Comparison of Selected Aeronautical English Tests

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Abstract
Specialised aviation communication has been regulated by international and domestic provisions so as to standardise the language use according to the internationally accepted rules for flight safety purposes. Such rules are aimed at the simplification of global aeronautical communication to minimise language-related human factor errors. Adherence to the rules has been incorporated in the plain language (English) requirements for pilots and air traffic controllers, which are to be confirmed by a certificate for licensure purposes. The plain English requirements are proposed by the International Civil Aviation Organization (ICAO) language proficiency scale. However, the challenge is the assessment system quality to meet the requirements. Currently, aviation personnel can select a test provider available on the market on condition that it is recognised by the appropriate national aviation authority. The aim of this article is to analyse three tests of Aviation English available in Europe, and particularly in Poland, according to the criteria of their appropriateness to the ICAO plain language requirements described in the ICAO language proficiency rating scale. The tests are compared by their formats and test task types, while the appropriateness is evaluated by the 'tests' ability' to obtain speech samples measurable against the scale descriptors. Resulting from the analysis, some suggestions for improvement are presented to shed new light on the aviation personnel language testing effectiveness in the future.

Keywords: Aeronautical English, language testing in aviation, aeronautical communication, ELPAC, KSEJ, TEAP

Abstrakt

Komunikacja specjalistyczna w lotnictwie została objęta międzynarodowymi i lokalnymi regulacjami prawnymi, tak aby stosowanie używanego do jej celów języka opierało się na ogólnie przyjętych zasadach. Ma to na celu ułatwić międzynarodową komunikację lotniczą i zwiększyć bezpieczeństwo lotów. W kontekście aeronautycznym, znajomość języka angielskiego stosowanego w lotnictwie potwierdzana jest wpisem do licencji. Piloci i kontrolerzy ruchu lotniczego są zatem zobowiązani zdać test językowy na wymaganym przez Międzynarodową Organizację Lotnictwa Cywilnego (w skrócie ICAO) poziomie – od 4 do 6 – i według obowiązującej skali odniesienia (tzw. ICAO Rating Scale), dotyczącej posiadanych umiejętności językowych. Członkowie personelu lotniczego mogą sami dokonać wyboru takiego testu spośród dostępnych na rynku pod warunkiem, że jest on akceptowalny przez odpowiedni urząd lotnictwa cywilnego w danym państwie, odpowiedzialny za dokonanie wpisu do indywidualnej licencji. W Polsce nadzór nad egzaminami z Aviation English sprawuje Urząd Lotnictwa Cywilnego. Artykuł ma na celu dokonanie analizy porównawczej formy i treści trzech stosowanych obecnie nie tylko w Europie, ale przede wszystkim w Polsce testów, zaznajomienie czytelnika ze sposobem ich przeprowadzania, a także sprawdzenie, w jakim stopniu uwzględniają one ICAOwskie wytyczne. Ściśle specjalistyczny kontekst, jakim jest komunikacja aeronautyczna, wymaga precyzyjności konstruowania komunikatów. Poruszane w artykule kwestie nie tylko krytycznie prezentują obecnie stosowany mechanizm testowania językowego w lotnictwie, ale także rzucają nowe światło na możliwości opracowywania testów do omawianych celów w przyszłości.

Słowa kluczowe: język lotniczy, testowanie w lotnictwie, komunikacja aeronautyczna, ELPAC, KSEJ, TEAP

Introduction

The English language, being the language of aeronautical communication, plays an important role in the professional qualification of pilots and controllers worldwide. Insufficient English language proficiency can become a noticeable contributor in a chain of events leading to aviation accidents (ICAO 2010, Doc 9835, 1.2). This fact can explain why aviation seems to be a single area of specialist communication, where the English language proficiency of personnel is strictly regulated both in the international as well as national contexts.

In 2008 the quality criteria for the language performance in radiotelephony exchanges were proposed by the International Civil Aviation Organization (ICAO) after having considered an increasing number of aviation accidents and incidents directly or indirectly caused by verbal communication breakdowns. However, the best quality of language performance is still not guaranteed all over the world in globalised civil aviation commerce. For the purposes of global harmonisation, ICAO offered descriptors to distinguish an operational level 4 of the language performance as a minimum quality accepted for licensing of pilots and controllers (ICAO 2010, Doc 9835, 4.6; EASA 2016, Part-FCL0.55). The level of language performance required for the participants of the ground-to-air communication is to provide flight safety via radiotelephony oral interactions. The linguistic normalisation also enables the various interlocutors to minimise their linguistic and cognitive efforts in carrying out the task at hand thanks to their shared specialist knowledge.

