

Reassessing the position of Aviation English: from a special language to English for Specific Purposes

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Abstract

“Aviation English” is not only confined to pilots and air traffic controllers (ATC), it also refers to English on general terms in aeronautical and/or aviation universities. It can be designed as integrated ESP (English for Specific Purposes) curricula for students in the fields of aeronautics and/or aviation. Learners of ESP are supposed to master the vocabulary in their specific discipline as well as the English language skills. This paper explores the possibility of establishing Aviation English as an ESP specialty in aeronautical and/or aviation colleges and universities. Needs analysis has been made and curricula designed for an integrated course of study in the Chinese context, so that learners of ESP can learn the target language more effectively and meet the standards set by the International Civil Aviation Organization (ICAO). It reconsiders the ESP theories and aims to develop a possible approach to ESP teaching more suitable for the Chinese learners.

Key words: Aviation English, needs analysis, curriculum design.

Resumen

Reevaluando el lugar que debe ocupar el inglés de la aviación: de un lenguaje especial al inglés para fines específicos

El “inglés de la aviación” no se limita exclusivamente a los pilotos y a los controladores del tráfico aéreo (CTA) sino que también se aplica en términos generales a la lengua inglesa que se enseña en los centros universitarios de aeronáutica y/o aviación. Como tal, los cursos pueden diseñarse como parte integral de módulos de inglés para fines específicos cursados por alumnos de estudios aeronáuticos y/o de aviación en los que se espera alcanzar el dominio del vocabulario específico de la disciplina concreta así como las correspondientes destrezas en lengua inglesa. En este artículo se estudia la posibilidad de establecer

el inglés para aviación como especialidad propia integrada en los centros universitarios de aeronáutica y/o aviación. Se ha realizado un análisis de necesidades y se ha programado un curso dentro del contexto de nuestro país (China) con objeto de que los alumnos de IFE puedan aprender el lenguaje de especialidad y satisfacer las normas establecidas por la Organización Internacional de Aviación Civil (ICAO). Se vuelven a examinar las teorías relativas al IFE y sus objetivos así como un enfoque docente de IFE que resulte más adecuado para los estudiantes chinos de inglés para aviación.

Palabras clave: inglés para aviación, análisis de necesidades, diseño curricular.

1. The theoretical base of classifying Aviation English into ESP

Aviation English can be defined as a comprehensive but specialized subset of English related broadly to aviation, including the “plain” language used for radiotelephony communications when phraseologies do not suffice. Not restricted to controller and pilot communications, Aviation English can also include the use of English relating to any other aspect of aviation: the language needed by pilots for briefings, announcements, and flight deck communication, and the language used by maintenance technicians, flight attendants, dispatchers, managers and officials within the aviation industry or even the English language studied by students in aeronautical and/or aviation universities. Used in radiotelephony communications between air traffic controllers (ATC) and pilots, radiotelephony English (RTFE) is the core of Aviation English. It includes (but must not be limited to) the phraseology set by the International Civil Aviation Organization (ICAO) and can require the use of general English at times. Accordingly, Aviation English can be a subdivision of ESP, in the same rank as English for Business and Economy, English for Science and Technology, English for Social Sciences while RTFE, the core of Aviation English, may be considered a kind of special English for occupational purposes (EOP), or a restricted language as Mackay & Mountford (1978: 4) clearly illustrated:

[...] the language of international air-traffic control could be regarded as “special”, in the sense that the repertoire required by the controller is strictly limited and can be accurately determined situationally, as might be the linguistic needs of a dining-room waiter or air-hostess. However, such restricted repertoires are not languages, just as a tourist phrase book is not

grammar. Knowing a restricted “language” would not allow the speaker to communicate effectively in a novel situation, or in contexts outside the vocational environment.

Thus Aviation English contains two meanings with regard to the time and depth of language study: (a) Aviation English (such as RTFE) for occupational purposes (5 months); (b) Aviation English for general use (1-2 years); (c) Aviation English for language skills and linguistic study (2 years). But in non-English speaking countries, the prerequisite of learning Aviation English is an intermediate or higher English level.

There are convincing reasons why Aviation English course needs to be included in the specialty, so that students (including potential pilots who are entrusted to aviation colleges and/or universities by airlines) can master the English language before they go to English speaking countries to get their flying license. These students are selected either from high schools or from colleges and universities in China. They all learnt English in this way or either as a part of compulsory education, but their English proficiency varies a lot due to different backgrounds. Equally important is the necessity of restructuring the English language specialty with a long time emphasis on general usage.

