useful strategy at *lower* levels of language proficiency, ICAO pre-Operational Level 2, for example.)

Content: Aviation Safety. Content-based Language Training can particularly effective for pilots and air traffic controllers for a number of reasons. In particular, the rationale for a content-based **safety-focus** in Aviation English training is strong.

Much safety content is published in English. Many aviation safety organizations publish and freely distribute videos and tool kits designed to improve the safety awareness of pilots and air traffic controllers. Most are published in English, and target English speakers at what ICAO calls the “Expert Level 6.”

Many pilots and controllers cannot easily understand. Many ‘limited English proficient’ pilots and controllers are not able to easily access the safety information contained in such publications. Adapting such publications for the aviation English program makes the information contained there accessible to all pilot and controllers.

Improving safety awareness is on-going process. Pilots and controllers universally exhibit a high interest in increasing their safety awareness. In fact, organizations commit significant resources to the continual improvement and management of safety systems.

Content-based, safety-focus is high interest. Pilots and controllers who need to comply with the ICAO Operational Level 4 may require between 200 – 400 hours in aviation English training. Providing content-based, safety-focused English training has a number of benefits to the pilots, controllers, to their organizations, and to the aviation industry:

- It **doubles the value** of required language learning time by pairing language lessons with important safety content;
- It **increases safety** awareness;
- It provides **high-interest topics** in the language lessons, increasing learner motivation.
- **Motivation** is a key factor in language-learning success. People naturally pay more attention to topics in which they have an inherent interest.
- Time spent on language learning has a **positive impact** progress.

Adds value to training. Simply put, content-based, safety-focused English training is *logical*. It makes sense. A safety-focused, content-based program can add value to an organization by delivering English training through important safety content.

A checklist for Content-based Safety-focused English training

There is much information available in the language-teaching community about the value of Content-based Language Training. Organizations and individuals who wish to learn more about adapting Content-based Language Training for the aviation industry can easily find information on the Internet, in language teaching publications, or by accessing the references cited in this paper.

In addition, the following checklist is provided as a simple device for use in planning program development or program evaluation.

- ✓ **Content Value:** Is the **content** of the lessons relevant to the learner? Is the content very interesting to the learner? Can you identify true value in the content besides the language focus?
- ✓ **Cohesive:** Does one unit relate thematically to the next unit? Are topics presented randomly or is there cohesion of topic choice in each language lesson?
- ✓ **Rational:** What is the unifying theme of a curriculum, in addition to the language learning? What holds the lessons together?
- ✓ **Context:** Are lessons presented in context? In a meaningful way?

In a very real sense, the ICAO Language Standards are not new; English has long been required for safe and effective radiotelephony communications. What is new are how the strengthened Standards impact training.

Organizations can ease the impact of the significant training requirements by doubling language training with safety awareness. Increasing safety awareness not only is of interest to pilots, controllers, and their organizations, but increasing safety awareness benefits the entire industry, right down to the passengers.

ⁱ ICAO Document 9835: Manual on the Implementation of ICAO Language Proficiency Requirements.

ⁱⁱ Canale, M. and Swaine, M. (1980). Theoretical bases of communicative approaches to second-language teaching and testing. *Applied Linguistics*, 1 (1), 1 – 47.

ⁱⁱⁱ Chappell, C., Grabe W., and Berns, M. “Communicative Language Proficiency: Definition and Implications for TOEFL 2000.” Educational Testing Service. Princeton, New Jersey. RM-97-3.

^{iv} “Content-Based Language Instruction: The Foundation of Language Immersion Education.” Tedick, Diane, Jorgensen, Karen, Geffert, Terri. **The Bridge. ACIE Newsletter**. 4 (3), 1-4. Minneapolis, Minnesota. University of Minneapolis. The Center for Advanced Research on Language Acquisition.

Other References

www.teachingenglish.org.uk/think/methodology/content.shtml