In order to assess the English language proficiency of pilots and controllers and to state the level of language performance, an effective well-designed assessment tool is needed. Therefore, the main challenge is to develop a specialised aeronautical English language test. Today one can find various testing systems offered on the market and designed specifically for the use in aviation as recommended by the ICAO that has imposed the universal rules for the test design to presume unified reliable and valid testing results all over the world (ICAO 2010 Doc 9835, 6.1; Cir 318). Generally speaking, such requirements define the test of English for pilots and controllers as a proficiency high-stake test aimed at assessment of two skills – speaking and listening. On the national level, it is the ICAO member state which decides about the recognition of language test results for licensure purposes (Borowska 2017, 39). Among the well-known tests, the Test of English Language Proficiency for Aeronautical Communication (ELPAC) is one of the best developed and validated due to good financing and expertise.

Initially designed for controllers, now ELPAC is available also for pilots. However, since 2015, the Civil Aviation Authority in Poland has offered an Aviation English[1] testing as the National Language Examination System (KSEJ, Polish: Krajowy System Egzaminów Językowych) available on a regular basis in the Training and Examination centre of the Civil Aviation Office (Polish: ULC). In Ukraine, Test of English for Aviation Personnel (TEAP) was developed in 2007, and since then it has been used to award aviation personnel ICAO levels of language performance. The test is available in the authorised language centre called *Aerolingua*.

After more than ten years of Aviation English testing in use, it seems to be the proper time to look at the advantages and disadvantages of all the testing systems. The analysis can begin with the insight into the selected test formats and procedures in order to suggest possible improvements in due time.

1. Language of radiotelephony communication

To design a proper highly specialised language test requires familiarity with the ICAO test design recommendations as well as with the nature of radiotelephony communication. This is radiotelephony that defines the means by which pilots and ground personnel communicate with each other and radiotelephony communication competence is "the prime tool for a controller and a pilot to indicate to the other their instructions and intentions" (Williams 1991, 122). The transmitted information and instructions are of vital importance in the safe and expeditious operation of aircraft and traffic control.

All the test designers and users should bear in mind that radiotelephony communication, in other terms, in our context – an aeronautical discourse, is characterised by specific manifestations (ICAO 2010, Doc 9835, 3.3–3.4), which can be summarised as follows:

- non-visual channel (in voice interactions only),
- use of phraseology based on special knowledge and strong focus on safety,
- linguistically simplified messages based on special syntactic, lexical, semantic and phonetic rules to avoid ambiguity,

[1] The name *Aviation English* is commonly used for aeronautical purposes. Bearing in mind that the term *Aviation English* covers a wider spectrum than a solely aeronautical purpose, we use the term *aeronautical* to avoid misinterpretation and follow the proper terminology (see more on aviation terminology in Borowska 2020).

- switching between phraseology (coded) and plain English (non-coded), prescribed and regulated relationship between language and actions of communicators,
- specific turn-taking,
- high stakes of language knowledge due to licensure requirement,
- high sensitivity to language-related human factor signs (differences in culture, educational backgrounds, personal qualities, social experiences, etc.).

Furthermore, one faces the two-fold nature of aeronautical communication based on the standard phraseology (a coded linguistic tool for routine situations) and so-called 'plain English' (a specialised [sub]language based on a natural one). The latter is used when standard phraseology is not sufficient in order to reach full mutual understanding between a pilot and a controller in the non-routine situations. Consequently, both routine and non-routine radiotelephony 'elements' used in the ground-to-air or air-to-air types of communication should be considered the test language competence constructs in order to meet the ICAO language requirements. The significance of co-existence of two (sub) languages in pilot and controller language competence can be demonstrated by comparison of their main features below:

a. the English phraseology is:
   - invented by the group of people specifically for the safety of civil aviation,
   - based on simplified and limited English grammar and phonology,
   - based on the limited selection of vocabulary,
   - used for the message encoding and decoding based on radiotelephony competence for routine situations,
   - based on the invalid routine syntax, semantics and pragmatics due to restricted register,

   and:
   - shows the high level of cultural sensitivity and probability of native language interference,
   - follows a readback and hearback based interaction,
   - follows a co-operative principle embedded into the utterance templates;

b. plain English, in contrast, is:
   - naturally developed as a general language for communication,
   - based on general English grammar, phonology and vocabulary, though with some restrictions,
   - used for non-routine (emergency) situations,

but, similarly to standard phraseology, it is:

- full of specialised vocabulary,
- used for encoding and decoding messages,
- based on the interaction of received interlocutor's feedback,
- full of the high level of cultural sensitivity and probability of native language interference (due to multilingualism and multiculturalism of the international aviation community) (Petrashchuk 2017).