Great progress has been made in the research of Aviation English for ESP. One reason is the rapid growth of the aviation industry in the world, especially in a developing country like China. Another reason is perhaps the development and influence of ESP theory in English language teaching. Radiotelephony English (RTFE) has started to be taught in aeronautical colleges and universities for the training of ATC and pilots. Meanwhile there has been a corresponding steady increase in the proportion of papers on EOP and development of EAP (English for Academic Purposes) courses. Thus, Aviation English courses taught in colleges and universities can generally be regarded as EAP and /or EOP, although it is hard to make a clear-cut distinction between the two and can be considered from three perspectives:

- (a) Aviation English 1 (specifically RTFE) = typical selections from the language corpora in a specific field of air industry + register analysis and/or discourse analysis (with a focus on aviation terminologies) for practical use. Aviation English on this level includes English for air communication, English for cabin attendants, English for maintenance staff and English for airport service. It is actually a *lingua franca* and targeted at adult learners.

- (b) Aviation English 2 (general English for specific purpose, i.e. College English) = 21st Century College English (Textbook edited by Zhai & Zheng (2002) and compiled at Fudan University in Shanghai) for proficiency tests. Aviation English on this level is not much different from general English teaching.
- (c) Aviation English 3 (integrated Aviation English course) = linguistic processing of language corpus in the field of air industry + register analysis and/or discourse analysis (with a focus on phonetics and the English language proficiency) for language skills and linguistic study. Aviation English on this level is actually a combination of Aviation English 1 and Aviation English 2. In addition, linguistics (such as Forensic linguistics concerning international air regulations, aviation psycholinguistics, aviation linguistics, etc.), translation theory and practice and ESP theory become mandatory courses of this specialty. Learners can further their studies by systematically learning linguistics and ESP theories, thus getting to a higher level of language study. Aviation English 3 is thus an academic and linguistic complex, belonging to the scope of EAP and linguistics.

2. Needs analysis for the establishment of Aviation English as an ESP specialty

2.1 External factors

Being a part of globalization in nature, aviation industry requires pilots, ATC, cabin attendants, crewmembers, engineers, and service staff to be able to communicate with their counterparts in the world on work-related issues. Such communication has two implications: on the one hand, it means the correct and standard use of terminologies or phraseologies in air/ground communication, aircraft manufacturing and its specification, even legal terms in aviation law; on the other hand, it refers to the general use of the English language among aviation staff in daily communication, regardless of its nationality, race, and different cultural backgrounds.

In China, there is a huge market for aviation services. With the rapid growth of air industry and the flourishing Chinese economy, more and more people are working or wish to work in airports and airlines. Accordingly English is

fast becoming a requirement for professional promotion and even employment. Moreover, with its *de facto* long-time use in this industry, English is the referred language used in international airports and airlines. China is carrying out its opening up policy and actively participating in international activities. English learning is advanced from middle school to primary school or even to kindergarten, and prolonged from undergraduate education to graduate or even to continuing education. As ESP is closely related to the work of pilots, ATC, engineers and those in various trades and professions, it is unavoidably a choice of the English language teaching approach in aeronautical and/or aviation universities and colleges in China.

2.2 Internal factors

Robinson (1991) claims that needs assessment is a central element in ESP curriculum design. In order to know the needs of our current and potential students, a survey was conducted. Students were asked to fill out a questionnaire (see appendix 1) that was delivered to 100 undergraduates in Civil Aviation University of China (CAUC) and 50 adult students in the continuing educational school of the same university. The interviewees are of different specialties, such as air traffic control, aviation business administration, flying skill, cabin attendant training, and English Language. We received 143 pieces of feedback (97 from undergraduates and 46 from adult students). The results indicate that a 90% of the students surveyed want to work in the aviation industry. If there is an English test for the qualification of a flight interpreter, 45% students will take part in the test. Obviously aviation-related English tests are the most favored ones. 73% students are interested in English for daily communication while a comparatively small percentage of others were also interested in phonetics, lexicology, syntax, and semantics. Clearly they wish to learn English for practical use. 79% students prefer to learn general English (i.e. College English) with aviation features while 21% students do not. 74% interviewees think it is necessary to establish a specialty of Aviation English in CAUC. In short, the result of the survey shows that there is a definite need for the establishment of the Aviation English as a specialty for a systematic study of ESP. This is likely to bridge the gap between the English learners who are ignorant of systematic aviation information and the native English instructors with strong aviation backgrounds. Learners are highly motivated and notably interested in ESP. The boom of ESP teaching both in college education and continuing education is the result of social demand for the

