Cir 323
AN/185

Guidelines for Aviation English Training Programmes

International Civil Aviation Organization

_____

Cir 323
AN/185

Guidelines for Aviation English Training Programmes

International Civil Aviation Organization

TABLE OF CONTENTS

Page

———————————

INTRODUCTION

BACKGROUND

While there are internationally recognized bodies providing accreditation for schools teaching English as a Foreign Language (see Appendix A, Section A1) and qualifications for teachers of English as a Foreign Language (see Appendix A, Section A2), there is no system of accreditation or qualification for schools or teachers developing and delivering aviation English training. Like aviation English testing, aviation English training is an unregulated industry.

Yet, language training in aviation has specific objectives, content, criteria of proficiency, conditions of use and professional and personal stakes that set it apart from the teaching of language in any other area of human activity:

> ➢ Language is designed to ensure unambiguous pilot-controller communication;
> ➢ The language used employs a very specific set of vocabulary, expressions and functions;
> ➢ Operational efficiency, rather than linguistic correctness, is the ultimate criterion by which proficiency is assessed;
> ➢ Communication is predominantly oral and most often with no visual contact;
> ➢ The question of communication may not only impact the safety of the travelling public and individual careers, but also potentially have considerable economic repercussions on all individuals involved in the aviation industry, directly through testing and training costs and indirectly by its effect on staffing.

In the absence of any system of accreditation, validation or qualification for schools or teachers developing and delivering aviation English training, these *Guidelines for Aviation English Training Programmes* have been drawn up in order to assist the aviation community in selecting and contracting with aviation English training providers and in setting appropriate standards of good practice for them.

The ICAO Language Proficiency Requirements apply to achieving and maintaining proficiency in all languages used in radiotelephony communications. However, as English is the language most widely used in common by the global aviation community, and the one which there is a requirement to provide, it is in improving levels of spoken English that the community's main focus currently lies.

The introduction of the ICAO Language Proficiency Requirements (LPRs) in 2003 and the subsequent steps to assist their implementation have significantly altered the environment in which aviation English training is carried out. From an optional and irregular activity on the periphery of professional training, entirely dependent on available funds, aviation English training is in the process of becoming a subject driven by specific objectives: attaining and maintaining the language proficiency defined as ICAO Operational Level 4.

This transition has considerable repercussions. As long as the language training delivered was entirely constrained by budgetary limits, there was little awareness of the considerable time required for a learner to make significant progress in a language (see 1.3.10, Training duration), nor was much attention given to the differences in the rates at which learners effectively acquire language. The very considerable training times involved to reach genuine operational proficiency have in turn a substantial impact on both the direct and indirect costs of training.

Hard financial realities make it all the more necessary to select appropriate, efficient and cost-effective training solutions. This selection process requires an enhanced awareness by management of many language training issues and variables including:

— realistic training durations,

— the differences between individual learners,
— the communicative nature of the language required,
— the value of training content,
— the operational relevance of the communication functions to be acquired,
— the effectiveness of the blending of self-study and classroom activities,
— the need for remedial and recurrent training to obtain results, and
— the characteristics of appropriate language trainers.

These and other issues are addressed in this circular with a view to fostering a better understanding of this very specific type of training. This enhanced understanding will foster the selection of more appropriate, efficient and cost-effective solutions by both decision-makers and training providers.

PURPOSE

The purpose of this circular is not to recommend or accredit any given training provider, institution or school. Neither are the guidelines meant to replace aviation English trainer training. However, this circular does seek to lay down a set of principles of best practice and guidelines by which any aviation English training can be assessed.

The circular addresses four areas:

1. Aviation English training design and development (Chapter 1)
2. Aviation English training delivery (Chapter 2)
3. Aviation English trainer profiles and backgrounds (Chapter 3)
4. Aviation English trainer training (Chapter 4)

These guidelines were based on the expertise and experience of the Board and members of the International Civil Aviation English Association (ICAEA) (www.icaea.pansa.pl) as an integral part of its commitment to enhancing standards in aviation English training as instrumental to improving the standard of aviation communications worldwide. In doing so, there is one single concern: safety.

National authority personnel, training managers, administrators, training designers and providers, trainers or facilitators involved either directly in training or in its oversight will benefit from this circular as it will assist them in their efforts to ensure training efficiency and effectiveness.

USING THIS CIRCULAR

The Table of Contents provides a summary and a checklist of the key points to be kept in mind when evaluating aviation English training.

The circular does not have to be read in order from beginning to end; particular paragraphs can be consulted as required. Moreover, similar observations will be found in different chapters: for example, in Chapter 1 from a training design point of view and in Chapter 4 from a "train the trainer" point of view. While these points may overlap, it allows each section of the document to be self-contained.

The reader will choose the depth at which the circular will be used at any given time. Reading may range from using the Table of Contents as a checklist of actions to complete to pursuing an understanding of the subjects through the many resources to which there are cross-references.

A questionnaire at the end of each of the four chapters enables readers to check their understanding of the contents and acts as a quick means of reviewing essential content.

There is also a short chapter, Conclusions, that summarizes the main principles for aviation English training design, delivery, trainers and trainer training.

There are six appendices:

Appendix A is divided into seven sections and provides resources for further reading and research. These resources are referred to in the text of the circular.

Appendices B through E provide model forms for some of the questions that need to be addressed; these forms can be adapted by organizations selecting or contracting language training services as well as by providers seeking to present this information.

Appendix F provides information about the International Civil Aviation English Association.

Note.— The term "trainer" has generally been used in this circular to designate a person having an instructional role. "Trainer" is understood as a generic term covering the more specific terms of:

➢ *"teacher" with more emphasis on purely language learning;*
➢ *"instructor" with more technical associations; and*
➢ *"facilitator" who is a person in a more auxiliary role.*

These three terms are also used as appropriate.

_____

Chapter 1

AVIATION ENGLISH TRAINING DESIGN AND DEVELOPMENT

1.1   DEFINITION OF TRAINING OBJECTIVES

The design and development of an effective aviation English training programme must be driven by the constraints and framework established by the ICAO language provisions, which will define the objectives of the training programme. These objectives are described in the following four sections.

1.1.1   Use of operationally relevant, work-related language

The ICAO Language Proficiency Requirements (Annex 1, Appendix 1, Section 2, "Holistic descriptors", and Doc 9835, 2.4 and 4.4.6) address language used in radiotelephony communications.

Between the very narrow focus of standardized phraseology, e.g.

> ➢   Leaving Level 2-6-0 for Level 2-5-0
> ➢   Cleared visual approach Runway 1-3 Left
> ➢   Are you ready for immediate departure?

and the very wide focus of conversational aviation topics, e.g.

> ➢   How have low-cost carriers affected the aviation industry?
> ➢   High fuel prices are putting a lot of pressure on airlines today
> ➢   The ailerons are used for turn and bank control

there is the domain of plain language in an operational context, e.g.

> ➢   Three passengers have been hurt and we'll have to divert to Ankara
> ➢   There seems to be some metal debris near the threshold of Runway 09 Left
> ➢   We have ordered an ambulance to be standing by at the gate

This is the language required to deal effectively with all the non-standard, abnormal or emergency situations which pilots and controllers encounter and for which standardized phraseology is insufficient (see Day (2004-1) and Fox (2007) in Appendix A, Section A4).

While the ICAO Language Proficiency Requirements refer to the "ability to speak and understand the language used in radiotelephony communication", Appendix 1 of Annex 1, Section 2, specifies that "Proficient speakers shall: a) communicate effectively in voice-only (telephone/radiotelephone) and in face-to-face situations".

For a discussion on the distinction between standardized phraseology and plain language, see 3.8.3.

1.1.2   Development of communicative language skills

In addition to addressing non-formulaic, work-related language, aviation English training must adopt an essentially communicative approach to language learning with the main focus on speaking, listening and interactive skills. Although grammar, syntax, vocabulary and reading underlie oral communications, the primary objective of aviation English training is voice-only communication.

1.1.3   Coverage of all six ICAO Rating Scale and Holistic Descriptors skill areas

Any valid aviation English training must contain activities that are designed to address all six language skill areas specified in the ICAO Rating Scale and holistic descriptors: pronunciation, structure, vocabulary, fluency, comprehension and interactions.

1.1.4   Achievement of ICAO Operational Level 4 in all six skill areas

Training must also ensure that students achieve proficiency at least at ICAO Operational Level 4 in all six skill areas (see 1.1.3). One of the specific characteristics of testing for ICAO language proficiency is that aggregate scores are not admissible: the final score is the score of the lowest skill area. This is essential because Operational Level 4 descriptors were developed as the safest *minimum* proficiency skill level necessary for radiotelephony communications.

1.2   TRAINING PROVIDER INFORMATION

While Section 1.1 provided guidelines concerning what the training objectives of a training programme should be, this section describes the information that a training provider should submit to those responsible for selecting training providers for their organizations.

1.2.1   Training design and development team

Making the wrong choice of provider can have serious consequences in terms of cost, time spent and achievement of training objectives. Training is ultimately about people. Assessing the quality of a training system starts with knowing the identity, qualifications and commitment of those people who are behind the creation of this training.

The form in Appendix B (Provider organizational information and infrastructure protocol form) is an example of some of the questions that any organization could ask when seeking to select and contract with an aviation English training provider.

Clear information about the organization should be obtained in the following areas:

- ➢ Commercial and institutional links and accreditations
- ➢ Background in aviation English
- ➢ Mission statement in terms of commitment, philosophy, values, etc.
- ➢ Geographical and quantitative capacity to deliver training
- ➢ Identity of, profile of and any changes among the key personnel
- ➢ Subject matter experts (SMEs) employed

The importance of systematic input and approval of all training materials by genuine Subject Matter Experts (SMEs) – e.g. professional airline pilots and air traffic controllers – cannot be overestimated.

1.2.2 Qualification and experience

The training provider should also be able to give detailed information about the identity, qualifications, profiles and experience of its aviation English training personnel. More information about these variables is given in Chapter 3.

Training providers often publish claims about being endorsed by various authorities; potential clients should request proof of validation of such endorsement in the form of formal written references.

1.2.3 Definition of training curriculum

In order to decide whether a particular provider has courseware that is suitable in terms of level, duration, type of delivery (classroom/computer-based) and type of student (professional or ab initio), some basic questions must be asked. Sections 1.3 and 1.4 and Chapter 2 will explore in more detail the features and content that will contribute to forming an appropriate aviation English curriculum.

The Curriculum Information Form in Appendix C may be helpful in assisting with this evaluation. The questions about the programme description, computer-based training and/or web-based training (CBT/WBT) and content focus are particularly critical. They will help form a "picture" of the type of training desired.

1.2.4 Definition of training curriculum development process

In order to reach the goals set by the ICAO Language Proficiency Requirements, aviation English courses should be thorough and comprehensive. This implies that courseware should be developed with a clear methodology and a state-of-the-art development process.

Professional language training development follows a systematic process with well-defined steps such as:

> ➢ Definition of the training objectives
> ➢ Definition of the learning population
> ➢ Timing and architecture of blended learning
> ➢ Creation of design documents
> ➢ Analysis of linguistic and subject matter content
> ➢ Coordinator approval of design documents and content
> ➢ Research and data collection
> ➢ Media identification
> ➢ Authoring of scenarios and exercises
> ➢ Coordinator review
> ➢ Subject Matter Expert (SME) review
> ➢ Quality Assurance (QA) review
> ➢ Peer review

Evidence that these steps were carried out should be clearly demonstrated by the training provider.

Appendix D (Instruction and Curriculum Development) formulates some of the questions that should be asked about the development process and the qualifications of the development team. Some of these issues are addressed in more detail in Section 1.3.

1.3 JUSTIFICATION OF TRAINING APPROACHES

Different approaches may be effective when training pilots and air traffic controllers to reach and maintain Operational Level 4. The following guidelines describe the different issues that should be considered when determining the best

training solution for a given organization. In the design and development of their training programmes, training providers should be prepared to explain the choices they have made on these issues.

1.3.1   Curriculum content and order

Doc 9835 advocates the use of content-based language learning in aviation English for reasons of learning efficiency, relevance of the subject matter, motivation and cost-effectiveness.

It is generally accepted that the closer the content matter of a course is to the actual situations, activities, functions and subjects encountered in the students' professional life, the more effective and motivating this courseware will be (see Mathews (2007) in Appendix A, Section A4).

Whatever choices are made about the content or subject matter used as a vehicle for the language learning activities, there must be a rationale and relevance for professional situations that can be demonstrated.

In addition, the order in which subject matter is introduced must follow a logical progression as regards not only language level, but also familiarity with basic information **before** more complex information is introduced.

1.3.2   Pilot and controller streams

Pilots and air traffic controllers are two sides of the same coin in the radiotelephonic exchange. However, their concerns, areas of specialized knowledge, and the variety of situations to which they are directly exposed are different; as a result, it may be preferable to use different courseware for each group.

For example, it may be more appropriate for aviation English training designed for pilots to explore a wider range of operational situations, communication registers and interlocutors because pilots are also called upon to interact with other crew members and describe in-flight conditions in greater detail. On the other hand, the language used in airspace management and interaction with emergency services could be more developed when training controllers.

1.3.3   Professional and ab initio students

More important than the distinction between pilots and controllers as language learners is the distinction between active operational professionals and ab initio cadets or ATC trainees.

In the case of ab initio students, there will be a great deal of technical or operational subject matter that cannot be taken for granted, while the resolution of an in-flight emergency or a navaid malfunction are topics that are relevant and motivating for experienced professionals. Similarly, the four forces of flight and the function of the ailerons, which may motivate ab initio students, will hardly seem to be relevant subject matter to professional pilots (see Albritton (2007) in Appendix A, Section A4).

1.3.4   Consistent use of a communicative approach

The ICAO Language Proficiency Requirements (LPRs) are about oral communication. The holistic descriptors in Annex 1, Appendix 1, state that:

"Proficient speakers shall:

   a)   c**ommunicate** effectively in voice-only (telephone/radiotelephone) and in face-to-face situations;

b) **communicate** on common, concrete and work-related topics with accuracy and clarity;

c) use appropriate **communicative strategies** to exchange messages and to recognize and resolve misunderstandings (e.g. to check, confirm or clarify information) in a general or work-related context".

The primary objective of any aviation English training curriculum must be to build and enhance these communicative skills and strategies. Aviation English training providers must be able to demonstrate conclusively that their programmes use communicative approach methods to language learning that support their students in the most effective way to reach and sustain the required level of communicative proficiency.

Examples of a consistently communicative approach to language training are:

➢ Interactive listening comprehension exercises which also elicit oral responses from learners;
➢ Classroom information exchange and role-play activities in pairs;
➢ Practice of vocabulary and grammar (structure) through oral use rather than reading and writing exercises;
➢ Using graphic (scopes, instrument panels and charts) and numerical data (tables and displays) to elicit speech production to mirror pilots' and controllers' working environments and situation management;
➢ Group problem resolution activities to develop interactivity and fluency skills.

Much language learning has been based on the memorization of written documents, vocabulary lists and grammar rules. While it may be an initial step in the learning process, such an approach does not prepare learners most effectively and efficiently for the voice-only, interactive communication that occurs on the flight deck and at the ATC centre.