Interestingly, the rate of plain English incorporated into standard phraseology exchanges can reach 50% in non-routine situations during the flight (Petrashchuk and Vasiukovych 2015). Although the standard phraseology appears to have a preference for expressing the implied message, plain English must be used to clarify the situation. It is easy to observe that encoding and/or decoding messages is not possible without special knowledge shared between interlocutors, e.g. in case of the challenge of managing the nose wheel:

> Pilot: Ground, KLM one tree eight seven
> Controller: KLM one tree eight seven, X-Ground
> Pilot: Yes, we have problem with nose wheel steering, it`s fully be to the left, so we have to remain position here, we request towing track
> Controller: KLM one three eight seven, roger, shut down engine, wait for towing
> Pilot: Wait, shut down engines our position here and wait for the towing, KLM one tree eight seven (www.liveATC.com)

Therefore, in aviation, this is radiotelephony communicative competence that is integral with an attitude and a motivation concerning language, its features and uses, and integral with competence for, and attitudes toward, the interrelation of language with the other code of communicative conduct (Hymes 1972).

2. Language proficiency descriptors for an aeronautical language test purposes

The ICAO instructs that a language test should not assess phraseology knowledge due to the fact that "teaching and testing standardized phraseology are operational issues, not a language proficiency issue. It follows that a test designed to evaluate knowledge or use of standardized phraseology cannot be used to assess plain language proficiency" (ICAO 2010, Doc 9835, 6.2.8.6). On the other hand, the ICAO recommends that the language test should include test tasks based on phraseology elements.

Today there are various testing systems designed specifically for use in aviation. It is important to note that the ICAO has developed aviation-related requirements for the test design in order to provide unified reliable and valid testing results all over the world (ICAO 2010, Doc 9835, 6.1; Cir. 318). These requirements define the test of English for pilots and controllers as a proficiency high-stake test aimed at an assessment of two skills – speaking and listening. Thus, the test format is to simulate real radiotelephony interaction which is characterised by its specific features. Although the test objective is not to assess standard phraseology knowledge, it should at least include its elements. The primary aim of the test is to assess the pilot or controller's language proficiency level with particular attention put on the operational level performance. Therefore, to develop a specialised aviation English language test that covers all the requirements is a challenge rather than a routine endeavour.

According to the ICAO recommendations, the test taker language performance can be assessed either against a holistic or rating scale. The holistic scale includes the following five descriptors which are speaker rather than language oriented:

a. Proficient speakers shall communicate effectively in voice-only (telephone/radiotelephone) and in face-to-face situations.
b. Proficient speakers shall communicate on common, concrete and work-related topics with accuracy and clarity.
c. Proficient speakers shall 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.
d. Proficient speakers shall handle successfully and with relative ease the linguistic challenges presented by a complication or unexpected turn of events that occurs within the context of a routine work situation or communicative task with which they are otherwise familiar.

e. Proficient speakers shall use a dialect or accent which is intelligible to the aeronautical community. (ICAO 2010, 9835, 4.5.3)

The term *holistic* refers here to the language proficiency as a 'whole' making the scale convenient to use primarily for benchmarking purposes. Another practical value of the scale can be to assist trainers and assessors to make a guided judgment about language proficiency of the personnel (ICAO 2010, Doc 9835, 4.5.4) for further training.

In contrast to the descriptors of the holistic scale, the rating scale illustrates descriptors of discrete features of language performance such as pronunciation, structure, vocabulary, fluency, comprehension and interaction (ICAO 2010, Doc 9835, 4.6). The rating scale discriminates language proficiency at six levels and against six language profiles which a panel of trained raters apply to assign the test-taker a particular level of language proficiency (ICAO 2010, Doc 9835, 6.3.2.5). The levels of language proficiency are presented at the range of Level 1 – pre-elementary, Level 2 – elementary, Level 3 – pre-operational, Level 4 – operational, Level 5 – extended and Level 6 – an expert. Level 4 is regarded as a minimum operational level of the English language proficiency for licensing purposes. This operational level is approximately equal to level B2 according to the Common European Frame of Reference for Languages.

