Assessing proficiency in English for Specific Purposes: the case of Aviation English

Siniša Prekratić, Ivana Francetić

Abstract: Assessing language proficiency in aviation has been a contentious matter. In 2003 the International Civil Aviation Organization (ICAO) introduced a standard for assessing proficiency in English for licencing pilots and air traffic controllers involved in international operations. ICAO's Language Proficiency Requirements (LPRs) articulate this standard mainly through the language proficiency rating scale and a set of holistic descriptors of various categories of linguistic performance. The main focus of this attempt at standardization – the language proficiency rating scale – has since its creation come under considerable criticism from both linguists and aviation professionals for different reasons. Furthermore, although ICAO did impose a standard of minimum language proficiency, it currently does not offer a standardized test for assessing the minimum required level of this proficiency. Thus, both the standard for determining successful performance and the assessment tools used for this variety of English for specific purposes have been a focus of continuous research and debate. In our paper we will present the key points of this debate with a particular focus on how they can inform theoretical and practical problems of ESP proficiency assessments. First, we will present why ICAO's attempt at standardization of minimum proficiency requirements has garnered so much criticism. Second, we will talk about problems with validating Aviation English tests. In our conclusion, we will bring these two points together to show what assessing proficiency in Aviation English can teach us about ESP testing in general.

Key words: aviation English, English for specific purposes, language proficiency assessment

Introduction

When it comes to language for specific purposes (LSP), Aviation English (AE) has a bit of a unique character when compared to, say, Business English or Academic English or English for tourism in that the concern for safety of the participants is key. Miscommunication at a business meeting with foreign investors or while communicating with a tourist office during your holliday can be unpleasant, but nowhere near the level of unpleasantness that miscommunication between a pilot and an air traffic controller (ATCO) can reach. Aviation today is a technologically advanced, highly complex industry in which automation, endless safety procedures and redundancies in critical systems have greatly reduced the possibility of a critical malfunction of an aircraft. Human factors, on the other hand, feature prominently amongst causes of aircraft accidents with U.S. National Aeronautics and Space Administration (NASA) Aviation Safety Reporting System (ASRS) stating that more than 70 per cent of incidents reported involved problems with information transfer, primarily related to voice communication (Dale, 2016). It is, therefore, somewhat surprising that the international standardization of language

proficiency in aviation is a fairly recent development. In this paper we would like to do three things – firstly, briefly present the state of the language proficiency assessment in AE; secondly, present some theoretical problems that the standardization of language proficiency requirements in aviation brought forth; finally, we will try to show how problems with AE language proficiency testing can inform our thinking about English for specific purposes (ESP) assessment in general.

Implementation of Language Proficiency Requirements

After several high-profile aviation accidents in which communication problems were a significant contributing factor, the International Civil Aviation Organization (ICAO), a branch of the UN, has in the early 2000's established a set of minimun language proficiency requirements all pilots and ATCOs working in international aviation are required to meet. Following implementation problems in some ICAO member countries, the deadline for national civil aviation authorities to certify the language proficiency level of aviation personnel was finally set for March 2011. This is not to say that AE tests had not existed before 2011 or that linguistic performance of pilots and ATCOs had not earlier been assessed on different levels and in different training organizations, but international, ICAO mandated minimum requirements – ICAO Language Proficiency Requirements (LPRs) have only been around for more than a decade.

What, then, are the instruments that ICAO employs for assessing language proficiency levels? The assessment criteria developed by ICAO are defined primarily through the ICAO rating scale and accompanying holistic descriptors. Two additional documents, *Manual on the Implementation of ICAO Language Proficiency Requirements* and ICAO Cir 318 *Language Testing Criteria for Global Harmonization* were produced to help guide the testing process and test design. The ICAO rating scale defines six levels of language proficiency ranging from pre-elementary (Level 1) to expert (Level 6) across six skill areas of linguistic performance: pronunciation, structure, vocabulary, fluency, comprehension and interaction. The five holistic descriptors provide more general characteristics of proficient speakers and establish the context for communication. The descriptors state, for example, that "proficient speakers shall communicate on common, concrete and work-related topics with accuracy and clarity"; "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", etc (ICAO, 2010, 4.5.3). Pilots and ATCOs are required to have at least level 4 (operational) in order to work in international air traffic. Additionally, a test taker must demonstrate proficiency at level 4 in all categories of the scale to receive a level 4 rating. Since the basic goal of testing is to assess radiotelephony (voice) communication between pilots and ATCOs, tests include only speaking and listening tasks, while proficiency in writing and reading is not tested. Tests normally consist of

an introductory interview part and various listening tasks in which primarily the candidate's use of standard phraseology in English is evaluated. ICAO recommends testing centers to use two examiners during testing, one a language expert and the other a subject matter expert.

