Original Article

Aviation English and Test in Korea
-Based on a Survey for Pilots and ATCs-

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한국의 항공영어 시험에 관한 연구
-조종사와 관제사의 설문조사 중심으로-

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ABSTRACT

2003년 ICAO가 국제 조종사에 관한 언어능력 기준을 제시한 이래로 국제노선에 취항하는 한국 항공 종사자들은 영어 능력을 증명하기 위한 노력을 해왔다. 1969년 처음으로 항공영어 교육이 시작되고 2006년 처음 시험이 도입되면서 한국은 이를 충족하기 위한 알맞은 영어 교육 프로그램을 시행하려 시도해 왔다. 그러나, 항공영어 교육과 시험에 관련된 문제점들이 꾸준히 제기되었고 특히 항공 종사자들의 필요와 요구에 맞지 않는 시험 제도와 내용에 대한 논쟁이 끊이지 않았다. 본 연구는 이러한 측면에서 항공영어와 교육에 대한 이론적 접근과 더불어, 106명의 항공종사자에게 실시한 설문지를 토대로 그들의 항공영어와 일반영어에 관한 의견, 항공영어시험에 관한 의견을 수집 분석하였다. 조사결과, 참여자들은 현재 실시되고 있는 항공영어 시험이 실제 업무를 효과적으로 반영하지 않으며, 좀 더 실제적인 내용이 시험에 반영되기를 희망하였다. 즉, 항공영어 시험이 좀 더 업무에 사용되는 영어를 많이 반영하고 난이도를 고려한 새로운 형태의 시험이 개발 되어야 한다는 의견이 많았다. 또한, 설문지를 통하여 나타난 여러 사항들을 바탕으로 향후 항공영어 평가가 나아갈 방향을 항공종사자의 측면과 관련 교육기관과 시험출제자, 관련 당국 등 3 가지 분야로 나누어 논의 하였다.

Key Words : 항공영어(Aviation English), 일반영어(Plain English), 항공영어시험(English Proficiency Test for Aviation,   EPTA), 관제사(Air Traffic Controllers, ATCs)

Ⅰ. Introduction

Since English has started to gain its position as a world language in the areas of science, business and tourism in the early 20th century,

it has also played a dominant role as the means of communication in aviation and became the official language of aviation in 1950s. As aviation communication is high-stakes with lives depending on it, it should ideally be free of vagueness and ambiguities causing miscommunications. ICAO announced Language Proficiency Requirement in 2003 that all the internationally operating pilot and air traffic controllers were required to prove their English language proficiency to reach Operational Level

4 (see Appendix) initially until March 5, 2008, and then until a new deadline of March 2011, following some high profile accidents involved in commercial aviation where insufficient language use was the contributory factor. Since then, all of the member states have struggled to implement effective training programs and tests so that aviation personnel of each country can achieve ICAO English language proficiency requirement. Aviation English training in Korea was first conducted by US Air Force in 1945. Systemic training started in 1969 when Korean Air began its operation.

Aviation English training was mainly given for pilots and done by native speaking teachers. In 2005, Korea started to make significant efforts to train to meet ICAO requirement. However, since the first English Proficiency Test for Aviation (EPTA) implementation in 2006, some problems and improvement have been raised among test takers and in research.

With this regard, this paper is designed to see the opinions of pilots and ATCs toward EPTA and their needs on aviation English and preparation. The paper discusses theoretical backgrounds related to aviation English first. Then it will investigate some research studies on aviation English and plain English, then studies on aviation English learning and test preparation. It will also deal with problems and improvements that have been found in current aviation English training programs and tests in Korea based on a survey and present some suggesting remarks in the final chapter.

II. Theory and Research

2.1 Aviation English

In terms of aviation English compared to general English or plain English, there seems to be several theoretical issues linguistically

and educationally. Aviation English is specially framed and trained on some different points of view such as English as a Specific Purposes (ESP), Communicative Approach, and Content-based Language Training.