If we take into account the status of an Aviation English Test as a high stake proficiency test, on the one hand, and peculiarity of aeronautical communication, on the other hand, it is expected that the test should be useful in respect of its validity and reliability (ICAO 2010, Doc 9835 6.2.3.3). Furthermore, the test should elicit language performance, which is measurable against the descriptors of the ICAO Rating Scale. In order to reach measurability of the speech sample, the descriptors can be realised in terms of the test-taker ability within each language profile (Petrashchuk 2017). All six descriptors with their complements at the operational Level 4 are presented in the table below:

Table 1. ICAO Rating Scale Descriptors at Operational Level 4

Descriptors (ICAO 2010, Doc. 9835, 4.6)		**Abilities to be demonstrated**
PRONUNCIATION	Pronunciation, stress, rhythm and intonation are influenced by the first language or regional variation, but only sometimes interfere with ease of understanding.	Ability to produce English phonemes and allophonic variants; chunks of the language of different lengths; English stress patterns, words in stressed and unstressed positions, rhythmic structure, and intonation contours.

Table 1. Continue

Descriptors (ICAO 2010, Doc. 9835, 4.6)		Abilities to be demonstrated
STRUCTURE	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.	Ability to produce word classes (nouns, verbs, etc.), systems (tense, pluralisation), word order, sentence patterns; express a particular meaning in different grammatical forms.
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.	Ability to use an adequate number of lexical units (words) to accomplish pragmatic purposes; use cohesive devices; paraphrase confidently by reformulating, changing words, word combinations or sentence structure.
FLUENCY	Produces stretches of language at an appropriate tempo. There may be an occasional loss of fluency on transition from rehearsed or 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.	Ability to produce speech at different rates of delivery, in natural constituents (appropriate phrases, pause groups, breath groups and sentence constituents); convey links and connections between events; communicate such relations as focal and peripheral ideas, events, new and given information, generalisation and exemplification.
COMPREHENSION	Comprehension is mostly accurate on common, concrete and work-related topics when the accent 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.	Ability to retain chunks of language of different lengths in short-term memory; discriminate among the distinctive sounds of English; interpret the meaning of words and phrases; apply listening strategies (detecting keywords, guessing the meaning of words from context, appealing for help, and signalling comprehension or lack thereof; recognize communicative functions of utterances according to situations, goals.

Table 1. Continue

Descriptors (ICAO 2010, Doc. 9835, 4.6)		Abilities to be demonstrated
INTERACTION	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.	Ability to assess accurately how well your interlocutor understands you by checking, confirming; use a battery of speaking strategies, e.g., providing a context for interpreting the meaning of words; appropriately accomplish communicative functions according to situations, goals; use various strategic devices – fillers, self-corrections, backtracking – to enhance the clarity of the message.

It is crucial for the test usefulness that the test tasks elicit the entire language proficiency as illustrated by the Rating scale "which a panel of trained raters can use to assign the test-taker a level on the Rating scale" (ICAO 2010, Doc 9835, 6.3.2.5). In the aviation context, due to strong safety focus, the final score for language proficiency demonstrated by the test taker is the lowest score among the six ones obtained. Regarding the main purpose of language testing in aviation, all the aforementioned language abilities are required to be a part of the language performance and demonstrated during the testing procedure. It means in turn that the testing system is to be designed with a focus on qualities of radiotelephony language communication related to:

- oral speech only (speaking and listening),
- ability to communicate spontaneously in case of an unexpected turn of events,
- ability to respond quickly and appropriately to the message received,
- ability to communicate in non-visual format with no visual cues from an interlocutor,
- ability to avoid any miscommunication.

The test providing elicitation of the above-listed language abilities seems to be a useful tool in the aviation context (Bachman and Palmer 1996).

3. Test specifications

There have been many attempts to design Aviation English tests for assessment of aviation personnel. Test format specific requirements have not been regulated by any provisions; however, the test specifications are in compliance with the fundamental constraints specific to the context of the ICAO language proficiency test requirements (ICAO 2010, Doc 9835, 6.1), namely:

a. the test focus – on speaking and listening proficiency;
b. the test content – relevant to working roles of pilots and air traffic controllers, work-related topics/context and work situation, not standard phraseology based;
c. the test tasks – similar to real-life activities, related to aviation operations/radiotelephony communications, e.g. questions and answers, problem-solving exchanges, etc.

The distinction between communicative competence and actual language performance defines the test task types, which should target both language knowledge and language performance as well as the task types that measure aviation language knowledge. These task types would allow test takers to demonstrate their language knowledge in action and to elicit a speech sample measurable against the scale descriptors (ICAO 2010, Doc 9835, 6.2.6.1).

In order to make an initial analysis of the selected tests, the constraints mentioned above have been used as criteria to evaluate the quality of the tests proposed and to assume how much a speech sample obtained during the testing process meets the criteria of measurability against the ICAO language proficiency rating scale (Alderson 2010).