1.3.5   Effective coverage of all six ICAO skills and achievement of Operational Level 4

Beginning at the design stage, aviation English training development managers must draw up a checklist to ensure that each of the six ICAO Rating Scale skills receives adequate and appropriate attention. Such a detailed checklist will demonstrate the effective distribution of activities addressing all six skills in a methodical and progressive manner throughout the course.

The courseware must also be designed to take students progressively towards Operational Level 4 and ensure that they attain it with a comfortable safety margin. What we learn is eroded quickly by time, routine, absence of recurrent training and lack of extended use. Aviation English training providers have a responsibility to ensure that their students complete their training with a comfortable safety margin which takes this process of erosion into account.

1.3.6   Professional relevance and student motivation

"Content-based language instruction is appropriate to aviation professionals because the language becomes the vehicle for learning meaningful and appropriate content; language learning is not seen as auxiliary to other aviation training, but as integrated with aviation training." (Doc 9835)

It is well known to what extent motivation drives efficient learning. If we see the relevance of what we are learning, we learn it all the more readily. Equally, if the content and function of the language learnt are relevant to real-life operational situations, it will be more easily and naturally available and applied when it is required (Mitsutomi (2004) and Shawcross (2004-1) in Appendix A, Section A4).

Professional relevance is a combination of two factors: content and function. Content may include subjects such as approach, delays, bad weather conditions, sick passengers, a hydraulic failure and runway incursions. No less relevant for aviation professionals are the specific language functions required to deal with these situations, such as describing, requesting, clarifying and confirming (see 4.4.1).

Although pilot and controller communications are mainly voice-only radiotelephony (1.1.1 refers), flight crew also have to manage face-to-face situations, such as:

> ➢ Managing an emergency with other cabin and fight deck crews;
> ➢ Calming unruly or distressed passengers;
> ➢ Handling hijackers, terrorists, etc.; and
> ➢ Liaising with fire crews and emergency services.

Parts of aviation English training should also address the language and communicational skills required in such situations.

The most effective aviation English training will systematically address the combination of content and function in a communicative context. It will also be designed so that it is "student-centred", i.e. it takes students' learning habits, background and training objectives into consideration.

By incorporating the topics, operational situations and communicative functions which make up the substance of pilot-controller radiotelephony communications into their courseware, training providers are preparing their students most effectively for using English in their real-life working environment.

Doc 9835 contains a non-exhaustive list of many of the aviation topics, situations and communicative functions that should be addressed in aviation English curricula for them to have face validity and be effective. These functions are also addressed in 3.8.2, 4.2.1 to 4.2.9 and 4.4.1.

1.3.7   Use of technology

Language learning today, especially when large numbers are involved, increasingly depends on the use of technology (see Shawcross (2004-2) in Appendix A, Section A4).

The time constraints under which operational personnel work, the varying needs and learning styles of students and the emphasis on listening comprehension and pronunciation in the ICAO Rating Scale are only three of the arguments in favour of the intensive use of computer technology within an aviation English curriculum. Computer-based training (CBT) or web-based training (WBT) materials can provide a rich source of purpose-made, flexible and cost-effective learning activities.

CBT and WBT are particularly effective in addressing language skills such as listening comprehension, vocabulary building, pronunciation and grammar application. They can considerably reduce the time required in the classroom and allow trainers to make more appropriate use of this time. However, a live classroom experience with a qualified aviation English trainer is indispensable for improving speech production, fluency and interactive skills.

A "checklist of evaluative criteria for computer-delivered language learning systems" was developed for the Invitational Symposium on Assessing and Advancing Technology in Language Learning at the National Foreign Language Resource Center of the University of Hawaii at Manoa in 1998. This checklist provides CBT/WBT language courseware designers and developers with a precise and very useful set of guidelines (see University of Hawaii (1998) in Appendix A, Section A6).

1.3.8   Appropriate quality and quantity of audio and visual media

There is a profusion of aviation-related audio and video material available today. This makes the creation of stimulating aviation English courseware a much easier task than it was in the 1970s or 1980s (see Appendix A, Section A5).

Audio and video material, so valuable for improving listening comprehension and vocabulary, should provide content and situations applicable in some way to the students' professional environment.

It is easy to underestimate the amount of practice – through exposure to authentic material – that is required to make substantial progress towards proficiency. The amount of listening practice provided in a curriculum must be adequate for the progress that is expected of a student who follows the course and must preferably provide a surplus of material for remedial training (see 2.5.5).

1.3.9   Blended learning

Blended learning refers to the combination of computer-based and classroom learning with a view to optimizing the efficiency and effectiveness of a training programme. Typically, technology is used to support learning and prepare the way for trainer-led learning (see 1.3.7). This means that CBT or WBT is used in conjunction with live classroom sessions led by a qualified trainer in order to put into practice the oral communication and interaction skills that are at the heart of the ICAO language requirements.

Individual CBT or WBT can prepare for classroom activities by removing a large part of the repetitive and lengthy information acquisition and listening processes from classroom time, resulting in the student having the raw materials of communication upon entering the classroom and trainers being able to make better use of their time.

CBT and WBT are also effective for individual remedial training to redress individual inadequacies revealed during the classroom sessions. Training developers and providers should be able to demonstrate the rationale of their blended learning options: exactly how CBT or WBT interact with classroom learning (see Sharma & Barrett (2007) in Appendix A, Section A6).

1.3.10   Training duration

Historically, the conditions in which pilots and air traffic controllers received any specific aviation English training differed greatly. While student air traffic controllers often followed a well-defined curriculum within a national training establishment, with an exam that set a certain level of language proficiency, pilots' language training tended to be less institutionalized because commercial pilots came from different sources: cadet schools, the military, and individual self-funded training.

For operational pilots and controllers, the duration of any language training provided by their organizations – if there was any – tended to be defined purely in budgetary terms; in the best of cases, a certain budget was assigned to language training and the training was usually distributed without any well-defined concern for attaining or maintaining a given level of proficiency.

The introduction of the ICAO Language Proficiency Requirements in 2003 and the adoption of Resolution A36-11, Proficiency in the English Language used for radiotelephony communications, in 2007 have entirely reconfigured the environment in which aviation English training is conceived and conducted; now training is driven by the attainment of a specific level of language proficiency defined by the ICAO Rating Scale. In theory, training is no longer defined by a budget but by specific objectives which in turn affect the budget.

In fact, the industry is currently experiencing a period of transition moving gradually from a budget-driven to an objective-driven concept of language training. In doing so, there is a growing awareness of both the considerable time required for significant progress to be made by any given language learner and also the considerable differences in the rates at which different people learn language. There is a consensus in current academic research that approximately 200 hours is required for a learner to make significant progress, e.g. to move from an mid-to-upper ICAO Level 3 to an Operational Level 4. Moreover, for many individuals, considerably more time may be required – possibly as much as 400 hours – to make the same progress.

The practical repercussions of these facts in terms of direct financial investment and the cost of personnel being withdrawn from service represent substantial challenges for an industry already under pressure in other areas: e.g. fuel costs, competition, environmental concerns, and security.

Given this changing environment, airlines and air navigation service providers are seeking training solutions that will balance effectiveness (achieving ICAO Operational Level 4) with cost-efficiency. The training providers have a responsibility to clearly demonstrate how their programme can achieve this balance.

1.3.11   Cost-effectiveness of training

Learning a language is a long and costly business because so many different facets of human behaviour are involved: memorization, personality, age, culture, sensory perception, past experience, motivation, and social interaction. The cost of training aviation professionals comprises not only the cost of purchasing or developing materials and paying trainers' salaries, but also, more significantly, the downtime caused by removing highly paid professionals from their jobs and replacing them in a complex roster or shift-work system.

CBT or WBT materials may be expensive to purchase but may allow savings in downtime, a reduction of expensive classroom time and greater scheduling flexibility. For each organization, there will be a slightly different equation. What is cost-effective for one organization may not be for another: one size does not fit all.

Ultimately, whatever the costs, the solution that does not achieve the results required to meet the criteria of Operational Level 4 will not be cost-effective. This may be because the content and functions addressed are not relevant for the population to be trained, or because exaggerated claims are made for the potential of CBT or WBT, or because the provider does not adopt a strictly communicative approach to training or for any number of other reasons.

1.4   MONITORING AND TESTING

Monitoring and testing are critical features of aviation English training programmes, and training providers should indicate how they integrate these features at different levels in the programmes they offer. For managers tasked with selecting and overseeing training providers, it is essential that they have a clear understanding of the type of feedback they can expect from monitoring and testing.

1.4.1   Student progress monitoring

Trainers should be aware of their students' needs and respond to them in a timely fashion by monitoring students' activities and progress. Institutions also need to monitor students' progress to meet their administrative and economic obligations and to ensure that their staff reach and maintain Operational Level 4.

An aviation English curriculum must incorporate a placement test and periodic progress and exit tests in order to assess students' progress as objectively as possible (see 4.5.5). Further information should be gathered on activities, exercises and tasks completed, time spent and observation by the trainers.

This information can be gathered and stored in a conventional pencil and paper form. However, computerized records and a tracking system are a more efficient solution where large numbers of students are involved and trainers are working together in a team. Learning Management Systems (LMS) are increasingly being used. An LMS may allow the centralization of all information about the training process as a whole (e.g. course durations, classroom locations, test variables, trainer assignments, classroom occupation, topics covered and courses delivered) as well as individual student data (e.g. time spent on CBT/WBT, exercises completed, test scores, classroom sessions attended, and trainer reports).

Furthermore, large training providers may use a Learning Content Management System (LCMS), which enables them to handle all their training and testing resources in a flexible and modular manner; for example, an LCMS enables courses to be customized to meet particular requirements.

An LMS and an LCMS must be properly supported by the local information technology (IT) infrastructure. Providers and their clients should be aware of the amount and type of data required for reliable student monitoring and follow-up when deciding upon the system to be adopted. The data should be relevant from a training perspective: it should provide trainers and administrators with the information they require to be more responsive and provide each of their students with a better training service.

Finally, an LMS is a management tool, not a training tool. If correctly designed and used, it has great potential for training delivery management and precise student monitoring. It does not affect the quality, content and effectiveness of the training itself. The training curriculum should be judged on criteria that do not include LMS issues.

1.4.2   Training effectiveness and feedback monitoring

Besides monitoring individual student performance within the training curriculum, providers should also have the means of assessing the effectiveness and efficiency of their own training process in terms of goals reached and time spent. This assessment includes monitoring the performance of their trainers and the way they are perceived by students, and student-trainer-administrator communication, as well as the reliability of any software and hardware used.

A suitable system should be set up to monitor and provide precise and immediate feedback on all these variables. Such a system guarantees the ongoing quality of the training process as a whole. The training process must be designed to respond to specific situations and evolve in order to maintain its quality.

— — — — — — — —

QUESTIONNAIRE

The four questionnaires at the end of each chapter of this circular are designed as a quick and easy way of reviewing each of the four chapters and making sure that the key points have been retained. Searching for the information missing in each statement will enable you to ensure that you have understood the main content of the chapter.

There are two ways to do these questionnaires:

        a)   Try and answer the questions from memory and then check your answers using the circular; or

        b)   Look for the missing information in the circular.

The section or paragraph in which you can find the information is indicated in parentheses at the end of each question.

Introduction and Chapter 1
(Aviation English Training Design and Development) in 20 questions

1. _____ efficiency, rather than linguistic correctness, is the main criterion of proficiency. (Introduction – Background)

2. The table of contents provides a _____ of key points. (Introduction – Using this circular)

3. "We have ordered an ambulance to be standing by at the gate" is an example of _____ language. (1.1.1)

4. The basic approach to aviation language training must be _____ (1.1.2)

5. All aviation English training materials must be approved by a qualified _____ (1.2.1)

6. Aviation English training programmes require a state-of-the-art development _____. (1.2.4)

7. The content matter of the courseware must be _____ for professional situations. (1.3.1)

8. It is important to differentiate between professional and _____ students. (1.3.3)

9. The main objective of aviation English training is to build communicative _____ and strategies. (1.3.4)

10. Training programmes should have a comfortable _____ _____ around Operational Level 4. (1.3.5)

11. Professional relevance involves both content and function in a communicative _____ . (1.3.6)

12. Technology _____ learning but is only a tool in the learning process. (1.3.7)

13. Audio and video material must be _____ to the students' professional environment in some way. (1.3.8)

14. CBT and WBT _____ for live classroom activities. (1.3.9)

15. One _____ does not fit all. (1.3.11)

16. The solution which does not achieve the required results is the least _____ (1.3.11)

17. Student monitoring ensures that students reach and _____ Operational Level 4. (1.4.1)

18. _____ is a management tool and not a training tool. (1.4.1)

19. Training providers must be able to assess the _____ and efficiency of their own training process. (1.4.2)

20. A training process must be able to _____ and _____ in order to maintain quality. (1.4.2)

_____

Chapter 2

AVIATION ENGLISH TRAINING DELIVERY

Each chapter in this circular is designed to be self-contained. As a result, the reader will find information and observations already encountered in Chapter 1 (Aviation English Training Design and Development) in this second chapter; many of the criteria important for assessing training curriculum design and development also apply to its delivery. Training delivery is the application of principles established at the design phase; there should be consistency throughout.

The present chapter, however, is written from the slightly different point of view of giving rather than designing training. The trainer is the key person in the training delivery system and the guidelines provided in this chapter relate to this critical role. Considerations relating to the profile of the aviation English trainer will be explored further in Chapter 3 and the training of aviation English trainers will be addressed in Chapter 4.

The observations in this chapter apply to the training delivery given by:

   a)   the aviation English training providers' own training staff, and;

   b)   the client institution's training staff either trained and supported by the provider to deliver their materials or having developed their own materials in-house.

These guidelines on aviation English training delivery also apply to English for Specific Purposes (ESP) training delivery in other fields such as banking, oil exploration or the tourist industry. The requirements set in terms of trainer profiles, curriculum implementation and student monitoring are particularly rigorous because the aviation industry depends on the specific nature, timeliness and level of language proficiency of its professionals and because safety, economic investment and personal careers are at stake .

2.1   FACTORS IMPACTING THE DELIVERY PROCESS

The successful delivery of an aviation English training programme depends on the combination of quality training materials, motivated learners and committed and qualified trainers. The following paragraphs describe factors that impact directly on the effectiveness of the delivery process.

2.1.1   Integration of classroom and distance learning

A detailed overall lesson plan should be provided showing the subject matter content, language points, communicative functions and operational situations addressed. The interaction between individual self-study (CBT/WBT, language lab, study session, etc.) and trainer-led classroom sessions should be apparent.

2.1.2   Means of enhancing learner motivation

In 1.3.6, it was pointed out that relevant operations-related content, situations and communicative functions were key factors able to enhance students' motivation and commitment. This topic is further developed in Section 3.4.

Moreover, providers should be aware of the need to modify the pace, style and content of their training delivery to meet the requirements, backgrounds, levels, specific objectives and learning styles of particular groups. The instructor in each aviation English training session should be particularly responsive to the needs of each group. This is especially applicable to pilots and controllers who are used to personalized professional training and testing; they will respond positively to a similar approach in their language training.