Here it is important to note that while ICAO did design the minimum LPRs and the accompanying descriptors to be used in the assessment process, it does not actually provide a standardized test that test centers could use during assessment. Aviation English testing centers design the tests which are then forwarded to the national civil aviation agency which checks the compliance of the test with ICAO's language proficiency requirements. The national aviation agency then has the final word on whether a test can be used in a particular country or not. The final result is that there is a number of available tests on the market, all certified by their respective national authorities and with sometimes quite different levels of compliance with the LPRs set forth by the ICAO. Describing this situation, Read and Knoch (2009, p. 21.8) state:

> "the decision to adopt a proficiency scale but not to mandate a particular test has created uncertainties for test developers about the type of assessment that will meet the ICAO goal of ensuring that pilots and controllers in international aviation can communicate adequately through radiotelephony in a variety of situations".

In 2008, during the LPRs implementation process, a paper was published by Charles Alderson which aimed to validate the tests then available on the market (Alderson, 2008). A two-part survey was sent to 74 organizations whose tests were used for licensure of pilots and ATC with detailed questions on aviation English testing. Alderson reports receiving only 22 responses, and although he does not take non-response as proof of inadequacy of the organization's test, his conclusion is that "in only a minority of cases was there evidence of adequate concern for quality control and public accountability" (Alderson, 2008, p. 15). The concern about the lack of standardization of training and monitoring for raters was also brought up in discussions of AE tests validation (Alderson, 2009).

As a result of this and similar concerns, in 2011 ICAO launched the Aviation English Language Test Service (AELTS), a service which helps test providers by evaluating their tests. A team of experts consisting of both language experts and subject matter experts evaluates the tests submitted and publishes on its website the list of those that have passed the evaluation process and that meet the ICAO LPRs. Test providers whose tests do not pass the evaluation process are provided with feedback on how their tests might be improved. There is a variety of AE tests available on the market today and between them, there are quite a few differences. Some of them are designed specifically for pilots or ATCOs. Some of them include more tasks involving standard phraseology, some of them less. They differ in the number of levels of the ICAO scale that they evaluate. They also

differ in the number of tasks which focus on simulating real-life communicative situations involving pilots and ATCOs. Even though they all refer to ICAO LPRs, the competence that they are supposed to be evaluating can seem rather abstract and vague. Farris and Turner (2015, cited in Farris, 2016, p. 83) state that "despite this quite specific goal in a quite specific context, the construct of communicative effectiveness in relation to the ICAO LPRs remains elusive".

Problems with LPRs

One of the most glaring problems with the basic instrument of language proficiency assessment in aviation is with the descriptors of the rating scale categories. Distinguishing between levels is sometimes quite complicated within a particular category as the definitions of the levels only differ in the use of adverbials of time. For example, the difference between levels 3, 4 and 5 for the pronunciation category is only in the use of adverbials *frequently*, *only sometimes*, and *rarely*. Pronunciation category for level 4 states: "Pronunciation, stress, rhythm, and intonation are influenced by the first language or regional variation but only sometimes interfere with ease of understanding" (ICAO, 2010, 4.6.2). Although the adverbials mentioned can be quantified, rating a candidate's performance only on the basis of a difference between *frequently* and *only sometimes* is in practical terms extremely problematic, especially considering that the candidate's license and career are on the line. Additional issue with the scale is, for example, how to interpret a candidate taking a long time to answer – is this a failure of fluency, interaction, or are they having problems remembering an item of vocabulary? Vagueness of the descriptors of the scale in this very basic regard has been commented on (Farris, 2016) and never resolved satisfactorily. Despite some persuasive calls for reexamining this basic instrument of language proficiency assessment in aviation, it remains in place.