development of English language skills, as well as the rapid introduction of linguistics and educational psychology (Li, 2001). Such a situation requires the teaching of Aviation English on a large scale to college students as well as adults, either in the long term for strategic programs or in the short term for current operations. With different objectives, different contents and targets, ESP teaching has its own methodology and curriculum in various contexts.

3. Methodological exploration concerning the teaching of Aviation English in the Chinese context

3.1 Assessment of learners' language ability and teachers' methods

The first step was to find out about the students' background of learning Aviation English. The result of an interview (Ming, 2003) showed that it did not make much difference among college students in the same grade but varied significantly among the adult learners. The general English proficiency of adult learners was found to be rather low, though many of them had done some college work. In China, both college students and adult learners of ESP are comparatively good at reading but poor at using the target language to communicate (Li, 1995).

The learner-centered curriculum module used by ESP theorists and practitioners will surely change such a situation. This has been proved in Business English teaching class where students are organized to participate in many well-designed interesting activities in the target language. They gain not only knowledge of the English language, but also down-to-earth techniques of business management and operation. The methodology adopted in Business English teaching has been generally recognized in China.

In the learner-centered curriculum module, learners' needs and teachers' teaching plans are not in conflict. The content and ways to have it performed in class are highlighted. The final goal of teaching Aviation English is to cultivate the students' communicative competence. Classroom teaching plays an important part in aviation language teaching. The following aspects are stressed in teaching: (a) Phonetics: A key area of training; large amount of rigorous drills of phonemes, intonations based on mimicking model readings; (b) Speaking: Mimicking the conversation; (c) Listening: Sporadic

teacher-student interaction; features of world Englishes are to be identified in this kind of training; d) Vocabulary: Another key area of teaching and learning Aviation English; extensive exercises designed for practice; terminologies and selected words from literary works rather than everyday vocabulary are emphasized.

Brown (2001) emphasizes that group work generates interactive language and offers an embracing affective climate, and that it promotes learner's responsibility and autonomy. In the classroom teaching of Aviation English, group work is widely used to create a more interactive learning environment for learners to actively engage in. By adopting the interactive role play, each group has to do both before-class practice and during-class oral presentation on the different topics of the situational conversations. During the oral presentation, ESP learners are encouraged to arrange an authentic environment and atmosphere to experience the practical side of the language.

3.2 Methodological exploration

Methodology is best considered an ongoing process, involving experimentation, data collection, and evaluation, and informed by constant reference to target objectives and to research on underlying learning, and communicative processes in second language acquisition (Richards, 2001). As ESP is focused on subject matter, what to talk about in class seems more important than how to talk about it. Register analysis and discourse analysis are still popular approaches to ESP teaching in the world. Although they seem equally suitable for Chinese learners, college students in China are insufficiently prepared in English language skills despite the fact that most of them start to learn English in primary school. To teach ESP in China, we must take into consideration students' English proficiency, their learning backgrounds and the proper use of teaching methods. We must teach students in accordance with their aptitude. Contrastive approach plus linguistic analysis is now at its experimental stage, feedback shows that this approach is suitable for learners of ESP or other specialties in aviation industry. In the integrated Aviation English course at the CAUC, for example, one hundred and twenty students selected aviation linguistics soon after its establishment and none decided to make a transfer. Some students complain that it is a bit hard for them to learn without any adequate college English training first.

According to Strevens (1977: 152), ESP is the “global trend towards learner-centered education”, with its emphasis on learners’ needs and interest. English for Science and Technology has come to the fore because English is considered the major international language in these areas. It has been estimated that nearly two thirds of engineering texts appeared in English (Mackay & Mountford, 1978; Pritchard & Nasr, 2004). EAP prepares students to study both the English language in the Chinese context and other subjects in English as an Auxiliary Language, or to undertake specialized courses in English-speaking universities. It is not only language study but also training in study skills: listening to lectures and taking notes; reading texts related to the field; writing reports and papers; answering questions orally on specialized material. Therefore, EAP can be defined in the Chinese context as general English or even specialty English (ESP in this sense) in polytechnic universities and colleges. Aviation English thus can become specialty English in CAUC, with pure linguistic courses and literature courses replaced by ESP teaching methods, genre analysis and materials corresponding to aviation or airports. In addition, quite a few courses in the English language department are actually concerned with linguistic analysis of aviation and airport related materials, which are excerpts from books written in English. So we are now in a dilemma, our courses are gradually overlapping with those taught in the aviation business administration department. This condition must be changed with ESP courses being introduced. The establishment of Aviation English as an ESP specialty is certainly a trend towards learner-centered education in the Chinese context.