2.1.3 Communicative training techniques

Aviation professionals have to be assessed in six different language skill areas, including pronunciation, vocabulary, listening comprehension and grammatical structure (i.e. the "foundation" skills). However, the final focus of Operational Level 4 is on communicative proficiency: fluency and interactions, which incorporate the use of the other four foundation skills.

It may be equally acceptable for the four "foundation" skills to be taught in a conventional way or integrated into essentially oral interactive tasks. However, the ultimate goal of the aviation English training process should be very definitely focused on communicative activities that develop fluency and bring into play individual and group interaction.

Training providers should explore ways of implementing a maximum number of free activities, which are not dependent on textual input or extended preparation time. The success of a class can be measured by the percentage of time students spend speaking with a purpose. The use of pair, team and group activities will increase each student's active participation.

Pilots and controllers respond orally much more to aural (radiotelephony) and graphic (instruments, scopes) input and prompts than to textual input. If aviation English training mirrors these working habits in its language activities, then it will be providing more suitable preparation for the actual conditions of the working environment.

2.1.4 Applicability of training content, activities and level to operational objectives

In 1.3.6, the impact of relevant aviation content as the subject matter of the curriculum was discussed as a means of enhancing student motivation (see Mathews (2007) in Appendix A, Section A4). Ultimately, will what the students learn and practice in training be things that they will be able to apply in their actual professional life? It is this relevance to the operational context in which students work that should drive the assessment of the training content, activities and objectives.

The training provider should demonstrate the appropriateness of the following elements for the students in the class and the immediate use they will make of the language:

> ➢ The content or subject matter addressed (e.g. clear air turbulence, level separation, missed approaches, ILS, security checks, and aerodrome layouts);
> ➢ The activities that make up the training sessions (e.g. flight crew briefings, controller reporting, readbacks, descriptions of on-board emergencies, requesting and giving flight plan changes, and information exchange); and
> ➢ The level of difficulty of the exercises.

2.1.5 Adaptability of training materials to meet specific individual and local requirements

In training, one size does not fit all: individuals and groups differ. It is preferable that training materials are designed so that there are multiple ways in which they can be delivered. A modular design, alternative lesson plans and alternative applications of the same courseware provide trainers with greater flexibility in order to respond to specific requirements. Equally, computer-based exercises may also be used in trainer-led classroom activities.

2.1.6   Training activities

Training activities of aviation English training programmes should be fully documented. Training providers should give documented evidence to demonstrate to their client and to operational experts that:

- Oral communicative training methods are used and that as much time and attention are given to various speaking and listening activities as possible.

- Their training materials foster a high degree of student interactivity by:

  — ensuring interaction between all members of the class;

  — ensuring maximum time is dedicated to speech production and interaction for all students;

  — not requiring extensive periods of study and preparation prior to performing classroom activities; and

  — using aural and visual – rather than textual – prompts (recordings and graphics) as much as possible.

- Language functions practised are effectively those required in operational situations.

- The topics and situations addressed in the training materials are typical of those encountered by the aviation professionals who will be following the training.

- The manner in which students are assessed in progress and exit tests is operationally and linguistically relevant.

2.2   TRAINERS

The best designed aviation English training programme cannot be delivered effectively unless trainers bring to the process a minimum set of skills and experience. Those tasked with selecting training providers for their organization should pay particular attention to this key resource in the training delivery process.

2.2.1   Demonstration of teacher qualifications, training, experience and treatment

Table 4-1 of Doc 9835 provides "best", "very good" and "minimum" qualification guidelines for aviation English trainers. These include academic qualifications, aviation communications familiarity and teaching experience. Reference is also made to other attributes important to teaching: sensitivity to and awareness of cross-cultural issues, a commitment to continued professional development, respect for the student and an ability to engage and motivate students. However, like their students, trainers are first and foremost individuals. While there are indeed basic requirements in terms of qualifications, experience and knowledge, strengths in one area may compensate for weaknesses in others. In assessing trainers, the overall profile, including components like attitude, responsiveness, curiosity, inventiveness, cross-cultural sensitivity, and the ability to use and communicate experience, should be taken into account.

Trainers are hired by a training provider and bring to the job formal qualifications, personality and past experience, but this is just the beginning of the story. The provider must have, maintain and be able to demonstrate a robust programme of trainer induction, specific materials training and a framework for ongoing trainer training. A trainer never stops learning; in teaching English for specific purposes for the aviation community, three years' experience is the accepted minimum before a trainer has acquired enough familiarity to become comfortable with the subject matter. The provider must actively support the trainer in this process.

Even for a fully qualified English teacher with English for Specific Purposes (ESP) experience, several years of close contact in the aviation world and an inquiring mind will be necessary to obtain the degree of familiarity required for a fully appropriate exchange with professional pilots and air traffic controllers.

The aviation training provider or the institution's training department should set up and sustain a programme to facilitate and support this type of on-the-job training consisting of frequent contact with operational experts/instructors, viewing aviation training materials, going on field trips, having time set aside for study and research, etc.

Trainers will learn as much from their own students as from anyone else during student-trainer exchange.

Finally, even with the best materials in the world, training providers will never give good service if their training staff is not respected, properly supported and correctly paid. To become a fully operational aviation English trainer requires much study, experience and commitment.

2.2.2   Qualities of teacher/facilitator/technical instructor to deliver materials

The qualities required by aviation English trainers, facilitators and technical instructors involved in aviation English teaching will be found throughout this circular. The following lists some of the qualities, both formal and less formal, that training staff should possess:

  ➢ Diploma/master's degree in Teaching English as a Foreign/Second Language (TEFL/TESL) or Teaching English to Speakers of Other Languages (TESOL)
  ➢ Experience in English for Specific Purposes (ESP)
  ➢ Familiarity with aviation communications and operational environments
  ➢ In-depth knowledge of Doc 9835 and ICAO Language Proficiency Requirements — Rated Speech Samples (CD)
  ➢ Experience with communicative teaching
  ➢ Cross-cultural awareness
  ➢ Adaptability
  ➢ Curiosity
  ➢ Commitment to life-long learning
  ➢ Ability to enhance and manage learning
  ➢ Ability to motivate and support students
  ➢ Awareness of those aspects of language which may be safety-critical
  ➢ Ability to assess language from the perspective of operational effectiveness rather than linguistic correctness
  ➢ Willingness to support, coordinate, facilitate and enhance communication between students rather than only "teach" (i.e. transmit knowledge)
  ➢ Awareness of the distinction between standard phraseology and plain language in radiotelephony
  ➢ Ability to work with operational subject matter experts (SMEs) and an eagerness to learn
  ➢ Awareness of personal limitations in operational competence as a linguist or linguistic competence as an operational professional

2.2.3   Provision for training in tandem when required

It should be recognized that it may well be necessary for trainers to work in tandem, either two language trainers or a language trainer and a technical instructor or operational expert, because:

  ➢ it is part of the induction process of one of the trainers;
  ➢ the trainer's degree of aviation familiarity requires the presence of an operational expert;

> ➤ a technical instructor's insufficient mastery of language teaching technique requires the presence of a qualified EFL teacher; or

> ➤ the class is too large (16 or more students) for a single trainer to handle efficiently.

2.3   LOGISTICS

Learning is a global process. Its efficiency depends very much on the conditions in which it is undertaken. These conditions, which extend beyond the classroom or the computer lab, include how training is scheduled and organized and what information technology is required to support training programmes including those using blended learning approaches. Managers tasked with selecting training providers should be given complete information on these issues.

2.3.1   Elements of a supportive and appropriate learning environment

Aviation English training providers should be imaginative in exploring ways to support the learning experience and extend it beyond the classroom. They should also provide detailed descriptions to their clients of the logistics that they can provide and that they require to successfully implement their training programme. This could include:

> ➤ ensuring clean, attractive, relaxed, user-friendly classrooms which reflect the institution's commitment to achieving compliance with ICAO requirements;

> ➤ involving students in their own learning process, making them responsible for feedback and record-keeping activities, which foster learning continuity;

> ➤ creating an information-rich environment with additional resources, such as magazines, website access and videos, and encouraging students to take advantage of this environment (see Appendix A, Section A5);

> ➤ making aviation English a corporate project;

> ➤ setting up hotlines with facilitators or trainers to provide students with support for any distance-learning (CBT/WBT) activities;

> ➤ maintaining a help desk to answer inquiries about CBT/WBT technical problems;

> ➤ communicating effectively within the institution, giving clear information on and exposure to the ICAO compliance project, the percentage of successful tests and the workings of the training process;

> ➤ giving students advice on how to learn more effectively (see Ellis & Sinclair (1989) in Appendix A, Section A1);

> ➤ encouraging students to pursue their English learning in a non-aviation context through the use of magazines, DVDs, the Internet, travel, etc.

> ➤ responding to students' requests for information, thus showing a personal commitment to their progress.

The list could be extended indefinitely. This type of (low-budget) initiative can make all the difference to the mindset in which students learn and can have a very positive impact on their learning efficiency.

2.3.2   Definition of appropriate lesson duration and frequency

Lesson scheduling should be organized in such a way that it respects an institution's time constraints and students' effective learning patterns. There should be a balance between these two requirements.

While CBT/WBT distance learning is very flexible, trainer-led classroom sessions are subject to greater constraints. Different considerations should be taken into account:

> ➤ Given the need for warm-up time, anything less than a session lasting 1½ to 2 hours is unrealistic for implementing role play, pair work activities and a series of complementary communicative exercises.

> ➢ In general, a series of relatively frequent sessions over a longer period of time, accompanying each student's progression, will probably have a more lasting effect than an intensive course that is not followed by intensive application of the language or tutoring.
>
> ➢ For basic English training at ICAO Operational Levels 1 and 2, intensive residential courses may be more effective.
>
> ➢ Human attention spans are relatively short (20 minutes optimum); it is preferable, therefore, for any course, however long, to consist of a series of short activities of different types (listening, pronunciation, information exchange, games, etc.), different focus (individual, pair work, team work) and different pace (less challenging and slower, more challenging and quicker) in order to maintain students' attention, interest and energy levels throughout the course.
>
> ➢ Day-long intensive courses offer a greater scope for continuity, recycling activities for consolidation, and enhancing the quality of tutoring and of the student-trainer relationship.
>
> ➢ All classroom activities will be more effective if students have carried out some individual study ahead of time; these activities can be followed up after the class.

As regards CBT/WBT self-study, extended sessions (i.e. more than 2 hours) are probably not the most efficient. Ideally, using the language should become a daily habit.

2.3.3   Demonstration of the technical infrastructure
required to support the training

Depending on the training technology used by the aviation English training provider (conventional language lab, stand-alone computers, local area network, CD ROM-based courseware, web-based training, learning management system, etc.), the efficiency of this technology should be demonstrated and its compatibility with the users' local and national technical infrastructure proven before a particular training system is selected. What may be an excellent solution in one place may not function properly in another environment.

2.4   TRAINING MATERIALS

Aviation English training providers should make available a complete set of their training materials to decision-makers including materials for instructors and students, monitoring and assessment documentation, and support documentation for distance-learning materials.

2.4.1   Instructor manuals with practical notes, examples and keys

Attaining sufficient familiarity with new training materials to be able to deliver them comfortably is a relatively long process for even an experienced trainer. In order to be able to do so, clearly laid-out instructor manuals or notes are required. These should contain both examples of how each type of exercise is to be delivered and answer keys if answers are not self-evident for trainers.

The existence of such manuals does not replace the indispensable, hands-on, practical training by instructors already experienced with the materials.

2.4.2   User-friendly student manuals and materials,
including detailed lesson plans

Equally, students should be provided with complete training materials and simple instructions on how to use and navigate their way around their training materials. Technical or administrative information and an overall chart, which enables them to situate themselves within the course, may also be very useful.

A live tutorial with questions from the students in the presence of a trainer/facilitator is a prerequisite for successful training implementation.

2.4.3   An introductory programme tutorial for
both classroom and distance-learning materials

Because students will be unfamiliar with these specific training materials, it is vital that tutorials be organized in order to:

> ➢ describe the overall objectives of the training and the framework of the ICAO Requirements;
> ➢ present the different parts of the programme – if it is a blended learning solution – and demonstrate how and when they will be used;
> ➢ inform the students about learning strategies that will make their learning more efficient;
> ➢ identify contact persons: trainers, facilitators, instructors, and administrative staff;
> ➢ explain any technical or administrative conditions that should be known by the students;
> ➢ explain the institution's commitment to the programme; and
> ➢ answer any questions.

2.4.4   Student follow-up and assessment sheets

Student follow-up and training/testing records will take different forms in different places. However, it is important that they are methodically organized and updated, confidential, backed up, secure and useful. They should contain the information required to provide both training staff and human resource administrators with an up-to-date picture of the status of both individual and collective progress so that any remedial action can be taken quickly. As a result, these forms should be designed collectively by both training and management staff to ensure that the information required for enhancing the training process is being collected.

2.5   MONITORING, TESTING AND REMEDIAL TRAINING

Organizations investing in an aviation English training programme want to ensure that the training provider services they have procured are achieving their goal: the organization's staff are reaching and maintaining at least ICAO Operational Level 4. Monitoring, testing and remedial training, a critical part of any training programme, should be documented and made available by training providers to their clients.

2.5.1   Appropriate placement, progress and exit tests

Aviation English training providers should have at their disposal placement tests to be able to position potential students at the right stage in the training programme, analyse the students' needs and place them in compatible groups. These tests should only contain reference to subject matter with which the particular population can be expected to be familiar. Therefore, professional and ab initio students will probably require different tests.

For effective prognostic purposes, the placement tests should relate to those skill areas which are most relevant for the ICAO Rating Scale and should have a distinct oral focus.

In order to monitor students' progress, analyse individual needs and be responsive, trainers require regular feedback through progress tests to make sure that the curriculum has been assimilated correctly. Similarly, exit tests at the end of each major phase in the training to assess students' readiness for the proficiency or licensing test are essential components in the training process (see 4.5.5).

Students should be provided with certificates of successful training completion. The issuance of these certificates is an opportunity to certify a given level of proficiency or phase in the training being reached but never replaces a licensing certificate.

2.5.2   Segregation between training-related tests and any licensing tests

A clear distinction needs to be made between the aviation English training-related tests and licensing testing activities. Often there will be a requirement for different providers to be contracted for training and testing. Trainers should never be involved in the licensing test process of their own students; this could undermine the validity and impartiality of the testing process where stakes are particularly high in terms of safety, economics and careers.

2.5.3   Appropriate means of student monitoring and
needs analysis (manual or computerized)

Apart from its administrative uses, a student monitoring system enables trainers and training managers to have an up-to-date picture of all their students and identify any particular requirements, adjustments or remedial training that may be necessary. One especially vital purpose is to provide continuity between the different members of a large training team dealing with the same students.

An efficient student monitoring system does not necessarily imply a highly sophisticated programme; for small numbers, conventional pencil and paper means may be sufficient. However, a properly defined and well-run computerized system would be indispensable where large numbers of learners are involved, perhaps over a number of different geographical locations.

Whatever medium is used, student records need to be securely stored.