Another point of contention is the idea of the standard of expert performance. ICAO's guidance document, the already mentioned *Manual on the Implementation of Language Proficiency Requirements* articulates a somewhat contradictory view of the position of native speakers in the language proficiency assessment. The manual states that "ICAO language proficiency requirements apply to native and non-native speakers alike" (ICAO, 2010, 5.3.1.1) and that "native speakers are under the same obligation as non-native speakers to ensure that their variety of English is comprehensible to the international aviation community" (ICAO, 2010, 5.3.1.4). The responsibility for successful communication does not rest solely on the non-native speakers – "native and other expert users of English should refrain from the use of idioms, colloquialisms, and other jargon in radiotelephony communication and should modulate their rate of delivery" (ICAO, 2010, 5.3.1.4). However, the scale itself, especially at the expert level, seems to imply a native speaker as a standard according to which the expert performance is measured. References to

"idiomatic vocabulary" and "cultural subtleties" (ICAO, 2010, A-7) clearly point to native-like speech, contradicting the seeming equality that NS and NNS enjoy in the guidance documents.

Farris (2016, p. 86) contrasts the ideas of the native speaker and English as a lingua franca (ELF) as standards and asks: "in the absence of a native speaker standard for testing purposes, what should the standard for expert performance be?". Even though ELF studies point to the establishment of standards for testing that are not based on native-like speech, numerous varities of ELF and difficulties in providing a unified linguistic description of ELF prevent us from answering the question. The issue is summarized by Farris (2016, p. 86) in the following manner:

> "ICAO's intentions for native/expert level speakers outlined in the guidance material of Document 9835 reflect an ELF perspective, even if the operationalized role of the native/expert speaker in the policy and the descriptors in Level 6 of the rating scales reflect a native speaker standard at the expert level".

Assessment criteria

Several authors (Moder and Halleck, 2009; Farris, 2016), have remarked that the AE assessment criteria as they are defined in the ICAO rating scale seem to be referencing general linguistic concepts such as fluency or pronunciation without actually mentioning anything specific in the aviation domain. Even though the guidance documents state that *"language proficiency is necessarily linked to particular uses of the language"* (ICAO, 2010, 2.3), the criteria point to quite abstract linguistic concepts unrelated to everyday pilot – controller communication.

This markedly linguistic slant on the assessment criteria in AE and in LSP in general is something that Dan Douglas discusses in an article dealing with the derivation of assessment criteria in testing (Douglas, 2001). In the article he recounts a study from Sally Jacoby's dissertation which deals with conference presentations delivered by a group of physicists. Jacoby observed that the participants of the study, all subject matter experts, in evaluating each other's presentations, used remarkebly non-linguistic criteria to evaluate the presentations. Douglas states that during the assessments "no normative standard based on the notion of native speaker, including those of linguistic accuracy and style, was in force" (2001, p. 172). He concludes that in the LSP environment assessment criteria employed by test designers and subject matter experts are quite different. Douglas uses Jacoby's term "indigenous assessment criteria", which she defines as "those used by subject specialists in assessing communicative performances of apprentices in academic and vocational fields" (Jacoby, 1998, cited in Douglas, 2001, p. 175) and contrasts it with linguistically-oriented criteria. He goes on to argue for "the importance of considering assessment criteria that are derived from the analysis of the target language use domain in the development of LSP tests" (2001, p. 183).

In a similar vein, Knoch (2009, cited in Farris, 2016, p. 87) in a validation study of the ICAO rating scale makes use of stakeholder feedback to evaluate the descriptors. Stakeholders were pilots and ATCOs and in the feedback they reported that "some of the descriptors were not relevant to the work context of controllers or pilots (particularly at level 6), that the descriptors were too vague, and that there was a lack of congruence in the terms of the skills and abilities across levels of the scales" (Farris, 2016, p. 88). Regardless of whether we take Knoch's findings as pointing towards the need to reconsider the ICAO LPR's or not, it seems clear that the involvement of stakeholders in the testing validation process and focus on target language use situation will help us reconsider how we assess language proficiency in LSP.