The following three tests (in the alphabetical order) available in Poland have been selected to be analysed and compared according to the quality criteria listed above: ELPAC – the test of English Language Proficiency for Aeronautical Communication, KSEJ – Krajowy System Egzaminów Językowych (EN: National Language Testing System[2]) and TEAP – the Test of English for Aviation Personnel. They are described below in terms of their formats and contents in order to define how much each of them is useful for aviation language testing purposes able or unable to elicit the language performance expected at the minimum operational level.

[2] The authors' translation.

a. Test of English Language Proficiency for Aeronautical Communication (ELPAC)

ELPAC is one of the most popular tests of English for aviation purposes. It has been designed to help the Air Navigation Service Providers (ANSP), Aircraft Operators (AO), National Supervisory Authorities (NSA) and Training Organisations (TO) to meet the ICAO language proficiency requirements. It comprises a listening comprehension paper (referred to as Paper 1) and an oral interaction paper (referred to as Paper 2). There is also a separate test to assess ICAO level 6 (referred to as Paper 3).

The specific purpose of Paper 1 – Listening Test is to determine whether the test taker meets the minimum ICAO language proficiency requirements for English as it is used in the context of radiotelephony communications between air traffic controllers and pilots. Paper 1 (Listening Comprehension) tests the understanding of communications between pilots and controllers in both routine and non-routine situations. The recordings are based on authentic material and range from short standard pilot transmissions to longer communications in which the pilot deals with non-routine or unusual situations. The test-taker listens to 25 audio files, in which pilots or controllers communicate in the radiotelephony context in order to:

1. prepare or provoke action by requesting approval or clearance, giving approval, denying approval, giving clearances or instructions (controllers only), denying clearances or instructions, requesting the controller or pilot to do something, offering to do something, giving advice or making suggestions on what to do;
2. share information by giving information, requesting information, requesting reasons, purposes or justifications, giving reasons, purposes or justifications;
3. manage the interaction, by reading back, acknowledging the pilot's or air traffic controller's message, checking, confirming, clarifying and correcting (Eurocontrol 2018).

The length of the Listening Test is 20 minutes, including preparation and completion. This is a computer-based test. There are six parts of the Listening Test where each part contains audio files followed by various kinds of task types, namely Short Answer Question (SAQ), Multiple Choice Question (MCQ) and Table Completion (TC). The test-taker is supposed to answer questions relating to the content of the audio files of communications between a controller and one or two pilots and between two controllers, in unusual and non-routine situations. The questions (total number of questions per version of the

test is 60) refer to transmissions made by an air traffic controller. The test-taker hears every recording once only. The table below illustrates the listening part structure:

Table 2. Structure of the ELPAC Paper 1 – Listening Test (Eurocontrol 2018)

Part	1	2	3	4	5	6
Number of questions per audio file:	2	1	3	1	5	5
Total number of questions in each part	10	6	9	5	15	15
Task type:	SAQ	MCQ	SAQ	TC	SAQ	SAQ

The source of input in the Listening Test is presented by live recordings, simulator recordings, flight crew reports and incident and accident transcripts. The input may have background noise without distraction or influence on sound quality. The topics cover common, concrete and work-related areas including unusual or unexpected situations.

The ELPAC Paper 2 – Speaking Test – aims at determining if the test-taker complies with the minimum requirements of ICAO (operational level 4) and if the test-taker meets the ICAO requirements for level 4 and 5. Specifically, Paper 2 tests whether the test-taker is able to understand communication in routine (30%) and non-routine (70%) situations between pilots and air traffic controllers and between air traffic controllers and other air traffic controllers, in which a pilot or controller:

1. prepares or provokes actions:
    a. requests an approval or a clearance
    b. gives or denies an approval,
    c. gives or denies instructions,
    d. requests a controller to do something;
2. shares information:
    a. requests information,
    b. gives information,
    c. requests reasons or purposes,
    d. gives reasons or purposes;
3. manages a pilot – air traffic controller discourse;
4. manages the communication;
    a. reads back and acknowledges the controller's and pilot's messages,
    b. checks, confirms and clarifies.

However, the following functions are also characteristic of aeronautical communication, but are not explicitly tested by ELPAC:

- to offer to do something,
- to accept or refuse to do something,
- to request advice,
- to give advice,
- to make suggestions on what to do,
- to undertake to do something,
- to refuse to do something.