2.5.4   Learning Management System

A Learning Management System (LMS) is a software tool designed to manage students' learning. An LMS may provide a whole range of different functionalities such as:

- ➢ student registration, identification and recognition in different forms of distance learning and testing;
- ➢ providing students with appropriate online (LAN, intranet or Internet-based) courseware;
- ➢ monitoring and recording study times, exercises completed, test results and analysis of results for individual students and groups of students;
- ➢ selection, calibration, timing and delivery of tests; and
- ➢ availability of instructors and instructional resources.

It facilitates the management of training on a large scale, in different locations and involving different types of trainees. Most LMSs are web-based to facilitate "any time, any place, any pace" access to learning content and administration. An LMS may be hosted either by the training provider or on one of the institution's own servers.

2.5.5   Means and materials for remedial training

Even within a fairly homogeneous group, no two students learn at exactly the same speed or with the same degree of assimilation. Moreover, Student A may require more time on pronunciation, while Student B has difficulty with listening comprehension. Progress tests at various milestones in the course will reveal that some students have not yet assimilated parts of the training materials as well as others; they will need some additional work to be able to follow the progression of the rest of the group. This is remedial training.

One of the major advantages of "blended learning", where conventional classroom activities are combined with out-of-class distance learning, is that it allows for the individual differences in learning style, requirements and pace without jeopardizing the progression of the group as a whole.

An aviation English training curriculum should have a provision for remedial training. This can take the form of either additional exercises that may not have been used in the main stream of the training or exercises built from a database that enables the "same" exercise to be done several times without identical questions being displayed each time.

2.6   QUALITY ASSURANCE

Just as each training system should have a process of student monitoring, so a process should be defined to ensure that training quality is maintained, that the training infrastructure functions correctly, that trainers effectively deliver programmes and are receiving the support they require and that the students are satisfied with the conditions in which they are being trained. These parameters should be monitored precisely but meaningfully (i.e. not just empty statistics) and results directed back to the training administration in a timely fashion.

2.6.1   Means of trainer monitoring and feedback

Both trainers and students need a means of reporting any concerns or deficiencies in the training system. This may include such things as a seasoned backup trainer for inexperienced trainers, improvements to the training environment (air conditioning, sound equipment, classroom insulation, etc.), additional media resources or research material, changes to scheduling, class numbers, support with computer technology, the appropriateness of the training materials, group homogeneity, refreshments, and communication about the training.

2.6.2   Means of assessing professional objectives met

The client institution will require a means of ensuring that their staff undergoing training are achieving goals, not only in attaining scores in progress tests, but also in ensuring that the skills acquired in training are providing the staff with an operational proficiency applicable to their real-world professional requirements.

As a first step in achieving this, the curriculum should be designed so as to mirror, or simulate as closely as possible, the operational communicative functions that pilots and controllers use in their jobs.

In addition, there should be ongoing oversight by the client institution's operational staff that the students reaching the end of their training not only are in a position to pass the licensing test, but also have effectively acquired the kind of practical proficiency that is required of them to handle non-standard, abnormal and emergency situations. A channel should be set up to enable the operational staff to provide their feedback to the training administration with a view to making any enhancements or modifications to the training.

The creation and maintenance of a complete feedback loop with input from students, trainers and operational staff to the training administration are vital factors in ensuring sustained quality and appropriate results.

— — — — — — — —

QUESTIONNAIRE

Chapter 2 (Aviation English Training Delivery) in 20 questions

Complete these statements with the most appropriate word(s). The paragraphs from Chapter 2 containing the information are indicated.

1. Aviation English is a high-stakes example of English for _____ purposes. (2 Introduction)

2. The _____ _____ should demonstrate the interaction between self-study and classroom sessions. (2.1.1)

3. Course delivery should enhance student _____ . (2.1.2)

4. The speed, style and content of training delivery may have to be _____. (2.1.2)

5. The final phase of aviation English training should focus on _____ activities. (2.1.3)

6. One way of evaluating a successful class is the time the students spend _____. (2.1.3)

7. Content, activities and level should be _____ for the students. (2.1.4)

8. Training materials should encourage _____ between everyone in the class. (2.1.6)

9. _____, responsiveness, curiosity, inventiveness, the ability to use and communicate experience, etc., are the test of a good teacher. (2.2.1)

10. Providers will never give good service if their training staff is not respected, properly

    _____ and correctly _____ . (2.2.1)

11. Trainers should be aware of the distinction between _____ _____ and plain language in radiotelephony. (2.2.2)

12. The environment in which students learn should be _____ - _____ . (2.3.1)

13. Students should be advised on how to _____ more effectively. (2.3.1)

14. The type of training technology chosen should be _____ with the user's technical infrastructure. (2.3.3)

15. Aviation English training should have _____, _____ and

    _____ tests. (2.5.1)

16. Efficient student monitoring is required so that administrators and teachers can make any

    _____ and initiate _____ training, if necessary. (2.5.3)

17. Different learning needs and speeds can be provided for more easily by a _____ learning programme. (2.5.5)

18. Training should be monitored to ensure that training _____ is maintained, that the training _____ operates correctly, that the _____ are properly supported and that students are satisfied with their learning _____ . (2.6)

19. The success of the training should be measured not only in terms of test results but also in attaining _____ _____ , which can be assessed by the institution's operational staff. (2.6.2)

20. Students, trainers, operational staff and administrators should form a feedback _____ . (2.6.2)

_____

Chapter 3

AVIATION ENGLISH TRAINER
PROFILES AND BACKGROUND

Rather than use the term "qualifications" when talking about aviation English trainers, we have preferred the more inclusive phrase of "profiles and background". Qualifications are very much a part of the whole picture, but possibly only the tip of the iceberg. Many other less visible features go towards making up the profile of the person who will help students attain ICAO language proficiency.

3.1   BASIC QUALIFICATIONS FOR TEACHING ENGLISH AS A FOREIGN LANGUAGE (TEFL)

Doc 9835 provides information about the "best", "very good" and "minimum" levels of qualification required for aviation English instructors and developers as well as the difference between the various Teaching English as a Foreign Language (TEFL) qualifications.

In addition, the checklist of a trainer's profile listed in 2.2.2 will be developed in more detail in this chapter.

In the case of instructors with a technical or operational background coming to aviation English training, the extent of their professional knowledge does not remove the requirement for at least basic TEFL qualifications (e.g. TEFL/TESL certificate). This is a fundamental requirement for them to be effective and autonomous language teachers (see Appendix A, Section A2).

3.2   PRIOR EXPERIENCE TEACHING ENGLISH FOR SPECIFIC PURPOSES (ESP)

Aviation English is an example of teaching English for Specific Purposes (ESP). The goals and the techniques employed in ESP – whether in the fields of the hotel industry, advertising, shipping, pharmaceuticals or business meetings – are significantly different from those of teaching everyday English as a Foreign/Second Language (TEFL/TESL). There is less of a transition from ESP to aviation English than from TEFL/TESL (or TESOL) to aviation English. It is therefore preferable for newly recruited trainers of aviation English to have prior experience in teaching English for Specific Purposes.

3.3   COMBINATION OF LINGUISTIC SKILLS AND OPERATIONAL FAMILIARITY

Teaching is an activity where individual personality, attitude, inventiveness, cultural awareness and general sensitivity to others are particularly important. The profile of an effective trainer can never be defined by qualifications alone. Equally, there is no single "right" approach to teaching. Teachers will come to aviation English with their unique combination of skills and experience translating into strengths and weaknesses. Rather than just focusing on a list of requirements, it may be more relevant to explore strategies for building on those strengths and mitigating those weaknesses.

The aviation English trainer needs to bring to the class a combination of specific language teaching skills and an understanding of the practical operational environment of the aviation community. The balance between these two areas will obviously vary from one person to the next, depending on their background; trainers can come from either a primarily linguistic or a technical background. However, they will require systematic grounding in the area with which they are less familiar. This may involve working in tandem initially with a specialist in the other field for an extended period of time. The training provider or institution needs to support them in this process of attaining across-the-board competency and to realize that it may be a lengthy process.

In the case of staff with operational backgrounds (controller, pilot, etc.) coming to aviation English training, they will clearly have the great advantage of considerable familiarity with the day-to-day realities of aviation and radiotelephonic transmissions. However, it is important to remember that such staff will need formal training and qualifications in teaching English as a foreign language (e.g. TEFL/TESL certificate) before working in tandem with a fully qualified aviation language trainer; only then will they become fully effective in the classroom.

3.4   EXPOSURE TO AN OPERATIONAL AVIATION ENVIRONMENT

While studying relevant books, articles and documents and viewing aviation videos are very effective ways of acquiring familiarity with aviation topics (see Appendix A, Section A5), aviation English trainers should be exposed to live operational situations, in one way or another, and be in contact with operational staff in order to learn not just about the technical infrastructure of aviation, but also about the viewpoint from which radiotelephony communication is seen by professionals. Suggestions about how this can be achieved are provided in the aviation English Trainer Training chapter in 4.1.1 to 4.1.3.

3.5   IN-DEPTH KNOWLEDGE OF DOC 9835

Doc 9835 is the product of the research, reflections, expertise and workings of the members of the ICAO Proficiency Requirements In Common English Study Group (PRICESG). It also contains in an accessible form the ICAO Standards and Recommended Practices (SARPs) that affect language proficiency. In its subsequent revisions, it will continue to incorporate a growing body of expertise and research. It therefore defines in some detail the framework within which these requirements are to be implemented. As such, it is indispensable reading matter providing guidelines for all those involved in aviation English testing and training.

3.6   FAMILIARITY WITH ICAO RATED SPEECH SAMPLES TRAINING AID

At the end of 2005, the ICAO PRICESG Linguistic subgroup met in Montréal with a view to working on speech samples from around the world, reaching agreement on the calibration of speech sample rating, drawing up the format of a rationale for rating speech according to the ICAO Rating Scale and creating sample ratings for the industry. These were incorporated into the ICAO Language Proficiency Requirements — Rated Speech Samples Training Aid CD which was issued in 2007 (Order No. AUD001, ISBN 92-9194-853-5).

Although this training aid was designed as a support for raters involved in proficiency testing, it also contains an analysis of language assessment and specific rating examples which would be helpful to all aviation English trainers. It sets the framework within which trainers are training and the goals towards which their students are working.

In addition, through the rationale sheets, it provides precise examples of the criteria by which speakers are assessed in the framework of the ICAO Language Proficiency Requirements and so of those aspects of the language upon which aviation English training particularly needs to focus.

3.7 ATTITUDES RELATED TO TRAINING

Teaching English for the operational aviation industry is quite unlike teaching English for any other purpose. The stakes are ultimately much higher and the situations for which students are prepared are more specific and demanding. As a result, a greater degree of commitment can rightly be expected of the trainers and a higher success rate will undoubtedly be expected of the training process.

3.7.1 Ability to enhance conditions for students' language production

An effective communicative use of the language in operationally relevant situations is the final objective of aviation English training. Trainers must pay particular attention to supporting students in doing this during the classroom sessions.

This support takes the form of using appropriate activities and language functions, situational content and oral cues to construct the class and give it a very strong oral focus. It also means giving the students encouragement, prompting and systematically building up their self-confidence in order to enhance their speaking and interaction with other students.

3.7.2 Ability to motivate and support students

Clearly, the form and content of the training materials used should have face validity – appearing relevant and of intrinsic value to the students (1.3.6 refers). Furthermore, trainers should constantly be on the look-out for opportunities to expand on questions, subjects, interests and situations that arise or become apparent during the class. They should seek to consistently demonstrate the reason behind activities and show how they relate to actual professional situations or functions, linking the training activities to real-life situations.

Following a lesson plan step by step may not always be the optimum approach. Trainers must have the self-confidence and background knowledge required to improvise and spend more time on certain questions, functions or skills which require more attention or in which the students show a particular interest.

While trainers cannot be expected to be aviation experts, they should, for example, show their willingness to research information and provide students with answers during the next class. An exchange of information between trainers and students by trading linguistic for operational expertise will be mutually beneficial and create a bond between them. Such a demonstration of the trainer's commitment will stimulate the students towards a similar commitment.

3.7.3 Ability to see beyond grammatical accuracy and native-speaker pronunciation to communicational effectiveness

One of the main reasons why ESP teachers in non-aviation areas are better prepared to become aviation English trainers is that they have developed a mind set in which grammar book correctness and near-native speaker pronunciation are not the principal criteria of linguistic proficiency.

Aviation English trainers need to be able to distinguish between structural (grammatical) errors which interfere with meaning and can cause misunderstanding and those which do not. Similarly, even at Expert Level 6, speakers are not expected to have native-speaker-type pronunciation. A language easily and clearly understandable by the aviation community is the goal of the ICAO Language Proficiency Requirements (see Annex 1, Appendix 1, Holistic descriptors e)).

Indeed, many native speakers of English who use local jargon and idioms and who speak with a heavy and poorly articulated regional accent at high speed may well not comply with the ICAO requirements.

There is a case for interpreting the phrase "common English" used in the acronym PRICESG not only in the obvious sense of "plain", "usual", and "frequently used", but also in the sense "which is shared by all the aviation community": a common ground where the whole world can meet, understand and be understood.

3.7.4   Willingness to support, observe, coordinate and learn

Another characteristic that sets aviation English trainers somewhat apart from most language teachers is the extent to which their role in the classroom will often be one of a coordinator, facilitator, monitor, observer, prompter and tutor rather than a teacher in the conventional sense of someone who dispenses knowledge. Naturally, they will need to know when to step in and take a more assertive role.

Given that training increasingly consists of blended learning solutions, where much of the input and initial practice are addressed through different forms of self-study or CBT/WBT distance learning, the focus of the trainer-led classroom sessions is mainly on oral communication activities. In this context, what matters most is giving the students the maximum opportunity to practice their language skills in situations that are similar to those they encounter in an actual operational situation. The trainer is primarily there to support and facilitate communication – not interrupt and correct. Having observed the interaction closely, the trainer is in a position to debrief and comment usefully at the end of the activity.

Except in an ab initio environment with inexperienced students, the aviation English trainer will be working with highly experienced professionals, whose time is at a premium and who have much more experience in radiotelephony than the trainer, unless the trainer is a qualified air traffic controller or pilot. Therefore, it is a golden opportunity for the trainer to learn from observation.

3.8   ATTITUDES SPECIFIC TO TEACHING AVIATION ENGLISH

There are features that make up the profile of an aviation English trainer that go beyond formal qualifications. These features can be observed in the attitudes that trainers project during their teaching activities. Attitudes generic to language teaching have been discussed in 3.7.4. However, there are attitudes specific to teaching aviation English in the context of the ICAO Language Proficiency Requirements that trainers should demonstrate consistently.

3.8.1   Commitment to a communicative approach to language teaching

The "communicative language teaching" or "a communicative approach to language learning" is a key criterion by which any aviation English training should be assessed. "Does this course or activity enhance, directly or indirectly, the students' ability to conduct radiotelephony communication with other aviation professionals?" is the question that should constantly be at the forefront of the mind, since effective, clear and unambiguous pilot-controller oral communication with a view to promoting safety is the objective of the ICAO Language Proficiency Requirements.

In a typical class, therefore, students should be constantly active (speaking and listening) and interactive (managing dialogues with other students and the trainer) in order to develop these essential skills.