What conclusions can we make about ESP proficiency assessment in general?

The problems with the current state of language proficiency assessment in AE that we have presented here point to several important observations. First, that in designing assessment criteria contributions from various stakeholders are important. Exclusion of indigenous testing criteria seems to lead to linguistically-oriented tasks which tend to neglect target language use situations. Secondly, the idea that the native speaker is a standard of expert performance has a lot of implications for both testing and teaching LSP. These implications are of a highly practical nature and should be considered when thinking about and designing LSP courses. Finally, the lack of clarity sorrounding the idea of performative competence leads to inconsistent assessment criteria, as was demonstrated on the considerable variety of AE tests in circulation today. The domain of Aviation English has witnessed continuous research into and debate around language proficiency assessment standards and criteria. Key points of this debate revolve around the ICAO rating scale which has been at the center of the efforts to impose a global set of linguistic standards on an expanding and technologically advanced industry. The questions raised in the course of this debate are worth asking in any LSP teaching and assessment programme.

List of abbreviations

AE – Aviation English
AELTS – Aviation English Language Test Service
ASRS – Aviation Safety Reporting System
ATCO – Air Traffic Control Officer
ELF – English as a lingua franca
ESP – English for specific purposes
ICAO – International Civil Aviation Organization
LPR – Language Proficiency Requirement

NASA – National Aeronautics and Space Administration
NS – native speaker
NNS – non-native speaker

References

Alderson, C. (2008). Final Report on a Survey of Aviation English Tests. http://www.ealta.eu.org/documents/archive/alderson_2008.pdf, retrieved 24 October 2022.

Alderson, C. (2009). Air safety, language assessment policy, and policy implementations: the case of Aviation English. *Annual Review of Applied Linguistics*, 29, 168–187

Dale, W. (October 20, 2016). *Failure to Communicate.* Flight Safety Foundation. https://flightsafety.org/asw-article/failure-to-communicate/

Douglas, D. (2001). Language for Specific Purposes assessment criteria: where do they come from? *Language testing,* 18(2), 171–185.

Farris, C. (2016). Aviation language testing. In Estival, D., Farris, C. and Molesworth, B. (Eds), *Aviation English: A lingua franca for pilots and air traffic controllers.* (pp. 75–91). Routledge.

ICAO (2010). *Manual on the implementation of ICAO language proficiency requirements* (2nd edn). ICAO Doc 9835. Chicago, IL, USA: International Civil Aviation Organization.

Moder, C.L. & Halleck, G. B. (2009). Planes, politics and oral proficiency testing international air traffic controllers. *Australian Review of Applied Linguistics*, 32(3), 25.1–25.16.

Read, J., & Knoch, Ute. (2009). Clearing the air: Applied linguistic perspectives on aviation communication. *Australian Review of Applied Linguistics*, 32(3), 21.1–21.11

Authors

Siniša Prekratić, MA in English language and literature, e-mail: sprekratic@fpz.hr, Faculty of Transport and Traffic Science, University of Zagreb
Siniša Prekratić is a lecturer at the Faculty of Transport and Traffic Sciences, University of Zagreb, where he teaches Aviation English. He also teaches English for Academic Purposes and Speaking and Presentation Skills in English at the Department of Communication Studies, Faculty of Croatian Studies. He has taught General English and English for Specific Purposes courses and worked in lexicography and publishing.

Ivana Francetić, MA in English language and literature, e-mail: ifrancetic@unizg.hr, Faculty of Transport and Traffic Science, University of Zagreb
Ivana Francetić is the Head of Chair for Aviation English at the Faculty of Transport and Traffic Sciences, University of Zagreb. She teaches Aviation English and Radio-telephony Communications to military pilot, civil pilot and air traffic control students. She finished ICAO Aerodrome Control Course 052 and ICAO Approach Radar Course 053 at Bailbrook College, Bath, Great Britain. Since 2009 she is an ATPL Theoretical Instructor at HR/ATO 002 and Senior ATC Instructor for the ATCO CCC Initial training at HUSK. In 2008 she was certified as RELTA (RMIT English Worldwide, Melbourne, Australia) test examiner and rater for English language proficiency test for pilots and air-traffic controllers as required by ICAO.