As for the structure of the ELPAC Paper 2 – Speaking Test, we can observe the following phases:

(Time allocated: 20–22 min)

- Pre-interview phase:
  Introductory instruction, verification of the test-taker ID – 2 min
- Task 1a – 7–8 min
  Interlocution: Role-play. No visual contact between the interlocutor and the test-taker.
  Description: The test-taker is instructed to understand and respond to communications from the pseudo-controller in routine and non-routine situations. In the scenario there is an aircraft which develops an unusual situation.
- Task 1b – 3–4 min
  Interlocution: Simulation of a Report. The task is face-to-face. The English language expert delivers the instructions.
  Description: The test-taker is instructed to report on the unusual or unexpected situation which occurred in task 1a.
- Task 2 – 4 min and Task 3 – 4 min
  The Oral Performance Interview including a picture description.
  Interlocution: The task is face-to-face. The interlocutor is an English language expert.
  The phase is to determine if the test-taker is proficient at ICAO level 5.
  Description: The test-taker is instructed to elicit extended speech with an unexpected turn of the conversation and having to use an unrehearsed language. Two pictures with an aviation image each are proposed for description and further discussion. RTC simulation (role-play).

The test-taker's performance is assessed by both an operational expert and an English language expert. Generally speaking, the ELPAC Speaking Test includes test tasks aimed at eliciting the language abilities of the test-taker to:

a. use the correct ICAO standard phraseology,
b. switch between ICAO standard phraseology and plain English,
c. respond appropriately to transmissions,
d. resolve misunderstandings,
e. negotiate the meaning in an unexpected situation,
f. avoid unclear or ambiguous transmissions,
g. deal effectively with the pilot – air traffic controller interaction (Eurocontrol 2018).

b. Krajowy System Egzaminów Językowych (KSEJ) (EN: National Language Examination System)

Currently, the most popular test in Poland is called KSEJ. As a matter of fact, its name does not refer to the test itself, but rather to the whole procedure of national language testing. It has been prepared by Civil Aviation Authority in Poland and has been successfully in use since 2015. Similarly to the previous test, this one aims at the comprehension of aeronautical discourse in various contexts. It also consists of two parts: listening and speaking.

The format looks simpler than that of ELPAC. The listening comprehension consists of 6 audio recordings and tasks devoted correspondingly to ATIS (2), routine (2) and non-routine (2) contexts. In case of an S-ATPL test, there are four tasks for each recording. The test-taker is to select the correct answer out of three possibilities *a, b* or *c* within 40 seconds after the recording stops. The test taker can listen to the recordings more than once, but the repetition of listening will be noted down and reflected in the final score according to the table below:

Table 3. Assessment of KSEJ listening part based on the number of repetitions (Urząd Lotnictwa Cywilnego 2019)

Number of repetitions						
correct answers	**1 x Repeat**	**2 x Repeat**	**3 x Repeat**	**4 x Repeat**	**5 x Repeat**	**6 x Repeat**
12	6	6	5	5	4	4
11	6	5	4	4	4	4
10	5	4	4	4	4	4
9	4	4	4	4	3	3
8	4	4	3	3	2	2
7	4	3	3	2	2	2
6 and below 6	3	3	2	2	2	2

The speaking part (Time allocated 20 min excl. the warm-up) is to check comprehension and ability to produce clear messages. It consists of a short warm-up (not assessed) conversation, e.g. a self-presentation, a family life, a career, weather, etc., followed by three tasks in the form of a standard interview:

1. a pilot-ATCO/FIS routine communication with the standard phraseology in use,
2. a pilot-ATCO/emergency services non-routine communication with plain English in use,
3. a picture/photo description and expressing own opinion on various aviation topics. The exam checks the ability to communicate and to produce comprehensible utterances. The assessment is done by two examiners, one of them being the interviewer (the main examiner) and the other being the observer (Urząd Lotnictwa Cywilnego 2019).

c. Test of English for Aviation Personnel (TEAP)

TEAP has been designed between the years 2006–2008 by the Ukrainian approved language test provider *Aerolingua* under the conceptual and research supervision of Professor Olena Petrashchuk, who is also a copyright owner. In 2008 the Ukrainian Civil Aviation Authority endorsed this test for the use nationwide. It is aimed at assessing the test-taker's ability to use plain English in compliance with the language proficiency criteria contained in the ICAO Rating Scale for Levels 3–5. TEAP consists of a listening

comprehension part referred to as Listening Test and an oral interaction part referred to as Speaking Test (Interview).

The specific purpose of TEAP Listening Test is to determine whether the test taker meets the minimum ICAO language proficiency requirements for English as it is used in the context of radiotelephony communications between air traffic controllers and pilots. The Listening Test has been designed to discriminate between the test-taker's level of proficiency at ICAO levels 3, 4 and 5. It tests the understanding of communications between flight crews and controllers in both routine and non-routine situations. The recordings are based on authentic material taken from real-life environment and range from short standard pilot transmissions to longer communications including both dialogues and 'monologues'.