2.1.1 English as a Specific Purposes (ESP)

Aviation English belongs to an area called ESP, a term that refers to English for particular career such as law, medicine or business in general. Therefore, it is not English for general and international purposes but for specific purposes. Not restricted to controller and pilot communications, aviation English can include the use of English relating to any other aviation industry: cabin attendants, crew members, engineers, technicians, service staff, and managers and officials. Within the domain of ESP, the analysis is mainly conducted using data collected from pilot and ATCs radiotelephony communication or transcripts. In terms of research studies, Cada (2016) analyzes aviation English in terms of discourse, lexicon, grammar and pragmatics. He prescribed that pronunciation differs in many cases, lexicon is very restricted, very short utterances are mostly used in aviation English. Tiewtrakul and Fletcher (2010) examined the influence of accent in radiotelephony communication from discourse data collected from Bangkok International Airport and concluded that accent is a critical factor in radio telephony communication.

The main difference from traditional general English courses is that they do not take place in an educational setting, but in a work setting. Teaching aviation English as an ESP definitely needs its own methodology and curriculum because it has different objectives, different content and contexts. Because learners are mostly from special areas, teachers have to understand from an ESP perspective, the purposes, the contents and the rationale for the teaching. For an instance, for aviation English courses, teachers have to somehow experience

aviation circumstances by observing learners' conversations or participating with their discourse before approaching curriculum design or teaching (Aiguo, 2007; Brizuela and Chiappy, 2008).

Effective aviation training programs therefore require relevant materials, knowledgeable instructors, and team work with subject matter professionals. In this sense, the testing and training of aviation personnel to meet the ICAO Operational Level 4 has posed a particularly complex and difficult challenge (Brizuela & Chappy, 2008). For a test of English for specific purposes, such as this test for aviation personnel, it is imperative to evaluate the types of work effectively that the test aims to address in it. The test should evaluate both knowledge about the actual work situations (aviation phraseology) and ability to cope with urgent situation (use of plain English, variation of Standard English, and so on).

2.1.2 Communicative Approach

In the teaching of aviation English, ICAO (2009:2) mandated that a 'communicative approach' must be adopted, meaning that teaching in aviation English must focus on interactive skills happening in real life communication which can enable learners to operate effectively in the real situation. ICAO language proficiency tests also require assessing pilots and air traffic controllers' ability to speak and understand the language used for radiotelephony in the international operation. This ability is to use the language, in other words, the communicative competence.

Communicative competence, the ability to communicate in a language includes grammatical, discourse, sociolinguistic, and strategic competence with other factors such as context, knowledge of the world (Mathews, 2008). Among them, strategic competence is considered important to air traffic controllers (ATCs) and flight crews because it is the

ability to recognize and resolve potential misunderstandings, to rephrase or paraphrase a message and to appreciate the threats presented by cross-cultural communications (ICAO Doc. 9835, ch. 2.7.3, 2004). Looking at some research studies, Hazrati (2015) emphasized the intercultural communicative competence which is very important in unexpected circumstances happening between speakers with two different cultural backgrounds. Bullock (2015) in his study to define the techniques and material used in teaching aviation English has recommended communicative approach because it reflects the tasks and events of the communication between pilots and ATCs.

To cultivate communicative competence in aviation English classrooms, learners can be provided with opportunities to interact with the language using meaningful context-centered activities including role plays or games using graphic and numeral data and pretending real flight operational setting.

2.1.3 Content-based Language Training

The ICAO Guidance Manual suggests Content-based Language Training (CBLT) as particularly suitable for aviation English training. Content-based language learning incorporates subject matter content into language learning activities (ICAO Doc. 9835, ch. 4.4.11, 2004). Content-based instruction refers to the teaching of language through exposure to content that is interesting and relevant to learners with authentic materials and tasks.

A lot of resources should be utilized, such as flight training manuals, checklists, aeronautical chart and aviation pictures in addition to activities and simulations based on actual interactions. The use of realistic flight training scenarios and authentic training materials in aviation English training curriculum also helps to prepare student pilots for ICAO Level 4 proficiency (Albritton, 2008).

As Mathews (2008, p.18) mentioned, content-based aviation English training has a number of benefits to the aviation personnel, to their organizations and to the aviation industry. It reduces required language training time and increases safety awareness. It also increases motivation by using high-interest topics. In order to be effective CBLT in aviation language, the implementation and development of the programs for aviation personnel should be accomplished through a collaboration between ESL certified language specialists and aviation specialists (ICAO Doc.9835, ch. 4.4.12, 2004).