3.3 Challenges to face and measures to take in ESP teaching in the Chinese context

As ESP is to be properly placed in the Chinese context, the challenge to face is how to include it in the right curriculum. Many college teachers may not feel qualified to deal with ESP. The point is that they need some advice or training in this area. Though quite a number of textbooks have been compiled in CAUC, high quality English for General Academic Purposes (EGAP) and English for Specific Academic Purposes (ESAP) books are lacking here as well as in other Chinese aviation or aeronautical universities and colleges. These will have to be made available. One way is to send qualified teachers to the English speaking countries for ESP training. Thus they can cooperate with their counterparts in those countries, and obtain technical assistance in the form of suggested syllabi, advice about the

integration of ESP into the curriculum, workshops, materials, and help in developing materials. Another way is to integrate ESP into instruction about general language teaching. This should be feasible because ESP does not differ too much from general English in terms of methodology. When ESP is introduced into the college curriculum, the general language teaching methodology is also applied in teaching ESP. In this way the language teachers will not only handle ESP teaching tasks, but also obtain a perspective on general language teaching principles and ideas that they otherwise would neglect.

3.4 Time allocation for the teaching of Aviation English

In China, the time ratio of teaching Aviation English to that of teaching general English is about 1 to 4. In order to improve students' language ability, we are designing the course on the following percentage of time allocation.

Aviation English Course components	Percentage of time spent on components
A. Aviation English components (for EAP)	10
Aviation linguistics (phonetics and semantics)	10
Aviation psycholinguistics	10
Aviation forensic linguistics	10
Translation theory and practice	10
Listening and note-taking	5
Technical writing	10
(Aviation English centered) reading comprehension	5
Library/reference/research skills	(5)
Integrated language study project	15
ESP theory	5
ESP project (e.g. air communication, culture of aviation industry)	5
Cross cultural communication	
B. General English for specific purpose (College English)	30
21 st Century English (volumes I-IV)	30
English Grammar and Writing	20
English Listening and Speaking	20
Fast Reading	
C. Aviation English course (for EOP)	25
1. English pronunciation and air communication	25
2. Grammar and writing	
3. EOP projects (e.g. English for cabin attendants, English for maintenance staff, English for pilots and ATC, etc.)	25
4. Listening and speaking	25

Chart 2. Time allocation of Aviation English Course.

3.5 Teaching oral Aviation English with a contrastive approach

Aviation phonetics is the study of vocal sounds in air communication, and it is the core component of the curriculum in ESP. In aviation verbal communication is the only effective means of passing information quickly. Though visual display units occupy a large part of the modern aircraft cockpit, voice communication still plays the prime role as a means of rapid transfer of information. The factors which can affect the speech perception can be classified as (a) Aviators speaking status; (b) Effectiveness of communicating system; and, (c) Presence of adverse conditions which interfere with the communication. Considering the importance of phonetics in the communication of aviators and overall effect on flight safety, it is essential to take measures and screen the aviators at the selection level and also maintain the speech status while serving, by taking all preventive and corrective measures (Ravishankar, 2002).

On the basis of learning international phonetics systematically, learners will focus on aviation phonetics. This includes the reading of numbers, alphabets, time, code of airports, air pressure, and aircraft type, etc. In comparison with the Chinese phonetic system (Pinyin) and ICAO phonetic regulations, learners of Aviation English in the Chinese context could have a better understanding of phonetic knowledge. For example, in Chinese air communication, “0” is read out /dòng/ instead of /líng/ as usual; “1” is read out /yāo / instead of /yi/ as usual; “2” is read out /liǎng/ instead of /èr/ as usual; “7” is read out /guāi/ instead of /qi/ as usual; “9” is sometimes read out /gǒu/ instead of /jiǔ/. Similarly, in English air communication “3” is read out /TREE/ instead of /θri:/ as usual, “4” is read out /FOW-er/, “9” is read out /NIN-er/ instead of /naIn/ as usual, because, to pronounce the sound /θ/, we have to put the tongue between the teeth, in addition, it is voiceless and this makes it difficult to be heard by the listener in communication, so the /θ/ sound is replaced by alveolar and plosive /t/ in air communication, and the word “thousand” is pronounced as /TOU-SAND/.