The test-taker listens to 5 audio files, in which pilots and controllers interact using radiotelephony communication based on standard phraseology and plain English with a purpose: to share information by giving or asking for it, to request an approval or a clearance, to give or refuse an approval, to give or to deny clearances or instructions, to request or to offer the controller or pilot to do something, to give advice or make suggestions on what to do, to manage the interaction by reading back, acknowledging the pilot's or air traffic controller's message, checking, confirming, clarifying and correcting. There are three sections in the Listening Test. Tasks in Section 1 and Section 2 are based on authentic radiotelephony exchanges (4 audio files), the task in Section 3 is based on broadcast of aviation event news (1 audio file). Thus, the total number of audio files per version of the test equals 5. Each section contains audio files followed by various kinds of task types, namely Short Answer Question (SAQ), Multiple Choice Question (MCQ) and Table Completion (TC). The test-taker answers the questions relating to the content of the audio files presenting communications between a controller and a pilot in both routine and non-routine situations. The total number of questions per version of the test equals 30. The test-taker listens to each recording once only. The table below illustrates the listening part structure:

Table 4. Structure of the TEAP Listening Test

Section	1	2	3
No. of audio files/audio test tasks	2 (RT)	2 (RT)	1 (news)
No. of questions per audio file	1–14	15–20	21–30
Total no. of questions in each part	14	6	10
Task type:	TC; SAQ	MCQ	TC

The TEAP Speaking Test, which is aimed at the assessment if the test-taker, complies with the minimum requirements of ICAO operational level 4, in other words, if he is able to communicate according to them. Therefore, the test-taker is expected to demonstrate the ability to give information, request reasons or purpose, acknowledge the controllers' or pilots' messages, check, give reasons, specify his aim of action, clarify, readback, explain, speculate, present an argument, give an opinion, evaluate.

By format, the Speaking Test is an oral proficiency interview, which is conducted face-to-face with a trained interlocutor. It consists of three parts (tasks) aimed at eliciting the proper language that can be used in real-life situations. Task 1 is to warm up the interaction between a test-taker and an interlocutor with a focus on the ability to extend speech in plain English via various communicative functions like giving arguments, comparing, speculating, narrating, convincing, etc. The main target is to assess the test-taker's ability to interact spontaneously even under linguistic or situational unexpectedness. The test taker is questioned to understand and respond to communications from the English expert interlocutor on everyday and job-related situations.

Task 2a is designed to elicit the test-taker's ability to interact in non-standard or emergency situations, which can happen at any phase of flight. The test-taker is expected to be able to use proper utterances in a selected emergency situation, negotiate meaning in an unexpected situation, deal effectively with an interlocutor, switch between plain English and phraseology. The task is supplemented by a printed cue card. Consequently, Task 2b is based on a short radiotelephony oral exchange during an emergency situation. The test taker is expected to understand the pilot – air traffic controller interaction, read back the details of the exchange, use technical vocabulary correctly and make a report in plain English about the heard situation. This task is also supplemented by a printed cue card.

Task 3 requires a description of two pictures presenting an aviation situation. The test-taker is expected to extend the language in the form of a monologue providing its cohesion and coherence, using a wide range of aviation vocabulary, discourse markers, basic and complex structures. The task is designed to elicit the language of unrehearsed speech and ability of the test taker to give information, use correctly technical terms, give reasons, give the purpose of something, deal appropriately with an unexpected turn of conversation and paraphrase effectively when the vocabulary does not suffice. Concluding, we can list the following speaking part phases:

(Time allocated: 19–20 min)

Pre-interview phase:

An introductory instruction, signing the interview protocol – 2 min

- Task 1 – 4–5 min
  Interlocution: an oral performance interview. The task is face-to-face.
  Description: The test taker is questioned to understand and respond to communications from the English expert interlocutor on everyday and job-related situations. This is an oral semi-structured interview.
- Task 2a – 4 min
  Interlocution: Extending on a non-routine situation. The task is face-to-face. The English language expert delivers the instructions.
  Description: The test-taker is instructed to describe an emergency supported by a printed cue card.
- Task 2b – 4 min
  The test-taker comments on a short radiotelephony recording.
- Task 3 – 5–6 min
  Description of 2 pictures. The task is face-to-face. The interlocutor is an English language expert.
  Description: The test-taker is instructed to elicit extended speech with an unexpected turn of the conversation and has to use unrehearsed language. Two pictures with aviation context images are selected for description and further discussion.
  The tasks 1–3 are to determine if the test-taker is proficient at ICAO level 4 or 5.