3.8.2   Awareness of specific operational objectives and functions

Aviation English trainers should come to their job from an initial period of familiarization with the operational environment of aviation (e.g. airspace management, airport ground movements, flight deck exchanges, routine and abnormal situations, and information exchange) and pursue this interest throughout their teaching careers.

It is this growing background familiarity that will give them the essential awareness of the significance and potential impacts of all these exchanges, which to the uninitiated appear like a routine patter (see Mell (2004-1) & (2004-2) in Appendix A, Section A4).

Trainers should try to understand and appreciate that flight crew and controllers gain situational awareness from their ears. What will be the effects of icing conditions, wake turbulence, a request for a higher level, a displaced runway threshold, extended holding, a missing passenger, two similar call signs, altimeter settings in hectoPascals or inches of mercury, a sick cabin attendant, noise abatement procedures or the onset of rain during taxiing?

Moreover, much of the training should focus on acquiring proficiency in the essential operational functions of radiotelephony: orders; requests; offers to act; advice; undertakings; sharing information about past, present and future; expressing necessity, feasibility and capacity, etc. (see Doc 9835).

In routine situations, the information in the functions mentioned above can be largely and most properly transmitted using standard phraseology. However, in non-routine, unusual or abnormal situations, there will be a need for plain language to clarify, paraphrase or provide additional information, for example, to describe a system failure, a passenger's state of health or an obstacle on the runway.

Trainers will never be able to become expert in all of these areas, nor should they be expected to. However, without a certain degree of familiarity and the desire to learn, they will miss the significance – and the safety-critical dimension – of many of the situations their students must handle and for which they need to provide them with the necessary communication tools.

3.8.3   Awareness of the distinction between standardized phraseology and plain language

"ICAO standardized phraseology shall be used in all situations for which it has been specified. Only when standardized phraseology cannot serve an intended transmission, plain language shall be used." (Annex 10, Volume II, 5.1.1.1)

Both standardized phraseology and plain language are used in radiotelephony communications. Furthermore, they are commonly included in a single transmission.

Standardized phraseology should not be the essential focus of aviation English training in the context of the current ICAO Language Proficiency Requirements. For example:

> ➢ "Descend to Flight Level 2-8-0" or "Resume own navigation" are examples of standard phraseology.
> ➢ "Are you going to put me back on course?" or "There is oil on the taxiway" are expressions of plain language.

ICAO standardized phraseology is a set of clear, concise, internationally recognized, formulaic messages designed for use in most routine situations and the most commonly encountered emergencies. It has been carefully designed by aviation experts to convey a singular, operational meaning. This is in sharp contrast to common or plain language, which conveys meanings that vary depending on culture, context and expectation. Statistically, phraseology constitutes the bulk of transmissions in radiotelephony communications. Standardized phraseology is therefore best understood as an operational tool which, if misused, can negatively impact the safety of operational procedures.

Standardized phraseology, however, cannot address all of the non-routine, abnormal or, occasionally, emergency situations that occur, nor is it sufficient to convey additional information about any situation such as: reasons for a delay, the state of a sick passenger, the weather situation, the nature of a failure, or an obstacle on a taxiway. These are all circumstances where plain language is frequently required. It is this use of plain language that was the focus of ICAO's Proficiency Requirements in Common English Study Group (PRICESG).

Given its operational specificity for radiotelephony communications, phraseology is taught as a distinct discipline in the operational domain by ATC instructors, or highly specialized and operationally qualified ATC English trainers. As part of this operational training, students learn transmitting techniques and pronunciation as described in the PANS-ATM (Doc 4444) and the Manual of Radiotelephony (Doc 9432). Qualified aviation English trainers delivering quality aviation English training materials can support their students' proficiency in standardized phraseology by working with them on pronunciation and fluency without infringing on the constraints set by Doc 9432 and Doc 4444.

3.8.4   Awareness of aspects of the language
that may be critical in abnormal situations

"We are at take-off." (KL 4805, Tenerife 1977)

"We are running out of fuel." (Avianca 052, New York 1990)

These are two examples of plain language. They are apparently simple statements, but in both cases they led to misunderstandings or failed to convey the exact nature of a situation and became contributing factors in two deadly aircraft accidents.

The role of communication in safety, particularly between air traffic controllers and pilots, is critical. Just how critical is apparent from research conducted by the National Aeronautics and Space Administration (NASA): "NASA researchers analyzed the causes of jet transport accidents and incidents between 1968 and 1976 and concluded that pilot error was more likely to reflect failures in team communication and coordination than deficiencies in technical proficiency. Human factors issues related to interpersonal communication have been implicated in approximately 70% to 80% of all accidents over the past 20 years. Correspondingly, over 70% of the first 28,000 reports made to NASA's Aviation Safety Reporting System (which allows pilots to confidentially report aviation incidents) were found to be related to communication problems." (see Sexton & Helmreich in Appendix A, Section A7).

To teach aviation English properly, trainers need to acquire a sensitivity to the potential that language may have for generating misunderstanding in stressful and safety-critical situations where voice-only communication is the only means of conveying information.

In 3.3, we saw that trainers need to question a too narrowly linguistic standpoint for judging effective communication skills. In addition, they need to develop awareness of how apparently simple, correct forms of language can conceal ambiguities that may have fatal consequences.

As trainers monitor students' speech production, they should constantly have this concern in mind. Part of this awareness is observing how cross-cultural communication also has specific challenges. Native and non-native speakers of English or non-native speakers of English from distinctly different cultural backgrounds may not hear and interpret utterances in the same way. The trainer should always be vigilant for these potential situations and discuss and clarify them with students if they arise (see Appendix A, Section A7).

The two examples from Tenerife and New York referred to at the beginning of this section illustrate for the aviation English trainer:

> ➢ in the first case, the potentially critical ambiguity of many common language statements; and
> ➢ in the second, the risk involved in the inability to paraphrase information or make it more explicit.

However, there are always two sides to any communication. These two cases also illustrate inadequate communication management – rendered difficult by external circumstances. Had the controller, in the first case, had more linguistic awareness and self-confidence and, in the second case, more situational sensitivity and cross-cultural awareness, an appropriate challenge might have led to immediate clarification and very different outcomes. Therefore, in interactions with their students, the aviation English trainer should always keep in mind such eventualities when developing a sufficiently robust proficiency.

3.8.5   High-stakes testing and training

It is essential to ensure that trainers are fully aware of the high stakes of training and testing for language proficiency and the effect this may have on their students' behaviour and mental state during the training process (see Shawcross (2007) and (2008) in Appendix A, Section A4).

3.9   CLASS MANAGEMENT TECHNIQUES

The commitment of trainers to use best practices in their teaching has been stated before in light of the high stakes involved in the outcome of the training they impart. The three class management techniques outlined in 3.9.1, 3.9.2 and 3.9.3 are not the only ones that trainers require in delivering effective aviation English training. However, they have been singled out for their particular impact on the quality of aviation English training delivery.

3.9.1   Ability to organize and coordinate group and pair activities

To ensure stimulating communication activities within the class and vary the rhythm of the class to keep students attentive and motivated, it is necessary to "manage" activities, not only with a view to content and purpose, but also to modulate the pace and configuration of the learning experience.

A large part of the trainers' job is therefore organizing their students into different groupings (pairs, groups of 3 or 4, larger teams) best suited for particular activities, taking language levels and personality into account, and modifying the focus and nature of the participation.

3.9.2   Ability to act as a facilitator

Effective communicative teaching involves the trainer "taking a back seat" at times, monitoring and supporting students and encouraging them to take the lead, to fully assume their communicative roles. Indeed, the degree of success of a class may often be judged by just how light a hand the trainer has on the controls.

3.9.3   Sensitivity to specific group and individual needs

This position as facilitator in classroom activities and as tutor during supervised self-study CBT/WBT sessions (if this is the case) provides the trainer with a privileged standpoint for observing students, their strengths and weaknesses. This enables the trainer to intervene as an individual tutor to offer specific advice and support, as well as to build a closer trainer-student relationship.

Semi-autonomous group activities and CBT/WBT remove the conventional group teaching load and allow the trainer to establish a better quality relationship with individual students and acquire a better knowledge of their learning styles and requirements. This enhances feedback and monitoring, which are so important for a reactive training system, and enables timely remedial training, if required.

— — — — — — — — —

QUESTIONNAIRE

Chapter 3 (Aviation English Trainers Profiles & Background) in 20 questions

Complete these statements with the most appropriate word(s). The paragraphs from Chapter 3 containing the information are indicated.

1. Aviation English trainers should be assessed on their overall _____, not just on their academic qualifications alone. (3 Introduction)

2. Trainers with a technical or operational background should have at least a TEFL/TESL _____ before teaching aviation English. (3.1)

3. Teaching English for _____ Purposes is a good preparation for teaching aviation English. (3.2)

4. Attaining real competency as an aviation trainer may be a _____ process. (3.3)

5. Trainers should understand how _____ communication is seen by professionals. (3.4)

6. Examples of how speakers are assessed can be found in the ICAO LPR Speech Sample

    _____ _____ (3.6)

7. Trainers must support students in attaining an effective _____ use of the language. (3.7.1)

8. Trainers should demonstrate the link between training exercises and _____ operational situations. (3.7.2)

9. Trainers should be able to distinguish between errors which _____ with meaning and effective communication and those which do not. (3.7.3)

10. The aviation English teacher will often c_____, f_____ and

    m_____ rather than teach in the conventional sense. (3.7.4)

11. The students should be given as much _____ as possible to put their communicative skills into practice. (3.7.4)

12. Students should be _____ and _____ in class. (3.8.1)

13. Trainers need to use their ears to develop _____ _____ (3.8.2)

14. Requests, confirmations, sharing information, intentions, etc., are examples of the operational

    _____ of radiotelephony. (3.8.2)

15. Trainers must become aware of the _____-_____ dimension of communication. (3.8.2)

16. Standard phraseology is best understood as an operational _____ with direct impact on _____ . (3.8.3)

17. Trainers must develop sensitivity to how language can generate _____ . (3.8.4)

18. In aviation English, the _____ are so much higher than in other areas of English training. (3.8.5)

19. In a classroom environment, a trainer should _____ the students' activities. (3.9.1)

20. The use of CBT/WBT offers trainers an opportunity to act as tutors and build _____ teacher-student relationships. (3.9.3)

_____

Chapter 4

AVIATION ENGLISH TRAINER TRAINING

Aviation English trainer training has several different components, some which can be achieved through formal education and training and others through first-hand experience and exposure to aeronautical operations. Compared to other domains for which language is taught, and because of the complexity and broad range of fields addressed in aeronautical operations, aviation English trainer training requires commitment to a continuous learning process on the part of the trainer, the training provider and the client institution. No purely theoretical curriculum will provide the trainer with the sort of first-hand experience required to conduct communicative aviation language teaching with sufficient face validity.

Issues and topics already mentioned in previous chapters will be addressed again here in the context of a trainer training curriculum.

4.1   EXPOSURE TO AN AVIATION ENVIRONMENT

Given current safety restrictions in a post-9/11 world, physical access to flight deck and control centre environments for observation and recording has become extremely difficult. This section suggests a number of ways in which direct experience can be acquired by trainers.

Acquiring sufficient familiarity with the operational environments of pilots and controllers is essential in order to be able to understand the relevance and implications of radiotelephony communications and to provide students with a credible interface.

4.1.1   Flight crew environment

Nothing replaces prolonged experience in a jump seat observing and listening to the interactions that take place during a flight and how they interface with flying the plane and the environment in which it is being flown.

However, there are some alternative strategies for acquiring this sort of first-hand experience:

> - Use flight simulators
> - Use flight deck training videos
> - Follow ab initio or type qualification ground school courses
> - Request national authorities to facilitate access to operational environments for trainer training purposes
> - Set up exchange programmes between universities and airlines and training centres whereby language teaching organizations provide a certain amount of language training free of charge in exchange for places within professional training courses and operational situations
> - Listen to recordings of live traffic online (see Appendix A, Section A5)
> - Study cockpit voice recording transcripts from authentic incidents
> - Hire retired pilots to share their expertise with trainee instructors

> ➢ Make sure that trainers familiarize themselves with the specific conditions in which their own students work
> ➢ Use the natural dynamics of classroom teaching for students to inform their trainers of operational realities
> ➢ Familiarize trainers with the issues involved in operating with multicultural crews (see Appendix A, Section A7)
> ➢ Organize presentations to be given by pilots to trainer training classes.

4.1.2   Controller environment

The air traffic control environment has become only slightly less accessible than the flight deck in a security-conscious era. However, there are other ways in which trainers may familiarize themselves with authentic traffic situations:

> ➢ Establish partnerships with air navigation service providers (ANSPs) in order to facilitate access to authentic operational situations, documents, expertise and recordings
> ➢ Use ATC simulators
> ➢ Use ATC training videos
> ➢ Listen to recordings of live traffic online (see Appendix A, Section A5)
> ➢ Follow ab initio and recurrent air traffic controller training courses
> ➢ Set up exchange programmes between universities and ANSP centres whereby language teaching organizations provide a certain amount of language training free of charge in exchange for places within professional training courses and operational situations
> ➢ Hire retired controllers to share their expertise with trainee instructors
> ➢ Use the natural dynamics of classroom teaching for students to inform their trainers of operational realities
> ➢ Organize presentations to be given by professional controllers to trainer training classes

4.1.3   Instructional environment

Aviation English trainers may not necessarily be working in an operational environment, but in ab initio or professional training centres. In this context, security is less stringent and access to training flights and local control towers will be easier.

Moreover, a principal resource which applies to all cases is tapping the reserves of knowledge and experience held by instructors and experienced professionals within a training environment. If the will is there, every opportunity can be seized to extend one's understanding.

4.2   THEORETICAL TRAINING CURRICULUM

The fundamental general education and EFL standards laid down in Doc 9835, Chapter 4, Table 4-1, are prerequisites that should be followed. Aviation English trainers can be effectively trained from either TEFL, ESP or operational backgrounds.

In the case of potential aviation English trainers having an operational or technical background, they should comply with at least the "minimum" formal TEFL/TESL qualifications laid down in Table 4-1 (see Appendix A, Section A2).

For trainers already fully qualified as English language teachers, they should acquire sufficient knowledge of aviation operational environments, radio transmissions and technology to be able to use aviation materials effectively for the purposes of language training.

Section 4.2.1 lists some of the items that should be part of the aviation English trainers' ongoing process of familiarization with the industry in which and for which they are working. Another source of aviation-related topics can be found in Doc 9835, Appendix B.

Initial training cannot be comprehensive as the scope of knowledge is very wide, but effective aviation English teaching does require an understanding of the relevance of communication situations. The initial training should, therefore, provide a robust framework within which further knowledge and experience can be assimilated and made meaningful.

Formal trainer training should be prepared and consolidated by a structured curriculum of self-study using the many resources available (see Appendix A, Section A5).

4.2.1   Flight operations, airlines and staff

Paragraphs 4.2.1 to 4.2.11 contain a non-exhaustive list of operational subjects that aviation English trainers need at least a certain familiarity with in order to realize the significance of the environment, situations and transmissions that will form the subject matter of many of their training materials. This is a prerequisite for being able to manage and assess effectively the interaction between their students in work-related training situations.