2.2 Studies on Aviation and Plain English

Radiotelephony phraseology (aviation English) or ICAO phraseology, developed in 1944 by the ICAO, is the linguistic code used by pilots and air traffic controllers and an English-language based restricted and formulaic code of speech. It has the restricted, repetitive, and situationally dependent nature (Emery, 2014). On the other hand, plain language is defined in ICAO document (ICAO Cir. 318, ch. 1.4.4, 2009) as "the spontaneous, creative and non-coded use of a given natural language." It shall be used "only when standardized phraseology cannot serve an intended transmission" and ICAO provisions do not limit the use of a national, regional or local language (ICAO, 2010). According to Vitryak (2017), plain aviation English which means a variety of English used in pre-flight, flight and post-flight requests and demands.

Aviation English is different from plain English because airspace communication lacks the facial cues, body language, and listening cues found in usual face-to-face situation, making it more difficult and challenging and requiring a higher degree of language proficiency than normal interactions. Semantically, aviation English includes frequent uses of acronyms and compound words or abbreviation. Syntactically, aviation English mostly consists of content words such as noun, verb, and adverb, leaving out functional words. Pragmatically, aviation English only uses limited contents (Cada, 2016).

ICAO standardized phraseology is required to be used in all radio telephony communications. However, only when standardized phraseology cannot serve an intended transmission, plain language can be used. Amendments to ICAO Annexes 10 adopted in March 2003 called for the use of phraseologies whenever possible and plain language when phraseologies do not suffice. Especially, in the emergency situations and non-routine circumstances or in the case for which proper phraseologies do not exist, pilots and ATCs can use plain language to increase safety. While strict adherence to ICAO phraseology is crucial, pilots and controllers must be able to express themselves in plain language when circumstances call for it.

Shin and Kim (2005) conducted a survey research to a large number of aviation personnel and explored their opinion about aviation English and training. The respondents presented a minimal need for plain English and preferred native English speakers with knowledge of their specific work field as their teachers. One interesting study has done to show the significance of the non-native English accents in airspace communication. The result showed that communication errors occur more often when two speakers are both non-native, messages are more complicated and when more information is involved (Tiewtrakul and Fletcher, 2010). This result echoes the finding of Lloyd Evans (2013) who concluded culture impacts on reliability and resilience in aviation personnel's communication. As Shin and Kwon (2005) suggest, one of the key issues in developing a test for aviation personnel is the integration of plain English and telephony English in a single test form.

A recent study conducted by Chung and Chung (2015) using a survey with 90 pilots

showed that the pilots considered general English listening the most difficult in in-flight communication rather than Aviation English speaking and listening, and general English speaking. Rather than pronunciation and general conversation skills, the participants emphasized that they need aviation English education used in real communication with an aid of multimedia such as discussion and role play.

2.3 Studies on Aviation English Learning and Test Preparation

Compared to the studies on radio telephony communications, there are fewer studies of aviation English test and training. Appropriate training and testing are vital because the results of language testing seriously impact the career of the test takers and eventually the safety of airline passengers depends on the effectiveness of pilots and controller communications. The successful delivery of an aviation English training program depends on the quality training materials, committed trainers, and motivated learners.

Choi and Moon (2008) conducted an empirical study to analyze training results of ATCs. They tried to analyze relationship between effectiveness and training periods (2/4/8 weeks) in terms of 6 testing areas. They concluded that the training needs lengthy period of time (more than 4 weeks) and grammar and plain English skill prior to the training should be obtained for a better training result.

A more recent study shows Korean aviation personnel's needs on aviation English test. According to the study on EPTA test in Korea (Sul and Jin, 2009), aviation personnel did not like the EPTA testing method(76.8%) in general, and answered they could not trust the test results(66.7%). They thought the test was quite difficult(67.4%), and the test did not properly reflect real flight situation(76.3%) and real communication in airspace(70.2%). They preferred face to face interview test evaluating spontaneous oral skill.

