

ELPAC
A Test for Air Traffic Controllers to meet ICAO Language Proficiency Requirements

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Summary

EUROCONTROL has been guided by best practices in language test design supported by experience in developing the PELA Test for student air traffic controllers. An internet based test of listening comprehension and a test of oral interaction meet the criteria of the ICAO language proficiency rating scale and holistic descriptors. A plan for test sustainability is being put in place to assist States with ELPAC implementation.

Introduction

In 2004 EUROCONTROL¹ researched the feasibility of developing a test that would allow air traffic controllers to demonstrate the recently published ICAO language proficiency requirements. From its previous experience in developing the PELA test for student controllers EUROCONTROL felt confident that it could rise to the challenge and provide its Member States with a language proficiency test specifically aimed at the operational controller. EUROCONTROL successfully argued that the PELA test, although comparable to ICAO level 4 (operational), would not be acceptable to qualified air traffic controllers. It was also noted that Member States were expressing a keen desire to have a test that would assess not only ICAO level 4 but also level 5 – something that PELA had never been designed to do. In October 2004 EUROCONTROL's Human Resources Team (HRT) accepted the recommendations of the feasibility study and requested EUROCONTROL to immediately commence development of an English language proficiency test for air traffic controllers. The project would concentrate on the **English** language as being most beneficial to all States.

Approach to test development

Between November 2004 and February 2005 the Needs Analysis conducted for the PELA Test was reviewed and found to remain valid for current aeronautical communication. The structure and items of the PELA Test were also examined. The possibility of using a modified PELA for operational controllers was rejected although the overall construct of PELA would not be abandoned and effectively ELPAC was to use the concept of Paper 1 and Paper 3 of PELA, albeit much modified, to meet the linguistic needs of operational air traffic controllers. Experience with the administration of the PELA Test was one of the reasons for deciding to deliver ELPAC Paper 1 as a web-based test – being both more economic and more secure. The original PELA Paper 3 had to be redeveloped so that a level 5 performance could also be assessed.

¹ European Organisation for the Safety of Air Navigation

The ELPAC Project Team

The ELPAC Project Leader is Adrian Enright of EUROCONTROL (with an ATC background and experience as project leader for PELA. Adrian is also a member of the ICAO PRICE (Proficiency Requirements In Common English) Study Group that developed the ICAO language proficiency requirements. Magdalena Večeřová from the Czech Republic has been recruited as a full-time expert in language testing. A task force² of English language experts and experienced air traffic controllers was established and held its first meeting at the end of February 2005. Experience with PELA and the fact that ELPAC would be a high-stakes test meant that the approach to test design and development should follow best practices in the language testing field. The project hired Dr. Rita Green as consultant to provide advice and guidance on test development.

ENOVATE A.S. from Bergen in Norway was awarded the contract to develop the software for Paper 1. The software for ELPAC is based on their successful BITE (Bergen Interactive Test of English) project testing Norwegian school children in English.

A project plan was drawn up and critical milestones set until the end of 2007 e.g. trialling exercises, team meetings/workshops, software development, meetings with stakeholders and external validation.

Strategies for test development

To meet the ICAO language proficiency requirements the ELPAC development team agreed to focus test design on two papers: a listening comprehension test that would be accessible through the internet and an oral interaction test with both non-visual and visual (face-to-face) communication. As requested by the EUROCONTROL Member States, the team would write items enabling assessment of candidate performance at ICAO level 4 or level 5. Working from the PELA Needs Analysis and being mindful of the ICAO rating scale and holistic descriptors, test specifications were written for ELPAC covering both test papers and at each level (4 and 5).

With the initial concept for ELPAC now confirmed the team, having received instruction in item writing from the consultant, set about writing the first items for Paper 1 (it was agreed to trial Paper 1 first with the priority to evaluate the software performance as soon as possible). Guidelines were drafted for test administrators and States contacted to provide candidates for trialling from among their operational controllers. Feedback and bio data forms were prepared and administrators in each State requested to report on the trialling.

Trialling the ELPAC Test

The first trialling exercise was run in November 2005 with 105 controllers from 7 States. This started the cycle of: develop items – trial – analyse data – evaluate – modify/re-write – trial etc. Data analysis in December 2005 led to a number of changes being proposed to individual items, the structure of Paper 1, screen presentation of the test and to the software.

In 2006 trialling exercises were held in March (Paper 1) and October (both Paper 1 and Paper 2). In May/June trialling of Paper 2 on a small scale was conducted by members of the development team to assess the structure, tasks, interlocutor framework and assessor sheets ready for the major trial in October.