The subjects listed are part of the everyday working environment of pilots and controllers and are referred to directly or indirectly in their communications.

- ➢ Exposure to radiotelephony, concentrating on the distinction between standard phraseology and plain language
- ➢ Standard operating procedures (SOPs)
- ➢ Abnormal and emergency procedures
- ➢ Aerodynamics and flight
- ➢ IFR/VFR
- ➢ Flight plans
- ➢ Briefing and debriefing
- ➢ Flight phases
- ➢ Airline organization
- ➢ Airline in-flight and ground staff
- ➢ Flight crew composition
- ➢ NOTAM, AIREPs, PIREPs, etc.
- ➢ Acronyms

4.2.2   Airspace and types of ATC

- ➢ Controlled airspace, uncontrolled airspace, military airspace
- ➢ Aerodrome control
- ➢ Ground control
- ➢ Clearance delivery
- ➢ Approach and terminal control
- ➢ En-route, area control
- ➢ Control centres and control towers
- ➢ Radar and vectoring
- ➢ Flight levels
- ➢ Aircraft separation, RVSM
- ➢ Holding patterns
- ➢ Call signs

4.2.3   Aircraft systems and flight

➢ Aircraft construction and airframe
➢ Conventional systems: hydraulic power, electrical power, air conditioning, engines, etc.
➢ Avionics, instruments, autoflight, flight management systems, glass cockpits
➢ Flight controls and aerodynamics
➢ Manoeuvres
➢ System failures

4.2.4   Airport environment and ground operations

➢ Airport layout: apron, terminals, taxiways, runways, etc.
➢ Airport infrastructure: lighting, fire service, security, etc.
➢ Turnaround activities: boarding, catering, refuelling, loading, pushback, taxiing, etc.
➢ Dispatch
➢ Documents: weight & balance, logbook, etc.
➢ Types of cargo and conditioning

4.2.5   Meteorology and environmental hazards

➢ Meteorology: wind, air pressure, precipitation, icing, etc.
➢ The effects of weather on operations
➢ ATIS
➢ Turbulence, windshear, lightning
➢ Terrain, relief, obstacles
➢ Bird strikes, AIRPROX

4.2.6   Navigation and charts

➢ Types of charts
➢ Jeppesen
➢ INS, GPS, ILS
➢ Use of navigation displays

4.2.7   Safety, Human Factors and Crew Resource Management (CRM)

➢ Human Factors
➢ Crew resource management (CRM)
➢ Social/cultural differences and their impact
➢ Effects of hierarchy within the crew
➢ James Reason's Swiss cheese model
➢ Safety management systems
➢ Language as the final safety net

4.2.8   In-flight incidents and emergency situations

➢ Examples of typical in-flight emergencies: fire, fuel starvation, depressurization, loss of radio, hazardous weather

> ➢ Emergency management: checklists, abnormal and emergency procedures
> ➢ Study of incident cases and reading of cockpit voice transcripts to highlight the role of language and communication
> ➢ Security: bomb scares, hijacking, response to terrorism, unruly passengers
> ➢ The effect of stress on communication and language proficiency

4.2.9   Aviation language continuum, phraseology and plain language

It should be appreciated that aviation English is in fact a continuum that extends from the ultra-specific formulaic statements of standardized phraseology to a social use of English in an aviation context such as discussing a flight over a coffee   1.1.1).

Although examples of both extremes of the spectrum will occur quite naturally, the essential focus of aviation English training remains the plain, non-formulaic language used by flight crews and controllers to handle situations and information that, while related to flight operations, cannot be completely managed using standardized phraseology.

4.2.10   Regulatory environment: ICAO and civil aviation authorities

Trainers should be given a brief account of international and national/regional aviation authorities: ICAO and civil aviation authorities (see Appendix A, Section A3).

4.2.11   International bodies

Trainers should be aware of the existence and functions of various international, non-profit aviation associations for the role they play in the industry and also for the fact that they are often depositories of authentic up-to-date resources which are extremely valuable for trainer training and language training purposes (see Appendix A, Section A3):

> ➢ International Air Transport Association (IATA): www.iata.org
> ➢ International Federation of Airline Pilots Associations (IFALPA): www.ifalpa.org
> ➢ International Federation of Air Traffic Controllers' Associations (IFATCA): www.ifatca.org
> ➢ Flight Safety Foundation (FSF): www.flightsafety.org
> ➢ International Civil Aviation English Association (ICAEA): www.icaea.pansa.pl

Written authorization must be obtained before using any of their proprietary materials.

4.2.12   Resources

Aviation English trainers should become familiar with the wealth of material to be found in ICAO documents, the ICAO Language Proficiency Requirements — Rated Speech Samples CD, bibliographies, industry and safety-related periodicals, many aviation websites and aviation training videos (see Appendix A, Section A5).

4.3   PRACTICAL TRAINER TRAINING ACTIVITIES

This section contains a short list of some of the hands-on activities that aviation English trainers can become involved in to prepare themselves for working with aviation professionals. While several of these activities are common to language teacher training, the items selected take on a particular relevance in the context of aviation English training where personal, professional, safety and economic stakes are higher.

4.3.1   Listening practice in ATC lab

Time spent listening to recordings of live traffic and sitting in on air traffic controller training sessions is a very worthwhile investment. The time needed to acquire a meaningful familiarity with radiotelephony should not be underestimated. Training providers should be mindful of allowing their trainers sufficient time to acquire some basic familiarity.

4.3.2   Practice using ICAO Rated Speech Samples
Training Aid and rating samples

Although trainers should not be involved in the rating of proficiency test-takers and should not train their students just to pass a test, it is the next step in their students' progress and they should be aware of the precise criteria for language proficiency assessment (see Appendix A, Section A3).

4.3.3   Developing and delivering
communicative language lessons from raw data

Even if trainers are provided with a complete set of training materials to use for distance and classroom training, they will gain a deeper appreciation of their own skills and a better awareness of the potential of the materials they are using if they develop their own short lessons using authentic materials as the content focus. Moreover, it is more than likely that they will have to develop their own exercises or activities in response to their students' specific needs sometime during the training.

4.3.4   Group management in communicative language teaching

As we saw in Section 3.9, the communicative nature of aviation English training, the intensity of classroom activities and maintaining optimum attention and participation all require the trainer to manage the dynamics of the group in differently paced and focused activities. This is not a skill for which some academic approaches prepare the trainer, nor is it a skill that can be acquired immediately. As a result, trainers will need to practice these techniques extensively – using feedback from each other and their students – in a series of trial classes (see Mitsutomi (2004) in Appendix A, Section A4).

4.3.5   Adapting lesson plans and content to meet specific needs

No matter how appropriate and extensive the training materials at their disposal are, trainers will always be required to modify their lesson plans and develop or integrate new materials in order to meet the specific needs of a particular group for additional practice, more/less challenging content or examples that are closer to their own professional environment. Trainers should be aware of and practice this in a controlled environment before the situation arises in a live classroom.

4.3.6   Observing and working in tandem with experienced trainers

Much can be learned by observing and working in tandem with experienced and respected instructors. Newly inducted trainers should benefit extensively from this most valuable form of training, which will have a lasting effect upon the quality of their own delivery. The training provider should allow for courses in which trainers work in tandem until the less experienced trainer has acquired the requisite self-confidence and credibility.

The same principle applies to language and technical instructors with complementary skill sets. An extended period of working together will be necessary for an effective transfer of skills and knowledge base.

To facilitate induction, new trainers can be phased in gradually by working initially on selected modules of the course or with less challenging students.

4.3.7   General practical trainer training exercises and qualification/certification

No aviation English trainer training programme can be satisfactory without an extended period of actual teaching practice, repeating different types of exercises, under the guidance of an experienced trainer.

The training provider should ensure that trainee aviation English trainers are able to combine and apply their specific knowledge to practical classroom teaching situations and the preparation of lessons in exercises such as:

> ➢ Preparing short lesson plans
> ➢ Developing exercises using recordings
> ➢ Observing other trainers and giving feedback
> ➢ Identifying source materials
> ➢ Training to assess linguistic ability in operational terms and with reference to the ICAO Rating Scale
> ➢ Identifying learning objectives in aviation English
> ➢ Creating learning benchmarks
> ➢ Developing and delivering communicative lessons from raw materials
> ➢ Analysing learning
> ➢ Conducting full-scale classes in a controlled environment with trial trainee feedback
> ➢ Recording training sessions on video for subsequent analysis and comment
> ➢ Demonstrating ways in which trainers can learn from their students and establish a partnership in which different types of knowledge are exchanged
> ➢ Defining the qualifications and characteristics of the profile of a good aviation English trainer so that trainee trainers can work towards these goals
> ➢ Practicing working with subject matter experts
> ➢ Encouraging and facilitating habits of life-long learning
> ➢ Providing trainers with logbooks to enable them to track the subject matter and materials they should be familiar with
> ➢ Delivering follow-up tutorials/coaching to manage self-study

Trainee trainers should be assessed during their training and before qualification/certification using a detailed checklist of competency criteria. This checklist will include most items detailed in the present chapter as well as competency in basic TEFL techniques. The actual items will depend on the environment in which the trainers are working.

Qualification may be conditional upon remedial study or practice.

All trainers for a specific aviation English training programme should follow the same induction process. Any adjustments to the training delivery process should be integrated in the induction process of new trainers as well as communicated to all active trainers including during recurrent trainer training. This measure is a prerequisite for maintaining quality in training delivery.

4.4   SPECIFIC LINGUISTIC AWARENESS

Trainers should identify and develop their awareness of the specific characteristics of the language used in operational aviation, especially in radiotelephony communications.

4.4.1   Analysing language functions in aviation

Doc 9835, Appendix B, identifies the main radiotelephony language functions and communicative acts, which pilots and controllers have to perform proficiently in English.

While almost all of the functions below are covered by standard ICAO phraseology in most routine situations, there will always be cases where pilots and controllers will need to expand or clarify their transmissions and will need to use plain language to do so (see Mell (2004-1) and (2004-2) in Appendix A, Section A4).

The place these functions occupy has been discussed in 3.8.2. A formative exercise for new trainers will be to listen to live traffic recordings and analyse utterances, breaking them down into the essential functions which they will have to train their students to master in English, such as:

> ➢ Giving orders, making requests and offering to act
> ➢ Giving advice, asking for permission, giving undertakings
> ➢ Providing information about the past, present and future; describing intentions
> ➢ Discussing necessity, capacity, feasibility and possibility
> ➢ Managing pilot-controller dialogues
> ➢ Managing air traffic sequences
> ➢ Acknowledging, confirming, correcting
> ➢ Reading back
> ➢ Assessing, describing states and ongoing processes
> ➢ Resolving conflicts
> ➢ Paraphrasing and clearing ambiguity

This exercise will enable trainers to become more keenly aware of the articulation of radiotelephony transmissions and of the necessary language structures that underpin them.

4.4.2   Identifying language objectives
and proficiency criteria in aviation English

New aviation English trainers should have time to adapt to the specific characteristics of aviation English and assess their students according to communicative, rather than purely linguistic, criteria. As we have seen in 2.3.1 and 3.7, trainers must:

> ➢ Realize that principally spoken language is being addressed
> ➢ Develop a communicative approach to language teaching
> ➢ Recognize that native-speaker idiomatic speech is not the model to be achieved
> ➢ Make sure that there is sufficient coverage of the functions listed in paragraph 4.4.1
> ➢ Emphasize pronunciation
> ➢ Analyse the structure, duration and rate of phraseology
> ➢ Accommodate different pronunciations when they are not an obstacle to unambiguous communication
> ➢ Constantly refer back to the criteria of the Rating Scale and the holistic descriptors

4.4.3   Criteria for content-based language training in aviation English

In addition to being aware of the operational/linguistic functions specified in 4.4.1, trainers should become familiar with the relevant content of aviation English training, which basically corresponds to the topics listed in 4.2.1 to 4.2.11. They all relate in one way or another to a single concern: safety (see Mathews (2007) in Appendix A, Section A4).

4.4.4   Safety-critical nature of language in aviation

An experienced instructor can help a trainer in studying and analysing the transcripts of some key aviation incidents and accidents. This is an excellent way of realizing how language, and communication generally, contribute to ensuring operational safety (see Day (2004-1) and (2004-2) in Appendix A, Section A4).

4.4.5   Social and personal impacts of aviation English training

Trainers should be helped to realize that they are involved in a training process that is not like any other. The stakes in the case of students' failure to comply with the requirements of ICAO Level 4 in terms of career or even employment, financial repercussions on both students and their employers, and human resources are very considerable indeed. The endorsement of a licence to operate in an international environment is at stake during the licensing test which follows the training to ICAO Level 4.

These facts are likely to generate tension and anxiety among the students. As the students' most regular and closest contact in the training process, trainers have a particular duty to:

> ➢ Reassure and motivate students, yet
> ➢ Give them realistic and constructive feedback on their performance, and
> ➢ Initiate appropriate remedial training in a timely manner so that students are able to reach the goals set in time.

Given the high stakes involved, trainers will also be under pressure from the students and/or the administration to "train for the test" rather than to train for a wider proficiency. Trainers should not, however, forget the old saying, "Train wide, test narrow". They should make every effort to resist this pressure to train for the test as failure to do so may result in a higher pass rate in the short term, but will lead to a less proficient and robustly trained population in the long term. In the final analysis, this is a very real safety issue (see Shawcross (2007) in Appendix A, Section A4).

4.5   BLENDED LEARNING AND STUDENT MONITORING

For many organizations, a blended learning solution will be the most effective. However, this approach requires that special attention be paid to how student monitoring is conducted. Training providers should provide their clients with a clear and transparent process for student monitoring.

4.5.1   Types of training delivery with respect to various ICAO Rating Scale skills

In the case of blended learning solutions, combining elements of self-study (conventional study, CBT or WBT) and classroom trainer-led sessions, trainers should be informed of which aspects of the training process are most appropriately addressed in self-study or distance learning and which require live face-to-face classroom sessions.

With reference to the six language skill areas in the ICAO Rating Scale and holistic descriptors, what can be described as the "foundation skills" of structure, vocabulary, listening comprehension and, to a certain degree, pronunciation can be successfully practised and consolidated in various self-study lab or computer-based learning environments. Indeed, it is probably a more efficient use of both trainers' and students' time to address these skills primarily outside the classroom sessions so that more time is available for trainers to prepare these live sessions, provided the two parts of the blended learning are effectively designed as a whole (see 1.3.7, 1.3.8 and 1.3.9). These four foundation skills are in a way the essential building blocks from which actual communication will be carried out.

CBT/WBT can equally be used very effectively to review and consolidate the content of classroom sessions, as well as to carry out specific remedial or recurrent training.

On the other hand, a live, trainer-led classroom environment is indispensable for developing the other ICAO skill areas, i.e. the "integration skills": fluency (speech production), interactions and, to a certain degree, pronunciation.