The importance of textbooks or materials in language learning and teaching is undeniable and aviation English textbooks are different from general English textbooks. However, there is a lack of appropriate textbooks to help the aviation personnel to meet the ICAO's language proficiency requirements.

According to an informal survey of airline pilots' feelings and expectations about their language learning in Brazil, almost all of the participants were interested in improving or maintaining their proficiency, but they also often mentioned that they were demotivated by general English classroom materials, showing that the lack of understanding on their needs (Toma, 2008). This study showed the importance of materials for the learners to motivate and to involve actively in programs.

III. Methodology

3.1 Participants and Survey

One hundred and six aviation personnel participated on the survey, sixty six pilots and forty ATCs. Among them, forty four pilots(66% of participants) and twenty-seven ATCs(67%) have been working over six years.

Survey questions are divided into three parts: (1) questions on aviation English proficiency test, (2) questions on aviation English, and (3) questions on plain English and the relationship between aviation English and plain English. First part is asking opinions about aviation English proficiency test to pilots and ATCs. Second part is related to aviation English, if they take any classes or not, class time, textbooks, instructors, etc. The last part is asking opinions on plain English, their levels of proficiency, and their opinions about relationship between aviation English and pain English. The questionnaire is a mix of both multiple choice and open-ended questions.

3.2 Analysis

In order to get opinions of pilots and ATCs about current EPTA and their effort to improve aviation English skills and plain English as well, survey results were mostly analyzed by descriptive statistics such as frequency distribution method. A thematic analysis for the open-ended questions was adopted and the frequency of the themes answered by the participants was counted for further analysis.

3.3 Research Questions

EPTA in Korea, a specially designed test to assess Korean aviation personnel's English listening and speaking abilities, was developed to comply with the ICAO requirements and to facilitate international communications between pilots and ATCs in the airspace.

There is limited or little research in English as a Foreign language contexts examining aviation English test takers' perspective on current EPTA test and their needs on aviation English training and plain English education as a supportive element for better radio telephony communication.

Therefore, this study aims to answer the following research questions:

1. How do pilots and ATCs feel about current EPTA test?
2. How do pilots and ATCs think about aviation English training?
3. How do pilots and ATCs think about the relationship between aviation English and plain English?

Ⅳ. Findings

Findings and possible interpretation are presented with regard to each question.

4.1 Questions on EPTA

The first questionnaire consists of nine questions on EPTA. According to the results of question 1 and 2, all pilots and ATC members have obtained level 4 or above licenses and majority of them have taken EPTA once or twice (see the Table 1 for details).

Question 3 is asking about their opinions about the required level of EPTA (above level 4). Forty nine pilots(74%) and 24 ATCs(60%) answered the required level is too high and should be lowered.

The results of question 4 and 5 were in Table 2. Both pilots and ATCs felt similarly about the difficulty of the EPTA speaking test.

Table 1. EPTA levels gained and frequency of test taking

		Pilots(N)	ATCs(N)
Levels	Level 4	59	37
	Level 5	6	3
	Level 6	1	0
Frequency	1~2	55	27
	3~4	9	12
	5~	2	1

Table 2. The difficulty level of EPTA speaking test

Part	Easiest part(%)		Most difficult part(%)	
	Pilots	ATCs	Pilots	ATCs
P 1	7(11%)	4(10%)	8(12%)	3(8%)
P 2-1	21(32%)	9(23%)	1(2%)	0(0%)
P 2-2	35(53%)	22(55%)	1(2%)	1(3%)
P 2-3	3(4%)	2(5%)	18(27%)	6(15%)
P 2-4	0(0%)	3(8%)	5(8%)	1(3%)
P 3	0(0%)	0(0%)	33(50%)	29(73%)

* Percent value: rounded off below the decimal point.
* Part 1: Personal Interview, Part 2-1: Introduction, 2-2: Read message, 2-3: Situation description, 2-4: Emergency response, Part 3: Expressing an opinion

They considered "Part 2-2: read message" the easiest and "Part 3: expressing an opinion" the most difficult question.