4. Comparison results

All of the tests described above show some similarities as well as differences in their formats and specifications though they are generally in compliance with the test design principles prescribed by the ICAO requirements (ICAO 2010, Doc. 9835, 6.1; Cir. 318). By overlapping their formats and specifications, we can see that in each case test tasks vary by types and levels of difficulty as well as their distinct reference to the aeronautical context. The features of each test are presented in the table below to show their similarities and discrepancies against the ICAO requirements to the high-stake proficiency test. Italicised words mark the discrepancies:

Table 5. Comparison of 3 Aeronautical English Tests

ELPAC	KSEJ	TEAP
Paper 1 – Listening Test	Paper 1 – Listening Test	Paper 1 – Listening Test
– 6 parts; several audio recordings each – routine & non-routine – variety of accents, incl. native – 60 tasks (SAQ, MCQ, TC)	– 1 part; 6 recordings – ATIS (2), routine (2), non--routine (2) – *No accents variety*, no native accent, audio recorded mainly by Polish speakers – 2 tasks for each recording (MCQ)	– 3 parts; 5 recordings – routine & non-routine + aviation news – variety of accents, incl. native – 30 tasks (SAQ, MCQ, TC)
Aim: aeronautical discourse comprehension in various contexts	Aim: aeronautical discourse comprehension in various contexts	Aim: aeronautical discourse comprehension in various contexts
Part 2 – Speaking Test Levels 4–5	Part 2 – Speaking Test Levels 4–6	Part 2 – Speaking Test Levels *3*–5
20–22 min	20 min	19–20 min
Aim: comprehension and producing comprehensible spoken interaction	Aim: comprehension and producing comprehensible spoken interaction	Aim: comprehension and producing comprehensible spoken interaction
– No eye contact, computer-based	– Standard conversation/ interview	– Standard conversation/ interview
4 tasks	3 tasks	4 tasks

Our analysis suggests that the abovementioned tests can successfully check: the ability to understand transmitted messages in the routine as well as non-routine contexts, ability to produce comprehensible utterances by proper choice of grammar structures and specialised vocabulary, and ability to produce spontaneous messages within an unexpected turn of conversation. Therefore, we can conclude, without any doubts, that all tests selected for analysis are appropriate for the assessment of the test-takers' abilities to communicate in the aeronautical context, particularly for awarding the operational level according to the ICAO Rating Scale for licensing purposes.

However, some test components could be improved in the future to increase the test usefulness in terms of ICAO requirements. For example, the current research shows that there is a need for test tasks based on a variety of accents. Such tasks can be found in ELPAC and TEAP, and only partially in KSEJ. The best way to implement this

requirement is to offer test-takers authentic speech recordings based on foreign accents. Currently, the audio materials offered by KSEJ have been prepared mostly by Polish speakers, which narrows down the possibility of checking candidates' understanding of variety of accents and dialects in real-world communication. Another week point of the tests in question is the lack of test tasks eliciting interaction skills. This poses a challenge for test designers. We suggest incorporating more role-plays as a part of the testing procedure which can manage elicitation of the corresponding skills to maintain the dialogue, repair misunderstandings, etc. It will also show the test taker's possibility to use spontaneous language, which is important to discriminate the test-takers below operational level 4. Last but not least, the traditional method of the standard interview should be step by step replaced by partly computer-based tasks and partly blind-type interview as it makes the environment more natural for aeronautical communications.

Conclusions

The analysis of three selected tests available in Poland to assess the language performance against the ICAO Rating Scale has revealed that there is still room for improvement. The main areas/directions for such action can be defined regarding the language quality characteristics and communicative strategies required to be part of the language performance at the workplace of pilots and controllers. All three tests offer tasks aimed at checking comprehension of aeronautical messages both in routine and non-routine situations. However, when it comes to producing speech samples by test-takers, the tests elicit extended speech on topics related to aviation, including proper linguistic behaviour in case of an unexpected turn of the events or linguistic or thematic problem. The test of KSEJ includes the assessment of standard phraseology which is not relevant to the ICAO Rating scale, but it may be motivating for test-takers.

The test designers might be recommended to focus more on the elicitation function of the language tests to increase their usefulness for valid and reliable assessment of the elicited speech sample, which, in this way, will be measurable against descriptors of the ICAO Rating scale. Unless the Aviation English test elicits each language skill illustrated by the descriptors, the testing for licensing purposes will not be in full compliance with the ICAO language proficiency requirements. Only by monitoring the current testing procedures and their potential effectiveness, can we combine our efforts to improve global testing that may be equal to the improvement of aeronautical communication worldwide.

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