In 2007 two further trialling exercises will have been conducted - in March and May. By the time of test release in July 2007 approximately 700 controllers will have helped us to trial at least 8 versions of Paper 1 producing three or four test versions. Additionally, 6 versions of Paper 2 (each with a context relevant to tower, approach and en route functions) will be available for live testing.

² Bulgaria, Czech Republic, France, Germany, Hungary, Spain and EUROCONTROL Maastricht

External validation of the ELPAC Test

Whilst the project leaders and the development team guided by the consultant make every effort to follow best practice in test design it was felt that an external validation of ELPAC test development would be critical to convincing Member States that EUROCONTROL was developing a language proficiency test that would meet their needs; more so because of the high-stakes nature of this type of test. The Department of Linguistics and English Language from Lancaster University in England was selected to validate the ELPAC Test. A team of validators led by Professor Charles Alderson will present their report in June 2007. An initial validation report, presented in May 2006, whilst highlighting some areas for improvement nevertheless gave encouragement to the development team that test development was proceeding in a most positive and professional manner. Material for validation is currently being collated and will be presented to Lancaster in mid-May for the final validation report.

Sample test versions

The very nature of the development of a language proficiency test means that although much work is being done there is often very little to show to stakeholders. It is premature to demonstrate a “sample test” when evaluation shows that this particular version is not yet stable and most likely far removed in “look and feel” from the final version. Our stakeholders have been extremely patient with us. We could finally reward their patience in January 2007 when a sample version of Paper 1 was available on www.elpacsample.info. The sample version is only for familiarisation and does **not** indicate the language proficiency of the test-taker. A video of a Paper 2 performance was released a month later. At the time of writing (March 30th 2007) 2685 people had started the sample version of Paper 1 and 830 had completed it. In November 2006 an information web site (www.elpac.info) was launched and is regularly kept updated with information on the ELPAC Test and associated issues.

Informing stakeholders

Progress on ELPAC development has been presented at national and international fora to air traffic controllers, pilots, air navigation service providers, national supervisory authorities, licensing authorities and other interested groups. EUROCONTROL is working closely with ICAO, particularly the Office of the European and North Atlantic Region, in assisting States with language proficiency implementation issues.

EUROCONTROL has no commercial interest in developing ELPAC. This is purely a tool to support its Member States in meeting ICAO language proficiency requirements as detailed in ICAO Annex 1.

Sustaining the ELPAC Test

Developing a test is the relatively easy part. Any test is a living product and if it is to survive then it must be sustained. New items are constantly to be written and trialled. The performance of the test is under constant review. The environment in which the test operates must be monitored for change. User needs have to be regularly reviewed and security is always under scrutiny.

Developing a plan for sustainability

With this in mind a working paper with a draft plan and overall budget proposals on ELPAC sustainability was presented first to EUROCONTROL’s Training Focus Group (in December 2006) and then to the Human Resources Team (in March 2007). Four possible scenarios were put forward to sustain ELPAC (Consortium of Member States; EUROCONTROL; a language testing service and the “do nothing” option). The HRT agreed that in the medium term EUROCONTROL should sustain the ELPAC Test and that a consortium of Member States consider taking over this responsibility in the longer term.

An action plan has been prepared with a series of workshops to train test administrators, markers and examiners (interlocutors and assessors for ELPAC Paper 2). New teams of item writers will be established so that a steady flow of items is available for trialling, analysis, evaluation and eventual incorporation into test versions. Software development must ensure that test security remains a top priority and ahead of any possible attack. User needs must be considered and worked into test design after careful evaluation.

Licence Agreement

EUROCONTROL will require all users of ELPAC to sign a Licence Agreement to protect test security, respect confidentiality of data and maintain test standards. Once selected personnel are properly trained in the specific tasks designated for them (e.g. administrator or examiner) the ELPAC Test will be delivered to Air Navigation Service Providers.

A User Group meeting at least once a year will monitor ELPAC test implementation, evaluate performance and suggest improvements. Regular workshops for examiners will enable testing standards to be maintained.

Conclusion

Sample versions of the ELPAC test papers are available now for familiarisation (www.elpacsample.info). After a relatively short but intensive period of development the first test versions of ELPAC will be available to EUROCONTROL Member States by the end of July 2007. Special workshops have been planned in the second half of 2007 where ELPAC test administrators and examiners will receive practical training prior to implementing live testing.

The ELPAC test will allow air traffic controllers to demonstrate their language proficiency in English in the context of their job. ELPAC will rate performance at either ICAO level 4 or level 5 or, unfortunately, below level 4. A successful outcome will gain a language proficiency endorsement to the ATC Licence.

An action plan for ELPAC Test sustainability is currently being established to ensure that test standards are maintained.

“Safety in aviation is paramount – there must be no compromise”