Table 3. Opinion on EPTA

Items	P	A
1. EPTA is a valid test and represents test takers' proficiency well	0	2
2. EPTA is somewhat relevant.	9	11
3. EPTA is somewhat irrelevant.	34	19
4. EPTA is not a valid test and doesn't represent test takers proficiency well	23	8

* P: Pilots, A: ATCs

To the question 6, asking about validity and adequacy of EPTA, most respondents (87% of pilots and 68% of ATCs) said the test questions are either inappropriate or invalid (see table 3). Opinions of pilots and ATCs about EPTA are shown from question 7 to 9 which focused on the weaknesses, strengths and suggestions on current EPTA. Both groups picked two things as the weakness. They chose number 2 "the test is not practical, because it doesn't fit with the real aviation English" and number 3 "the test result doesn't coincide with the takers' real aviation English proficiency." For the strongest point of EPTA, they chose number 4 the most, saying that the test motivates the test takers to study English, attracting thirty pilots(45%) and twenty four ATCs(60%). Interestingly, thirteen pilots and five ATCs answered there is no strength in current EPTA.

Table 4. Suggestions

Items	P	A
1. The test should be easier	41	17
2. The test times should be shorter	5	1
3. The test times should be longer	0	2
4. Aviation English should be included more than plain English in the test contents	35	16
5. New test suitable to the aviation work should be developed.	25	42
6. More test preparation materials should be provided.	11	9

* P: Pilots, A: ATCs

The last question of this part was to give suggestions for a better test. They are supposed to choose two items. As shown in Table 4, pilots chose number 1(41), 4(35) and 5(25) the most in order. They said the test should be easier, more aviation English should be included, and a new test suitable to the actual aviation work should be developed. ATCs suggested same points but the order was different. They chose number 5(42) the most, then 1(17) and 4(16) in order.

4.2 Questions on Aviation English

Questionnaire on aviation English consist of six multiple choice questions and one open ended question. These questions are asking how they make an effort to improve their aviation English overall. The first question showed that both pilots and ATCs are not making many efforts to improve their aviation English. Forty pilots and thirty one ATCs answered they do not study aviation English at all. However, most pilots got aviation English education from airlines and ATCs got from national education institute in the past. Both groups took classes from aviation expert native English speakers or non-native experts but most of them were taught by native English speakers. More than fifty percent of them preferred aviation expert native English speakers as aviation English teachers. Question number 5 and 6 are about textbooks of aviation English education. Seventy seven percent of both groups have taken aviation English class using English textbooks. Two groups showed mixed reactions about the textbooks they used. Pilots thought English textbooks are "not so good(45%)" or " not bad(42%)" but ATCs answered "not bad(55%)" or " not so good(27%)". The last question is an open ended one, asking them to make additional comments on appropriate textbooks for aviation English courses. Only forty participants answered this question and the result is in Table 5. Both pilots and ATCs showed their needs for more practical and authentic textbooks in the classroom.

Table 5. Opinions on textbooks

Opinions (N)
P   –   Practical textbooks related to real work situation (12) – Detailed explanation based on a case by case basis (7) – Problem solving: Q and A (8) – The latest textbooks (1) – Pronunciation (1)
A   –   Practical textbooks related to real work and terms (6) – The examples of real communication (3) – Actual practice with Korean translation (2)

* P: Pilots, A: ATCs

4.3 Questions on Plain English

25 ATCs thought their English proficiency as intermediate level and fifteen as basic. Nobody answered their English is high level. On the other hand, forty pilots answered intermediate, twenty basic and five high. Table 6 shows their answers about strong point in English ability.

Table 6. Strength in English ability

	R	W	S	L
Pilots	29	3	11	22
ATCs	18	5	7	10

* R: Reading, W: Writing, S: Speaking, L: Listening

Question 3 is about the confidence in aviation English and plain English. As shown in Table 7, more than half pilots felt more confident in aviation English. Considerable numbers of two groups also felt same confidence in both aviation and plain English.

Table 7. Self-confidence

	Aviation E	Plain E	Both
Pilots	34	7	24
ATCs	16	8	16

Next question is to ask their opinion on relationship between Aviation English and Plain English proficiency. Their opinions were divided on this issue. About sixty four percent of pilots thought aviation English and plain English are two different things but ATC members' opinions were almost balanced against two options. In other words, twenty of them thought plain English skills should be improved to be a good aviation English speaker and nineteen thought two skills have no relationship each other. About fifty percent of pilots and sixty-three percent of ATCs have been studying English, mostly by themselves. They have studied listening the most, then conversation, reading and grammar in order.