4.5.2   Potential and limits of computer-assisted language learning

In carefully designed blended learning, CBT/WBT is an effective tool for developing many language skills because it enables:

> ➢ Flexibility of training scheduling
> ➢ Students to work at their own pace
> ➢ Students to focus on those areas which they find most challenging or interesting
> ➢ Personalized remedial and recurrent training
> ➢ A more appropriate use of trainer time

However, CBT/WBT is not a magic bullet. Language is an interactive, communicative activity and even the most sophisticated voice recognition programmes cannot replace natural human interaction. Trainers and training providers should be mindful of these limitations when designing the split of classroom and distance-learning components in their curriculum.

For a further exploration of this subject, see Shawcross (2004-2) in Appendix A, Section A4 and, more generally, Section A6.

4.5.3   Blended learning curriculum design

Given the limited availability of both pilots and controllers to follow classroom sessions, distance learning will often be an important component in an aviation English curriculum. Trainers will need to be able to coordinate and manage learning systems comprising both classroom time and distance learning in various forms (see also 1.3.9).

Furthermore, with large numbers of learners involved, often in different locations, following up and monitoring learners will be a significant part of a trainer's role.

Trainers should be reminded that successful and sustainable learning will require a supportive learning environment in which the whole organization is involved and which takes into account as closely as possible the students' working conditions and constraints.

Trainers should be made aware of the issues involved in coordinating classroom teaching with various forms of distance learning (resource centre, group work, CBT, WBT, etc.) in terms of content, complementarities, follow-up, monitoring, use of LMS, etc. Successful coordination of classroom and distance learning will depend on, but is not limited to, the following abilities:

> ➢ Identifying skills best addressed in classroom and distance learning
> ➢ Recognizing the specific features and opportunities offered by the components and dynamics of blended learning
> ➢ Gaining awareness of hazards in all-classroom and all-online learning
> ➢ Appreciating various individual learning styles and difficulties
> ➢ Designing systems to assess interim progress
> ➢ Studying techniques for facilitating students working together
> ➢ Identifying ways of creating a supportive social environment to enhance learning, not just self-study

It is important to remember that access to modern computer technology is unequal throughout the world. Training systems that rely heavily on high-technology solutions may be inapplicable in some regions of the world.

4.5.4   Means of student monitoring and Learning Management System (LMS)

The importance of student monitoring for both the training administration and trainers was discussed in 1.4.1, 1.4.2, 2.5.3 and 2.5.4. Trainers should be informed of the purpose of and procedures for student monitoring and trained to use any learning management system that may be in place.

Teachers should be reminded that successful and sustainable learning will require a supportive learning environment in which the whole organization is involved and which takes into account as closely as possible the students' working conditions and constraints.

4.5.5   Benchmark, entry, progress, exit and proficiency testing

A clear distinction needs to be made between the purpose, content, timing and level of reliability of different types of tests. In their teaching practice, trainers will use progress and exit tests extensively. They should also have a clear understanding of how the training delivery ties in with benchmark, entry and proficiency tests. The table below summarizes these variables.

Test type	Test purpose	Test content	Test timing	Test reliability and stakes
Benchmark	Provide an approximate estimation of a general population's language level with a view to defining training requirements. Also called "training needs analysis"	Loosely related to a professional environment but without too specific content	During a language proficiency audit	Medium to low
Entry (Placement)	Assess potential students' language ability and place them in appropriate and homogeneous groups	Addressing the content and language areas in the curriculum but without special reference to course content	Immediately prior to training	Medium
Progress	Evaluate students' acquisition of language in the training curriculum at certain significant points	Referring directly to course content and skills covered to date	During training	Medium
Exit	Make sure that students have satisfactorily acquired the content and skills of the training and attained its goals	Reviewing all the content and skills covered during the training	At the end of training	Medium to high
Proficiency	Certify that an individual has an effective operational proficiency in the language	Drawing on all operationally relevant content, functions and situations without reference to any particular training curriculum	After or independently of training	Very high

— — — — — — — — —

QUESTIONNAIRE

Chapter 4 (Aviation English Trainer Training) in 20 questions

Complete these statements with the most appropriate word(s). The paragraphs from Chapter 4 containing the information are indicated.

1. Effective aviation English trainer training requires commitment to a _____ learning process by the trainer, the training provider and the client institution. (4 Introduction)

2. Aviation English teachers must be familiar with pilots' and controllers' operational

    environments in order to understand the _____ of radiotelephony communications. (4.1)

3. _____ pilots and controllers can share their experience with trainee teachers. (4.1.1)

4. The theoretical qualifications for aviation English trainers are provided in Table _____ of Doc 9835. (4.2)

5. Formal teacher training should be supplemented by individual _____ . (4.2)

6. "Approach and terminal control" are examples of _____ . (4.2.2)

7. Aviation English is a _____ from standard phraseology to a social use of English. (4.2.9)

8. IFALPA is the _____ (4.2.11)

9. 4.3.1 to 4.3.7 are _____ activities. (4.3)

10. Training providers should allow their trainers access to _____ . (4.3.1)

11. Trainers should _____ lessons of their own using raw materials. (4.3.3)

12. It is important for inexperienced teachers to work in _____ with senior trainers. (4.3.6)

13. A detailed _____ of proficiency criteria should be used to assess trainee teachers before they are qualified/certified. (4.3.7)

14. Trainers must develop their awareness of language _____ in aviation

    communication by intensive _____ . (4.4.1)

15. Teachers may have to adjust to not having native-speaker _____ as a model of correct speech, but rather effective communication. (4.4.2)

16. _____ is the concern which makes all operational topics relevant for aviation English training. (4.4.3)

17. Trainers must understand how their students may be subject to _____ and

    _____ . (4.4.5)

18. Trainers must _____ train for the test. (4.4.5)

19. _____ training is essential for developing and practising fluency, interactions and pronunciation.
    (4.5.1)

20. Trainers must be reminded that effective training outcomes depend on a supportive

    _____ _____ in which everyone has a role to play. (4.5.3)

_____

CONCLUSIONS

Some of the main principles that should be kept in mind at all times about aviation English training design, delivery, trainers and trainer training are summarized below:

- ➢ Aviation English training and testing are ultimately about safety.

- ➢ The high stakes of the goals involved require a high level of professional and personal commitment throughout the training process.

- ➢ The relevance of training objectives and activities should always be assessed in the light of real-life operational requirements.

- ➢ Aviation English training has very specific characteristics which set it apart from general English teaching and even English for Specific Purposes in other fields.

- ➢ Training should have a predominantly communicative focus.

- ➢ Appropriate content-based language training is a more efficient, motivating and cost-effective form of aviation English training.

- ➢ The content used for language acquisition should be relevant to the population being trained.

- ➢ The trainer is the training provider's most valuable resource.

- ➢ The student is at the heart of the learning process.

- ➢ There are no short cuts to training properly qualified aviation English trainers.

- ➢ Training is a life-long process.

- ➢ Student motivation and commitment are essential to successful training outcomes; this motivation and commitment require an efficient and correctly maintained learning environment.

- ➢ Maintaining the quality of the training process requires consistent monitoring, feedback, review and adjustment.

- ➢ Small financial savings on training materials and infrastructure and on trainer quality, training and support may have very expensive consequences when operational staff have inadequate levels of communicational ability.

- ➢ Attaining operational language proficiency within an institution is a team effort.

Appendix A: Aviation English Training Resources

Appendices B through E

> ➢ Appendix B: Provider organizational information and infrastructure protocol form
> ➢ Appendix C: Curriculum information form
> ➢ Appendix D: Instruction and curriculum development
> ➢ Appendix E: Delivery Checklist

Note.— The four forms in Appendices B through E are provided only as models. They are in no way exhaustive and can be expanded and completed in the light of the institution's specific concerns. Only a few typical questions have been inserted as examples. The table of contents of this circular can be used by training providers to develop additional queries.

Appendix F: A few facts about ICAEA

Appendix A

AVIATION ENGLISH TRAINING RESOURCES

A1.   Teaching English as a Foreign Language

Certifying Bodies

- ACELS (The Advisory Council for English Language Schools (in Ireland)): www.acels.ie
- ACTFL (American Council on the Teaching of Foreign Languages): www.actfl.org
- ARELS (Association of Recognised English Language Schools): www.arels.org.uk
- British Council: www.britishcouncil.org/learning.htm
- CEA (Commission on English Language Program Accreditation): www.cea-accredit.org
- English UK: www.englishuk.com
- IALC (International Association of Language Centres): www.ialc.org

Associations

- TIRF (The International Research Foundation for English Language Education: www.tirfonline.org

Journals

- Asian EFL Journal
- EFL Magazine (English as a Foreign Language)
- ELT Journal (English Language Teaching)
- TESL: Electronic Journal (Teaching English as a Second Language)
- TESOL Quarterly (Teaching English to Speakers of Other Languages)

Publications

- Ellis, G. & Sinclair, B. (1989). Learning to learn English. CUP*

A2.   English as a Foreign Language – Teacher Qualifying Bodies

- CELTA (Certificate in English Language Teaching to Adults): www.cambridgeesol.org
- DELTA (Diploma in English Language Teaching to Adults): www.cambridgeesol.org
- Cert. TESOL and MA in TESOL are delivered by many universities worldwide
- TEFL.Com: www.tefl.com
- TEFL Training: www.tefltraining.com
- TESOL Direct: www.tesol-direct.com

A3.   Official Aviation Organizations and Publications

Organizations

- Flight Safety Foundation (FSF): www.flightsafety.org
- International Air Transport Association (IATA): www.iata.org
- International Civil Aviation Organization (ICAO): www.icao.int
- International Federation of Airline Pilots' Associations (IFALPA): www.ifalpa.org
- International Federation of Air Traffic Controllers' Associations (IFATCA): www.ifatca.org

Publications

- ICAO Doc 9835 — *Manual on the Implementation of ICAO Language Proficiency Requirements*, 1st Edition, 2004.
- ICAO Language Proficiency Requirements — Rated Speech Samples CD, 2007 (Order No. AUD001; ISBN 92-9194-853-5).
- ICAO Doc 4444 — PANS-ATM, 15th Edition, 2007.
- ICAO Doc 9432 — *Manual of Radiotelephony*, 4th Edition, 2007.

A4.   Aviation English

Associations

- International Airline Language and Communication Organisation (IALCO): www.ialco.org
- International Civil Aviation English Association (ICAEA): www.icaea.pansa.pl

Publications

- Albritton, A (2007). ICAO Language Proficiency in Ab-initio Flight Training. *Second ICAO Aviation Language Symposium, Montréal.*
- Cushing, S. (1991). Social/cognitive mismatch as a source of fatal language errors: implications for standardization. *Fourth ICAEA Forum on Aviation English Standards, Paris.*
- Cushing, S. (1995). Pilot-Air Traffic Control Communications: It's Not Only What You Say, It's How You Say It. *Flight Safety Digest*, July 1995.
- Day, B. (2004-1). Heightened awareness of communication pitfalls can benefit safety. *ICAO Journal* Volume 59, No.1.
- Day, B. (2004-2). ICAO Standards and Recommended Practices – An Overview. *First ICAO Aviation Language Symposium, Montréal.*
- Fox, M. (2007). Language Proficiency: Implementing the Requirements. *Second ICAO Aviation Language Symposium, Montréal.*
- Gault, I. (2007). Aviation English. *Eighth ICAEA Forum on Aviation English Training: Choices & Solutions, Cambridge.*
- Green, E. (1991). The enforcement of RTF phraseology and aspects of callsign confusion. *Fourth ICAEA Forum on Aviation English Standards, Paris.*
- ICAO (2007) Implementation Checklist. *Second ICAO Aviation Language Symposium, Montréal.*
- Mathews, E. (2004-1). New provisions for English language proficiency are expected to improve aviation safety. *ICAO Journal Volume 59, No. 1.*
- Mathews, E. (2004-2). The role of language in aviation communications. *First ICAO Aviation Language Symposium, Montréal.*
- Mathews, E. (2004-3). ICAO Language Proficiency Requirements. *First ICAO Aviation Language Symposium, Montréal.*

- Mathews, E. (2007). The Value of Content-based Language Training for the Aviation Industry. *Second ICAO Aviation Language Symposium, Montréal.*
- McGrath, M. (2007). Sharing resources for English Language Improvement in International Aviation. *Second ICAO Aviation Language Symposium, Montréal.*
- Mell, J. (2004-1). Language training and testing in aviation need to focus on job-specific competencies. *ICAO Journal*, Volume 59, No.1.
- Mell, J. (2004-2). Specific purpose language teaching and aviation language competencies. *First ICAO Aviation Language Symposium, Montréal.*
- Mitsutomi, M. & O'Brian, K. (2004). Fundamental aviation language issues addressed by new proficiency requirements. *ICAO Journal Volume 59, No. 1.*
- Mitsutomi, M. (2004). Some Fundamental Principles of Language Teaching and Learning. *First ICAO Aviation Language Symposium, Montréal.*
- Mitsutomi, M. (2005). Language acquisition. *Seventh ICAEA Forum on Teaching and Learning Aviation English, Besancon.*
- Shawcross, P. (2004-1). Proficiency requirements underscore importance of teaching and testing. *ICAO Journal Volume 59, No. 1.*
- Shawcross, P. (2004-2). Technology in language teaching. *First ICAO Aviation Language Symposium, Montréal.*
- Shawcross, P. (2007). What do we mean by the "washback" effect of testing? *Second ICAO Aviation Language Symposium, Montréal.*
- Shawcross, P. (2008). Social, safety and economic impacts of global language testing in aviation. *Proceedings of ALTE 3rd International Conference* and www.icaea.pansa.pl

A5.   Aviation Resources

Journals

- Airbus *Fast*
- *Aviation Week & Space Technology*
- Boeing *Aero*
- *CAT (Civil Aviation Training) Magazine*
- *Flight International*
- Flight Safety Foundation *Accident Prevention*
- Flight Safety Foundation *Cabin Crew Safety*
- Flight Safety Foundation *Digests*
- *Flying Magazine*
- ICAO *Human Factors Digests*
- *ICAO Journal*
- IFATCA *The Controller* magazine

Publications

- Beaty, D. The Naked Pilot: The Human Factor in Aircraft Accidents. Airlife Publishing.
- Cushing, S. (1994). Fatal Words. University of Chicago Press.
- Duke, G. (1998). Air Traffic Control. Ian Allan.
- Godwin, P. (2004). The Air Pilot's Manual, volumes 1-7. Air Pilot Publishing.
- Henley, I. (2003). Aviation Education and Training. Ashgate Publishing.
- ICAO Doc 9758 — Human Factors Guidelines for Air Traffic Management (ATM) Systems, 1st Edition, 2000.
- Isaac, A. & Ruitenberg, B. (1999). Air Traffic Control: Human Performance Factors. Ashgate.
- Kirwan, B., Rodgers, M. & Schafer, D. ed. (2005). Human Factors Impacts in Air Traffic Management. Ashgate.

- Marriott, L. (1990). From the Flight Deck 3: BAe 146 in Europe. Ian Allan.
- Nevile, M. (2004). Beyond the Black Box. Ashgate Publishing.
- Stewart, S. From the Flight Deck 1: Heathrow Chicago. Ian Allan.
- Wild, T. (1996). Transport Category Aircraft Systems. Jeppesen.