The benefit of phonetic contrast is that learners acquire every sound on theoretical basis in addition to pure imitation. They are aware of the place in the mouth where sounds are articulated and the manner in which specific sounds are vocalized, such as /v/ and /w/, with the former a labio-dental and the latter a bilabial in place of articulation and respectively, fricative and approximant in manner of articulation, while in the Chinese context it is very hard to distinguish these two sounds. Take “wán bì” (out) for example, it

does not make much difference if it is pronounced /wán bì/ or /ván bì/. But in English, *wilco* must not be pronounced as *vilco**

3.6 A conceptual change regarding the teaching of Aviation English in China

The Aviation English course is designed to meet the demands of students, with consideration of the fact that they might possess beginner, intermediate or experienced skills. The specific problems that Chinese students face when learning Aviation English are targeted with the following design:

- Increase English vocabulary (including aviation phraseologies)
- Improve English listening Comprehension
- Improve English speaking Skills
- Improve English grammar
- Increase accuracy in English pronunciation
- Expand professional knowledge
- Expose students to aviation language and technology

In the Aviation English class, instruction changes from being teacher-centered and content-driven to being more learner-centered and learning process-driven. For example, instead of having students receive information-loaded lectures devoted exclusively to the coverage of course content, learner-centered instruction involves engaging students in learning experiences that are designed not only to enable them to learn content, but also to learn process; students are encouraged to practice what they learn, to communicate with their partners or with their instructor. In the process of learning content, students learn how to acquire skills to use the language in different contexts.

The student's role changes from that of being a passive recipient to that of an engaged learner and active agent in the learning process. Classroom teaching methods used to be instructor-centered. It is best illustrated by the uninterrupted, formal lecture wherein the instructor does virtually all of the talking and is in complete control of the class agenda. In Aviation English class, however, the instruction involves less instructor domination and transfers more communicative tasks, control, and responsibility to the students. This is possible because (a) students' English level has generally

improved due to the implementation of new English teaching methods; (b) a conceptual change in quality education in colleges and universities is playing an important role.

4. Conclusion

This paper has addressed peculiarities of ESP, explored methodologies, and designed Aviation English curricula in the Chinese context. It illustrates a case of contrastive approach to teaching oral Aviation English. The content of the paper was based on my dual professional experience as an ESP and ELT instructor designing and delivering the content-based language programme, aviation linguistics in CAUC. These issues, where possible, have been supported by current and pertinent academic literature. It is hoped that the discussion in this paper can provide some insights into the challenges facing ELT instructors acting as ESP curriculum developers both in China and in the world. Still, some points remain for further comment elsewhere; namely, what issues concerning the Aviation English teaching approach in China need to be further addressed by ELT professionals; how methodological issues in the Chinese context relate to Aviation English teaching in other contexts and to ESP in general; or to what extent and how ELT professionals can further develop the Aviation English course and its components.

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Appendix 1: Questionnaire

Questions	Answers (%)
(Questionnaire delivered to 150 students – 143 were returned)	
1) Are you an undergraduate or an adult student?	a. 68% Undergraduates b. 32% Adults
2) Do you wish to work in the aviation industry?	a. 90% Yes b. 8% No c. 2% Hard to say
3) How far do you want/need to go with your English?	a. 15% CET-4 b. 29% CET-6 c. 39% TOEFL, GRE or IELTS d. 45% Flight interpreter e. 20% Able to read English materials
4) What part of English are you most interested in?	a. 32% Phonetics and pronunciation b. 29% Lexicology and vocabulary c. 23% Syntax and sentence writing d. 26% Semantics and meanings e. 27% Phraseology or terminology f. 73% Daily communication
5) Which do you prefer?	a. 79% College English with aviation features b. 21% College English without aviation features
6) Do you think it necessary to establish a specialty of Aviation English in the Civil Aviation University of China?	a. 74% Yes b. 15% No c. 11% No idea