Ⅴ. Conclusion and Suggestions

5.1 Needs of Aviation Personnel

To sum up, pilots and air traffic controllers need to be tested in a context similar to that in which they work. Test content should be relevant to their work roles. The goals of language teaching depend on learners' needs in a given context. In this regard, the goal of the aviation English training is to help learners to reach a certain proficiency level of proficiency. If the aviation personnel is not native speakers of English, they should try to acquire plain English skills such as grammar and standard pronunciation prior to have aviation English training (Choi and Moon, 2008). In terms of tests, separate test instruments for pilots and ATCs should seem to be developed because normally the jobs of the two groups differ from each other. For example, ATCs issue commands and instructions to pilots, and pilots acknowledge and comply. Moreover, test developers can specify the test from diverse angles according to the aircraft categories, aircraft types or even pilot licences (Emery, 2014).

Concerns expressed by the participants about EPTA echo those raised by Alderson (2010) and Kim and Elder (2014). The test does not reflect the real radiotelephony communication and the contents are inappropriate to the

demands of the job.

Unlike the study result of Shin and Kim (2005) where fifty percents of respondents had receive English speaking education at private English institutions, the participants of this study answered they had studied by themselves.

In this study, participants preferred native speaker aviation specialist as aviation English teachers. This result showed a large discrepancy with Chung and Chung's study (2015). They found the pilots preferred native speaker English education specialists.

5.2 Training and Test Providers and Establishments

In current aviation industries, second language proficiency is not recognized as a priority. English teachers or testers are thought to lack credibility within the aviation community. However, as far as aviation safety depends on both English proficiency and operation skills of pilots and air traffic controllers, aviation English specialists should work more closely with operational trainers (Alderson, 2009). Trainers and teachers also have to consider developing appropriate materials which are meaningful and contextually authentic to motivate trainees or students.

Aviation training as an ESP suggests the real life materials and activities be the most effective. Real communication recording between pilots and ATCs can be used as the samples in the test and flight/control simulations can be used in the test to increase test reality and practicality.

It is obvious that contemporary students are different from those years ago and they are technologically literate. They are more familiar with modern technology tools than books and realia. High-tech classrooms could be more popular in specialized learning environment such as aviation related classrooms. Modern electronic media could be used in teaching and

learning aviation English along with the development of e-learning products and modules (Laczek and Szerszen, 2015).

Pilots who operate internationally need more exposure to pronunciation variation encountered in communication with non native speakers of English (Toma, 2008). Language training programs can be developed by exposing students to teachers with various English background. In addition, test developers and providers should include sufficient pronunciation patterns and exercises acceptable to the larger international aeronautical community in the aviation English textbooks and tests.

In the ICAO manual, it is stipulated that there should be different tests for the pilots, the air traffic controllers, the trainees of pilots and of air controllers. In Korea, however, there are two kinds of tests, tests for pilots and tests for air traffic controller which means more specific tests should be developed.

A survey result showed that aviation personnel want to get aviation English training more from native speakers of English majoring in aviation and English education (32.8%) than any other trainers (Sul and Jin, 2009). Training providers or organizations should consider more carefully trainers' major and nationality in recruiting process.

Aviation English courses would be more desirable if the learners could have the opportunity to share their experiences with a group of people in a common situation (ICAO Doc. 9835, ch. 4.2.4, 2004). These classes are more effective if teachers also take into consideration their students' individual needs. Therefore, teachers should have knowledge on aviation personnel's work. Both pedagogic professionals and aviation professionals should complement and assist the other for effective learning to occur. Test developers should have not only EFL teaching or research experience, but also aviation experience for the relevance and suitability of the test (Alderson, 2010).

Also, it is necessary that both standardized radio telephony phraseologies and plain aviation English should be taught to future aviation specialists (Vitryak, 2017).

Test providers or establishments should provide consistent follow up programs that learners can improve their proficiency after taking the test. Additionally, they need to monitor learners' progress to meet and maintain the language requirement. As Choi and Moon (2008) suggested from their study, aviation English training needs lengthy period of time to get significant results.