Websites

- www.aero-lingo.com
- www.aviationweather.gov
- www.britflight.com
- www.faa.gov
- www.liveatc.org
- www.ntsb.gov/aviation
- www.pilotfriend.com
- www.skybrary.aero/index.php

A6.   Computer-Assisted Language Learning Resources

Associations

- Association for Learning Technology (ALT): www.alt.ac.uk
- Centre for Information on Language Teaching and Research (CILT): www.cilt.org.uk
- European Association for Computer-Assisted Language Learning (EUROCALL): www.eurocall-languages.org
- International Association for Language Learning Technology (IALLT): www.iallt.org
- IEEE Computer Society: www.computer.org

Journals

- CAELL Journal (Computer-Assisted English Language Learning)
- CAL Digest (Computer-Assisted Learning)
- CALICO Journal (Computer Assisted Language Instruction Consortium)
- CALL Review (Computer Assisted Language Learning)
- ELLS Technology Work Group
- Journal of Interactive Media in Education
- Language Learning and Technology Journal

Publications

- Anker, W. (2002). The Challenge and Opportunity of Technology: an interview with Mark Warschauer. *English Teaching Forum*, October 2002.
- Chapelle, C. (2001). Computer applications in second language acquisition: Foundations for teaching, testing and research. CUP*
- Chapelle, C. (2003). English Language Learning and Technology: Lectures on applied linguistics in the age of information technology. John Benjamins Publishing.
- Crystal, D. (2001). Language and the Internet. CUP*
- Jones,C. (1986). "It's not so much the program, more what you do with it: the importance of methodology in CALL". *System* 14/2, pp. 171-178.
- Kaplan, R. ed. (2002). Handbook of Applied Linguistics. OUP**
- Kern, R. ed. (2000). Network-based Language Teaching: Concepts and Practice. CUP*
- Markee, N. (1997). Managing curricular innovation. CUP*

- Scrivener, J. (2005). Learning Teaching. Macmillan.
- Sharma, P. & Barrett, B. (2007). Blended Learning: Using technology in and beyond the language classroom. Macmillan.
- Smith, D.G. & Baber, E. (2005). Teaching English with Information Technology. Modern English Publishing.
- Sperling, D. (1997). The Internet Guide for English Language Teachers. Prentice Hall Regents.
- University of Hawaii (1998) Checklist: Evaluative Criteria for Computer-Delivered Language Learning Systems. http://nflrc.hawaii.edu/NetWorks/NW31/nw31t.pdf
- Warschauer, M. & Kern, R. (2000). Network-based Language Teaching. CUP*
- Warschauer, M. (2003). Technology and Social Inclusion: Rethinking the Digital Divide. CUP*
- White, C. (2003). Language Teaching in Distance Education. CUP*
- Willis, D. (2003). Rules, Patterns and Words. CUP*
- Zhao, Y. (2002). Uses and Effectiveness of Technologies in Language Education. *ELLS Technology Work Group.*

A7.   English as a means of
international communication and Human Factors

- Barnes, R., Orlady, H. & Orlady, L. (1999). Multi-Cultural Training in Human Factors For Transport Aircraft Certification. Ashgate Publishing.
- Crystal, D. (1997). *English as a global language.* CUP*
- ICAO Circular 302 — *Human Factors Digest No. 16 — Cross-Cultural Factors in Aviation Safety.*
- ICAO Circular 241— *Human Factors Digest No. 8 — Human Factors in Air Traffic Control.*
- ICAO Doc 9803 — *Line Operations Safety Audit (LOSA),* 1st Edition, 2002.
- Jenkins, J. (2000). The Phonology of English as an International Language. OUP**
- Jenkins, J. (2003). World Englishes. Routledge.
- Journal of English as an International Language: www.eilj.com
- Orlady, H. & Orlady, L. (1999). Human Factors in Multi-crew Flight Operations.
- Sexton, J. B. and Helmreich, R. L. (1999). Analyzing Cockpit Communication: The Links Between Language, Performance, Error, and Workload.

---

*   CUP: Cambridge University Press

** OUP: Oxford University Press

Appendix B

PROVIDER ORGANIZATIONAL INFORMATION AND INFRASTRUCTURE PROTOCOL FORM

<table>
<tr>
<td colspan="4">PROVIDER ORGANIZATIONAL INFORMATION AND INFRASTRUCTURE PROTOCOL FORM</td>
</tr>
<tr>
<td>Submission date</td>
<td colspan="3"></td>
</tr>
<tr>
<td>Organization's name</td>
<td colspan="3"></td>
</tr>
<tr>
<td>Any registration and umbrella organization links</td>
<td colspan="2"></td>
<td>Type of institution
☐ Public
☐ Private</td>
</tr>
<tr>
<td>Owner(s) and/or internal institutional links</td>
<td colspan="3"></td>
</tr>
<tr>
<td>Primary contact Information</td>
<td colspan="3"></td>
</tr>
<tr>
<td>Address</td>
<td colspan="3"></td>
</tr>
<tr>
<td>Web address</td>
<td colspan="3"></td>
</tr>
<tr>
<td colspan="4">

Attach the following statements to this form. Include brief biographies or CVs with relevant previous experience for key personnel.

1.1 Brief history of organization (focusing on Aviation English Unit if attached to a larger unit)
1.2 Mission Statement
1.3 Description of reporting channels. (Describe any structure or reporting changes in past 12 months.)
1.4 Description of organization's capacity for training delivery (quoting past experience)
1.5 Description of, and rationale for, any external linkages
1.6 Any other organizational information

Key full-time administrative/management personnel
(Indicate if any key personnel changes in past 12 months)

1.7 Position Descriptions for Aviation English Unit
1.8 Key administrative personnel
1.9 Key aviation operational support personnel

</td>
</tr>
</table>

Appendix C

CURRICULUM INFORMATION FORM

CURRICULUM INFORMATION FORM				
Aviation English Programme Description — Limit this section to specific-purpose aviation English training. General English training is covered separately.				
Number of levels of training provided (corresponding to ICAO Rating Scale Levels)				
Number of courses per level				
Hours per course				
Hours per level				
TOTAL HOURS				
Computer-aided language learning				
Ratio of CBT/WBT to classroom training				
Hours of dedicated CBT/WBT				
Hours of dedicated classroom training				
Other				
Any other instruction provided? List briefly.				
Content focus				
	Of primary interest		*Of secondary interest*	*Not appropriate*
Is the programme of interest to or appropriate for	☐	Ab initio pilots	☐	☐
	☐	Professional pilots	☐	☐
	☐	Ab initio controllers	☐	☐
	☐		☐	☐
	☐	Experienced controllers	☐	☐
		Others		
If the programme is appropriate for 'Others,' indicate who.				

General English Programme	
Are "General" English lessons (i.e. non-aviation-specific) included in the curriculum?	
If yes, for what levels of instruction?	
What teaching materials are used?	
Has the general English course any special focus?	
How many hours for each level?	
Number of courses per level?	
Total General English hours?	

Attach the following statements to this form. Include brief biographies or CVs with relevant previous experience for key personnel.

Programme description

2.1 Describe the theoretical approach and the underlying principles of course design used in the development of the programme curriculum.
Include information on the following, inter alia:
  • How the curriculum and methodology account for recent developments in English language teaching
  • How the programme focuses on the learner (i.e. the way in which it is learner-centred)
  • How it incorporates a communicative approach
  • How it accommodates a variety of study and/or learning styles or strategies

2.2 Provide a curriculum overview or plan. Include clear information on levels, courses, hours per level, course names and focus, and the rationale for curriculum organization.

2.3 Provide a copy of all major collateral materials, including sample programme course materials.

2.4 Provide a statement on expected learner progress, including information concerning the time periods considered necessary to achieve ICAO Operational Level 4.

2.5 Describe how the programme manages learners who do not achieve expected results.

Computer-based training (CBT) and/or web-based training (WBT)

2.6 Fully explain the approach to, or policy for, the use of computer-based training (CBT) and/or web-based training (WBT) and how these are used. Explain how CBT/WBT relate to classroom training.

Other

2.7 Describe any other instruction provided.

Content focus

2.8 Describe the role of, and the approach to, the teaching of radiotelephony phraseology and communication, aviation English, and General English in the programme. Are the ICAO Aeronautical Communicative Functions addressed? If so, describe how.

2.9   Describe the target audience of the programme, and how the content focus and lessons are appropriate to that audience. If the programme is appropriate for multiple target audiences, explain how.

2.10   Describe how the programme addresses the teaching of the six ICAO Rating Scale skill areas: Pronunciation, Structure, Vocabulary, Fluency, Comprehension, and Interactions.

2.11   Provide a sample list of lesson content topics from each level.

———————————————

Appendix D

INSTRUCTION AND CURRICULUM DEVELOPMENT

INSTRUCTION AND CURRICULUM DEVELOPMENT	
Number of members on curriculum development team	
Number of ELT specialists	
Number of operational specialists	
Are instructors provided by AETP (Aviation English Training Provider)?	
Is instructor training provided by AETP?	
Is there a proper instructor induction and replacement procedure?	
Is there a full-scale external trialling process?	
Is a "Quality Oversight" programme provided?	
Is the development process clearly documented and illustrated?	
Is there a feedback and revision process?	

Describe the curriculum development process. Include information about the input of ELT specialists, aviation operational specialists, and others.

Describe how curriculum reviews and updates are conducted.

Provide details of the development team's (English language teaching managers and administrators and curriculum developers) ELT/TESOL academic qualifications, ESL teaching experience, and familiarity with aviation communications, with direct reference to the Aviation English Qualifications Table (4-1) in Doc 9835, Chapter 4.

Provide rationales for any personnel who do not meet the ICAO "Best" or "Very Good" qualifications, as described in Table 4-1 in Doc 9835, detailing other relevant qualifications and experience, professional development activities, and reasons for appointment to positions.

Provide a policy statement regarding the organization's instructors, and describe the procedures for identifying, hiring, and training programme instructors.

Detail procedures for monitoring instructor performance and/or implementing a "quality assurance" programme.

_____

Appendix E

DELIVERY CHECKLIST

DELIVERY CHECKLIST		
	Yes	*No*
Is on-site delivery of programme available?		
Is this a blended learning programme?		
What is the mix of distance and classroom learning?		
Is a Learning Management System included in materials?		
Is there a support system/help desk for CBT/WBT?		
Is a placement test or assessment provided?		
Is there a procedure for soliciting and responding to learner feedback?		
Are certificates and/or progress reports provided?		
Describe all applicable training delivery options fully: • On-site delivery directly to client • In-country delivery with a local partner • Immersion in English language country • Distance-learning programmes Include details about instructor management and oversight, quality control, instructor resources, learner resources, and instructor teaching loads. • Describe any testing systems included with the programme: placement testing, progress testing or end-of-programme testing. • Describe reporting systems, including any system to gather learner feedback.		

Additional Information

Note.— Include any additional information considered relevant.

References:

1. *Guidance Manual on the Implementation of ICAO Language Proficiency Requirements*, ICAO Doc 9835.

2.   Integrating EFL Standards into Classroom Settings Series. Copyright 2006. Teachers of English to Speakers of Other Languages, Inc. (TESOL). All rights reserved. Cited with permission. (www.tesol.org)

3.   British Council Accreditation Scheme: www.britishcouncil.org/accreditation

4.   Commission on English Language Program Accreditation. Standards: www.cea-accredit.org

———————————————

Appendix F

A FEW FACTS ABOUT ICAEA

The International Civil Aviation English Association (ICAEA) is a non-commercial, non-partisan association created to:

> ➢ Facilitate international and inter-professional exchange between all persons and organizations involved in the use of English in aeronautics and aviation;

> ➢ Develop expertise about the use, teaching and testing of English in aviation;

> ➢ Distribute this information and expertise through a website, an e-forum, databases, conferences, training sessions, guidelines and publications;

> ➢ Promote greater awareness and higher standards of linguistic proficiency within the aviation industry with a view to enhancing safety; and

> ➢ Seek ways of fostering international cooperation within the aviation community.

Where did ICAEA come from?

ICAEA was created in 1991 and developed out of forums organized by aviation trainers of the Centre of Applied Linguistics of the University of Franche-Comté in the early 1980s as being a means of bringing people together to exchange expertise, teaching and learning practices and current information concerning safety issues in the aviation world. A solid network of participants was thus established and clearly met a need amongst the worldwide language training community.

What is ICAEA's status?

ICAEA operates as a non-profit-making association under French law (*association de la loi de 1901*). Its registered office is in Paris.

How is ICAEA administered?

The association is governed by a Board of some twenty members. The Board members elect a Bureau of office-bearers comprising a president, a general secretary, a treasurer and several vice-presidents for a period of three years.

Who are our members?

Our members come from airline companies, civil aviation authorities, international regulators, air navigation service providers, aircraft manufacturers and suppliers, civil, military and general aviation, air traffic control centres, aircraft maintenance centres, aeronautical engineering, aviation training centres, universities, colleges, research centres, language schools, testing providers, Human Factors research, the medical profession, translating departments, the press, etc.

What do we do?

Our main activities to date have been:

> ➢ Organizing forums and seminars on specific topics related to aviation English and often hosted by different aviation bodies (see list below);
> ➢ Running a website (www.icaea.pansa.pl) which is a growing depository of information, a forum for current research and development, and a means of exchange;
> ➢ Hosting an electronic mailing list to promote informal international communication in the profession; and
> ➢ Contributing to ICAO activities in the field of Language Proficiency Requirements

What are our ambitions?

> ➢ Develop our database of resources, bibliography and research
> ➢ Organize seminars and forums in different regions of the world
> ➢ Research, edit and publish guidelines for the aviation and training communities
> ➢ Support projects based on international synergy
> ➢ Promote higher standards of English in all areas of aviation

What events have we organized?

- Prague, Czech Republic, May 1993, hosted by CSA Airlines: *English Requirements and Technical Training*

- Helsinki, Finland, June 1993, hosted by Finnair: *Simplified English*

- Bournemouth, United Kingdom, October 1993, hosted by CAA (UK) and the Anglo-Continental Educational Group: *Radiotelephony*

- Warsaw, Poland, September 1994, hosted by Polish Airports State Enterprise and the Polish Air Traffic Agency: *Lexicography and Teaching Aviation English Terminology*

- Toulouse, France, February 1995, hosted by Airbus: *Cockpit Resource Management*

- Luxembourg, May 1996, hosted by EUROCONTROL: *Recurrent Training in English for Radiotelephony*

- Riga, Latvia, September 1996, hosted by Latvian State Enterprise of Air Space Utilization and Air Traffic Organization: *Initial Training in English for Radiotelephony*

- Warsaw, Poland, September 2002, hosted by the Polish Airports States Enterprise and Polish Air Traffic Agency: *The effects of the conclusions of ICAO's Proficiency Requirements in Common English Study Group*

- Luxembourg, September 2003, hosted by EUROCONTROL: *Testing English for Aviation*

- Besançon, France, September 2005, Forum hosted by the Centre de Linguistique Appliquée of the University of Franche-Comté: *Teaching and Learning Aviation English*

- Cambridge, United Kingdom, August-September 2007: *Aviation English: Training choices & solutions*

- Warsaw, Poland, May 2008, hosted by PANSA: *Testing for ICAO compliance — Best practice in aviation proficiency assessment*

— END —