A Research and Discussion Note

Teaching aviation English in the Chinese context: Developing ESP theory in a non-English speaking country

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Abstract

This note introduces readers to the development of English for specific purposes (ESP) teaching and research in China and, more specifically, aviation English curriculum development in the Chinese context, so that ESP professionals can be acquainted with the recent development of ESP theory and practice in a non-English speaking country like China. The purpose of the note is to explore an appropriate approach to teaching aviation English in the Chinese context from the perspective of ESP curriculum development. This note focuses on a contrastive study of aviation language between English and Chinese and aims to present a possible approach to ESP teaching more suitable to the Chinese context. As an important component of an aviation English course, the teaching of aviation linguistics is now in an experimental stage, and student response is positive. It is hoped that the establishment of this course, along with its teaching methods, will contribute to the development of ESP teaching in China.

1. Introduction

ESP teaching and research started late in China but have developed quickly over the past years. This is because of the fact that all trades and professions need composite talents who have not only a good grasp of English skills, but also a conscious command of professional knowledge. Research in educational psychology shows that learners may foster different interests due to various needs of their work (Li, 2001). Business English has long...
been an ESP course in China. It highlights the great achievement of ESP teaching in China and sets a good example for the development of ESP in aviation industry, which is a rich new field. Accordingly, the combination of ESP theory with aviation English teaching will likely be of interest to ESP professionals both domestically and around the world.

In China, there is a huge market for the aviation industry. Being itself a part of globalization in nature, the industry requires its pilots, air-traffic controllers (ATC), cabin attendants, crew members, engineers, and service staff to be able to use the English language. A good command of the English language will enable them to communicate with their counterparts in the world and serve their customers better on work-related issues, as English has been generally accepted as a de facto medium of communication as a result of long time usage in this industry. This is especially true with international airports and airlines. According to the rules of Civil Aviation Administration of China (CAAC), an English examination is a must for the majority of aviation professionals if they want to get a professional promotion. China is now carrying out its opening up policy and actively participating in international activities. Learners, therefore, are well motivated and greatly interested in ESP. The boom of ESP teaching both in college education and continuing education is rightly the result of social demand of the English language, rapid development of linguistics, and educational psychology. ESP teaching definitely needs its own methodology and curriculum in different contexts because it has different objectives, different content and targets.

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. The necessity of teaching aviation English as ESP in the Chinese context has come into being.

2. 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 other 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; language used by maintenance technicians, flight attendants, dispatchers, or managers and officials within the aviation industry. Aviation English includes but must not be limited to International Civil Aviation Organization (ICAO) phraseology 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 Economics or English for Science and Technology, English for Social Sciences, while Radiotelephony English (RTFE), the core of Aviation English, may be considered a kind of special language for occupational purposes (EOP), or a restricted language as Mackay and Mountford (1978) clearly illustrate:

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 airhostess. 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. (pp. 4–5)

The research base for aviation English for ESP is still in its infancy. One of the reasons is the rapid development of aviation industry in the world, especially in a developing country like China. RTFE for English for Occupational Purposes (EOP) has only recently 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 development of English for Academic Purposes (EAP) courses. The teaching of EAP falls within the framework of what is generally called ESP, taking place in essence, and as its name suggests, in an educational environment (Domínguez & Rokowski, 2002). The aviation English course taught in colleges and universities can generally be regarded as ESP.

Aviation English (for ESP) = linguistic processing of language corpus in the field of aviation industry + register analysis and/or discourse analysis (with a focus on phonetics and the English language proficiency) → targeted on learners of English in aviation colleges and universities of China.

3. Perspective of ESP curriculum development in the Chinese context

3.1. Problems with methodology status quo

Grammar-translation has been the dominating methodology of ESP teaching in China. It is actually an extension of traditional English language teaching (ELT) methodology, and its basic mode consists of the following: analyzing sentences from the grammatical point of view, comparing the usage of some words and expressions, and then translating sentence by sentence into Chinese. The benefit of the “grammar-translation” method is that ESP students can have a good understanding and memory of the text. The defect is that this method is teacher centered and students’ roles are rather passive. They have little chance to speak or to communicate with others in the target language. Consequently, the English students learn is an ossified language, and thus they are unable to discuss the work-related matters in English on which they spent much time. They fail to acquire the normal English proficiency required to freely exchange their ideas on specialty issues. This method is now considered obsolescent and is frequently rejected.

3.2. The curriculum of the aviation English course and its proper teaching methodology

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 supposedly focused on subject matter, what to talk about in the classroom seems more important than how to talk about it. Register analysis and discourse analysis have become popular approaches to ESP teaching in the world; however, they seem more suitable for native English speakers or those who have long experience of working and studying in the English language atmosphere. Since college students in China often lack sufficient English language skills though most of them start to learn English in primary school, it is often hard for them to adapt to foreign ESP teaching.
methodologies (Sun, 1997). Robinson (1991) says that the Needs Assessment (NA) is a central element in ESP curriculum design. 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. A contrastive approach plus linguistic analysis is now at its experimental stage. Feedback\(^1\) shows that this approach is suitable for learners of ESP or other specialties in aviation industry. One hundred and twenty students have selected aviation linguistics soon after its establishment, and no one has decided to make a transfer.\(^2\) Some students complain that they have difficulties in their studies without having had any adequate college English training first.