As a training method, training providers can adopt blended learning. Blended learning refers to the combination of computer-based and classroom learning to optimize the efficiency of a training program (ICAO Cir. 323, 2009). Technology is typically used to support and prepare the classroom activities. In this sense, Lee (2016)'s suggestion of computer based role play evaluation method seems to be reasonable in aviation English speaking test. Computer-based training or web-based training program and materials can provide a rich source for preparing tests and follow up study. It can considerably reduce the time required in the classroom and allow both trainer and trainees to make more appropriate use of training time.

5.3 Authorities Concerned

Some issues related to authorities need to be taken into account in a discussion of aviation English test and preparation. Aviation English has so many complex and unusual functions and structures that establishment of teaching methodology should be carefully principled. Wide criticism of the ICAO scale's lack of evidence for empirical validation has been reported and the suitability of the ICAO speech samples has been questioned with often very poor sound quality (Alderson, 2009). Standard phraseology should be widely educated and well informed. Even though the

plain English use will be acceptable, ICAO phraseologies should always be used in the first instance. The use of different phraseologies or derivation from it in different areas increases the miscommunication problems. Phraseologies that can cover every conceivable situation should be continuously developed and updated with the cooperation of specialists with various educational and academic backgrounds. A universal system of aviation language testing certification should also be developed as a guideline for each country to implement suitable test.

Countries in which English is spoken as a public language should be aware that the dangers of cross-cultural communications. Native and other expert users of English try to refrain from the use of idioms, colloquialisms, and other jargon in radiotelephony communications. Native speakers should not automatically be granted Level 6, but should be tested in the same way and under the same conditions as nonnative speakers (Alderson, 2009), because miscommunications can occur even between native speakers of the same language as a result of linguistic errors such as ambiguity and homophony and other unexpected environmental obstacles. They also should try to ensure that their variety of English is comprehensible and intelligible during the international operation.

Finally, there is a need for training and monitoring test providers as well as raters. Government should have developed any devices to monitor test providers if they have the means of assessing the effectiveness of the training process and tests and the reliability of any software and hardware used in the test.

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* The survey questionnaire can be provided if requested.

Appendix A

ICAO Rating Scale

Level 6 – Expert Level, retest will not be required.

Level 5 – Extended Level, should be formally evaluated at least once every 6years.

Level 4 – Operational Level, should be formally evaluated at least once every 3years.

Level 3 – Pre-operational Level

Level 2 – Elementary Level

Level 1 – Pre-elementary Level

(Note: Personnel in Level 1, 2 & 3 cannot perform the functions of an air traffic controller)

Appendix B

ICAO Rating Scale for Operational Level 4

Pronunciation

(assumes a dialect and/or accent intelligible to the aeronautical community)

Pronunciation, stress, rhythm, and intonation are influenced by the first language or regional variation but only sometimes interfere with ease of understanding.

Structure

(relevant grammatical structures and sentence patterns are determined by language functions appropriate to the task)

Basic grammatical structures and sentence patterns are used creatively and are usually well controlled. Errors may occur, particularly in unusual or unexpected circumstances, but rarely interfere with meaning.

Vocabulary

Vocabulary range and accuracy are usually sufficient to communicate effectively on common, concrete, and work-related topics. Can often paraphrase successfully when lacking vocabulary in unusual or unexpected circumstances.

Fluency:

Produces stretches of language at an appropriate tempo. There may be occasional loss of fluency on transition from rehearsed of formulaic speech to spontaneous interaction, but this does not prevent effective communication. Can make limited use of

discourse markers or connectors. Fillers are not distracting.

Comprehension:

Comprehension is mostly accurate on common, concrete, and work-related topics when the accents or variety used is sufficiently intelligible for an international community of users. When the speaker is confronted with a linguistic or situational complication or an unexpected turn of events, comprehension may be slower or require clarification strategies.

Interactions:

Responses are usually immediate, appropriate, and informative. Initiates and maintains exchanges even when dealing with an unexpected turn of events. Deals adequately with apparent misunderstandings by checking, confirming, or clarifying.