3.2.1. Phonetic contrast

Aviation phonetics is a part of aviation linguistics; in fact, it is the core component of the curriculum. Having learned international phonetics systematically, learners will be able to focus on aviation phonetics. This includes the reading of numbers, the alphabet, time, codes of airports, air pressure, and aircraft type. In comparison with usage of the Chinese phonetic system (Pinyin) and ICAO phonetic regulations, learners of aviation English in the Chinese context who have studied international phonetics 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 /yī/ as usual; “2” is read out /liàng/ instead of /ěr/ as usual; “7” is read out /guǎi/ instead of /qī/ as usual; “9” is sometimes read out /gòu/ 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. Since the sound /θ/ is interdental and voiceless, it is 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/. Therefore /tr/ is likely to replace /θr/ in this case with the consideration of efficiency and clarity. The pronunciation of the number “4” gets easily confused with that of the preposition “for”, so the vowel /er/ is added (/FOW-er/) to distinguish the two sounds. In pronouncing number “9”, the second /n/ sound in /nain/ is a nasal and this makes it difficult to be heard too, so it would be safer and easier to be heard if we read it as /NIN-er/, with a vowel /er/ added to it.

The benefit of phonetic contrast is that learners acquire every sound on a theoretical basis in addition to pure imitation. They realize the place and manner of articulation of specific sounds like the labiodental fricative /v/ and bilabial approximant /w/, 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 /wán bì/. But in English, WILCO must not be pronounced as VILCO*.

3.2.2. Semantic contrast

Language-related misunderstandings of various kinds have been a critical contributing factor in aviation accidents, as is often illustrated by the familiar fatal accident in Tenerife.

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\(^1\) In reply to the questionnaire question of “Which of the following approaches do you prefer?” 76 students chose “contrastive approach”, 23 students prefer “traditional approach”, 14 prefer “explanatory approach” and 7 have “no idea”.

\(^2\) In response to the question of “Why I choose to learn the subject?” 98 of the 120 students ticked “for interest”, 7 “for credit”, 3 “for curiosity”, and 2 “for other reasons”.

in 1977 where the death of 583 people resulted in part from misunderstanding of the
phrase *at takeoff*, which was used by the flight crew to indicate that they were “in the pro-
cess of taking off”, but was understood by the tower controller as meaning “at the takeoff
point”. So the pilot was not warned that another Boeing 747, shrouded in fog, was already
on the runway. It seems that the reason for the wrong usage on the part of the Dutch pilot
was his code switching between Dutch and the English language, translating the Dutch
idiom (preposition “at” + the infinitive) instead of using the present continuous tense of
the English language. Many of the occurrences of similar misunderstandings, according
to Cushing (1994), can be attributed to a clash between individual cognitive and social
interactive factors of language use.

In just the same way, the aviation terminologies “out” (wán bi) and “over” (qing húdá)
are often confusing to the Chinese. “Out” means “my transmission is ended and I expect
no response from you”, while “over” means “my transmission is ended and I expect a
response from you.” Both “out” and “over” are likely to be interpreted into “wán bi”
in Chinese and vice versa. As Hortas (2002) points out:

We have entered a new millennium, [and] the ability and the need to understand and
communicate with each other has become increasingly important, at times even
urgent. An international exchange of ideas – from environmental issues such as
the thinning ozone layer and the warming of the planet, to medical topics such as
genetic engineering, to political crises – is essential. To meet these communication
needs, more and more individuals have highly specific academic and professional
reasons for seeking to improve their language skills. (http://globalopps.org/associ-
ates/esl)

3.2.3. ESP collocation acquired through contrastive approach

When learners of the English language reach an intermediate level, they may find that
colocation is difficult to grasp. From the lexical and semantic point of view, collocation
can be considered as the third step of mastering the English language:

basic words → phrases and idioms → collocations → complete sentences.

This is equally true with aviation English (not just confined to RTFE). When students
have learned quite a number of words and expressions, they come across the problem
of collocation. Therefore, it is the teacher’s responsibility to help them find out the rules
and regularities of collocating words and phrases, especially with specialty vocabulary.
Meanwhile we must bear in mind the need to explain them in ESP. For example: (1) black
box: The flight recorder, as on a military or commercial aircraft, that documents preflight
checks, in-flight procedures, and the landing (hēixiázi); (2) sniffer dog: Dog whose work is
to sniffle for drugs, especially in Customs (xiù tān quān); (3) base leg: A flight path at right
angles to the landing runway off its approach end; the base leg (sì biān) normally extends
from the downwind leg to the intersection of the extended runway centerline. Similarly, the
equivalents of downwind leg, crosswind leg and upwind leg in Chinese are sān biān, liǎng
biān and yì biān.

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We should note that Dutch prepositions do not correspond at all to prepositions in English and Dutch
speakers usually use the present tense (or infinitive form) rather than the gerund (-ing) form.
Collocation training can help students realize the peculiarity of ESP so that they develop the habit of speaking English in its specialty domain and using terminologies at proper times.

3.3. Bilingual education with computer-assisted instruction

While teaching ESP in China, we encourage students to become proficient in both English and Chinese, with the focus on ESP and standard Mandarin. A dual language program is designed to achieve such a result in classroom teaching. This program also helps students to learn aviation language in a contrastive approach. Integrated, holistic, and purposeful reading and writing activities are also important, as in teacher–student and student–student collaboration in practicing dialogues (e.g., air communications).

Computers can best supplement our classroom instruction. Assignments can be created for our students to work with in the Multimedia Lab. This is the easiest and least time-consuming way to get started, but also the least flexible, since we must conform to the structure dictated by the program. PowerPoint can be used to make slides to accompany lectures and presentations, and to stimulate conversation in the target language. Each slide can present content, or images to describe, or questions for reflection. Presentations can be projected onto a large screen for whole-class viewing, or students can view them on individual computers in the Multimedia Lab at their own pace. In addition, language of air communication is recorded on disks to help students acquire it through various forms like dialogues, vocabulary, cloze, dictation, and multiple choice. This program is targeted at students to use in their free time as self-study.

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 1–4. In order to improve students’ language ability, we are designing a course on the following percentage of time allocation (see Table 1).

The learners have indicated that they desire more opportunity to interact with the ESP instructor in addition to attending the general English class. Recent experience suggests

<table>
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<tr>
<th>Aviation English course components (for ESP)</th>
<th>Percentage of time spent on components</th>
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<tbody>
<tr>
<td>1. Aviation linguistics (phonetics and semantics)</td>
<td>15</td>
</tr>
<tr>
<td>2. Listening and note-taking</td>
<td>10</td>
</tr>
<tr>
<td>3. Oral practice (on air communication and/or cabin attendance)</td>
<td>10</td>
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<tr>
<td>4. Technical writing</td>
<td>10</td>
</tr>
<tr>
<td>5. Reading comprehension (aviation English centered)</td>
<td>10</td>
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<tr>
<td>6. Collocation training</td>
<td>10</td>
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<tr>
<td>7. Integrated language study project</td>
<td>15</td>
</tr>
<tr>
<td>8. ESP project (e.g., rules of civil aviation; culture of aviation industry)</td>
<td>10</td>
</tr>
<tr>
<td>9. Cross cultural communication</td>
<td>5</td>
</tr>
<tr>
<td>10. Guest lecture/plenary (optional)</td>
<td>(5)</td>
</tr>
<tr>
<td>11. Computer literacy (optional)</td>
<td>(5)</td>
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that the students are highly motivated to attend the ESP class, and a need to extend its range is required. In order to meet the learners’ needs, not only a restricted repertoire in isolation but overall language proficiency as well should be promoted. Therefore, ESP professionals must shoulder up the responsibility of properly designing the whole course.

3.5. Some of the challenges in designing ESP courses in the Chinese context

The first challenge we face in designing ESP courses is a careful consideration of students’ English level. A college English program\(^4\) is a prerequisite for ESP courses. The second challenge comes from the need of self-improvement of ELT instructors. They have to renew their knowledge of the English language and try to associate their linguistic skills with a specific domain or field. Furthermore, they would be wise to give up their dream of teaching a certain book or a certain course life-long, and cast aside the conservative idea of immutability. The third challenge is the opening up policy that brings in chances of cooperation with our international counterparts as well (Yu & Liu, 2000). General English is not enough to communicate throughout the world as far as technology is concerned. Developing ESP courses in the Chinese context is necessary if we really want to be involved in the international community.

4. Conclusion and invitation for comments

This note has made a brief introduction to ESP teaching, or more specifically, aviation English, in China and shares with the reader the perspective of ESP curriculum development in the Chinese context. It describes a contrastive analysis of aviation language between English and Chinese and aims to offer a possible approach to ESP teaching more suitable to the Chinese context. The content of this note was based on a need determined by my dual professional experience as an ESP and ELT instructor designing and delivering a content-based language program, aviation linguistics, in the Civil Aviation University of China, an important component of the aviation English course. By teaching aviation linguistics and thereby continuing to develop aviation English courses, we should be able to steadily improve systematic and comprehensive curricula of aviation English with the joint efforts of fellow language practitioners. It is my hope that this note has provided some insight into the challenges facing the ELT instructor acting as an ESP/aviation English curriculum developer.

Acknowledgment

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References


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\(^4\) College students in China generally undertake a 2-year English language program as a mandatory course.


