Workshop H: Understanding and Adapting English Training Needs for Maintenance Personnel – Findings and Achievements in Argentina

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Understanding and Adapting English Training Needs for Maintenance Personnel – Findings and Achievements in Argentina

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Abstract
This paper is part of ICAEA 2019 Conference Proceedings. It is based on Session 4 Workshop H which dealt with the experience of English language training needs and accomplishments for Aircraft Maintenance Technicians in Argentina. The objective of this article is to describe and address how the training center began with its original planning and how it evolved based on aircraft technicians’ language training needs after a thorough research by surveying association members and other professionals, and by analyzing and assessing our own implemented Aviation/Technical English training programs and their outcomes. It intends to bring some light based on my current center experience and an 8-year reflective work into understanding technicians’ language competency needs and adapting training programs to their challenging schedules, fatigue due to workload and learning styles.

How it all began
It is interesting to notice how no matter what our initial plans or intentions might be, this so-called “airplane life” can take us into very different paths and directions diverting us from our original destination. That is how my training program for technicians was born and designed at

1 Bio: Claudia has a bachelor’s degree in Education Management, a Diploma of Teacher of English as a Foreign Language. She is a former Flight attendant and has been certified by IATA as CTP as well (Certified Training Professional). She also got certified as ICAO LPR’s Rater and Interlocutor. She has designed and delivered ESL/ESP courses and has been a consultant for different training institutions and organizations in Uruguay, USA and Argentina. Currently, she is the head coordinator at CIPTA and TEA Center Administrator, she is also a University Professor at the University of Buenos Aires.
CIPTA. It all began as a project of opening an ICAO’s LPR’s Testing Center at the Technicians Association (APTA) in Buenos Aires when many of APTA’s members started to approach me with intentions of sitting for such test. Needless to say, such exam was not intended to our aircraft technicians, but to pilots and air traffic controllers instead. Nonetheless, technicians kept on coming to our Association asking for a test or training program that would be suitable for them. Even though ANAC (Local Aviation Authority in Argentina) does not require aircraft technicians to be assessed in their English language proficiency in order to obtain their license, a big percentage feel they should be, since English is such an important tool to them when reading manuals, understating and/or following daily job procedures.

Consequently, despite moving forward with the testing center initial idea, technicians’ requests were acknowledged, and my research and action plan began in order to design a suitable English training program to meet their language needs.

It was clear to technicians at our Association and to me that “Precise Communication at the right place and the right time is a guarantee for success.” That is how they conveyed this idea in our initial talks when they told me they knew or were aware of many technical words in English by seeing them on a daily basis or from their former training as licensed technicians, but they just did not know or understand how to put them together and how to achieve “precise interpretation or communication.” This key component turned out to be a good starting point for my research. I realized communication effectiveness it is not just about what to say, but how to say it in the right place at the right time. Furthermore, it goes beyond simply second language learning or training: somehow, it appears to be more connected to language acquisition and cross-cultural interference and decoding as well.

**Analyzing data collected**

As part of the main assessment of Aviation Maintenance Technicians’ language training needs, a survey of a hundred participant-sample was distributed initially among APTA members and their colleague-contacts. It was conducted online through SurveyMonkey in Buenos Aires only. In addition, later in the article other satisfaction surveys results, which had been provided by former and current APTA technical students, will be shared in order to gain some insights about their
experiences and perspectives during and after CIPTA’s English Training Courses for Aircraft Technicians.

In the initial phase, technicians were asked to answer the following questions:

1. What’s your role in aviation?
2. What’s your age group?
3. How many years of experience in aviation do you have?
4. What’s your current level of English?
5. In which area of Maintenance do you work?
6. Which are your English communication needs at work, exactly?
7. In which situations does English play a critical role in safety at work?
8. Do you feel qualified to read and understand a Manual and/or write a report?
9. What should English training be like for Maintenance Technicians?
10. Are you currently studying English? How often?

Out of all technicians interviewed, we found some interesting facts such as: 13% are in a Chief/Supervisor position, 74% work on the line service, 45% of them are currently studying English an average of 3 hours per week.

In addition to the data above, off the record, they said that none of them have Aviation or Technical English Training during their yearly compulsory recurrent trainings. Therefore, none of the major airlines in Argentina provide planned nor mandatory training in this matter, which pushes technicians to maintain or improve their English language proficiency voluntarily out of the industry and/or without any sponsorship whatsoever. All the technicians who study English in Buenos Aires do so privately funded or with a discount or partial scholarship given to association members, like many students in our center.

Another interesting fact regarding age groups is that almost 29% of the technicians interviewed have a 20-year or longer experience in aviation, almost 24% have an 11-15-year experience, 19% have a 16-20-year experience, other 19% have 1-5 years’ experience, while the remaining 9.5%
have about 6-10 years of experience. Even though the results were varied, there is a clear
tendency to see well-experienced technicians, (around 75% of them) working actively in Buenos Aires.

When they were asked about their opinion on their current English level, almost 43% considered
themselves to be intermediates, while the remaining 57% was equally divided between those who considered themselves beginners and advanced users of the English language.

When crisscrossing age groups and levels of English, it was found that within the 18-35-year-old-age group almost 60% of them were self-perceived as advanced users of the English Language, while the other 40% in that group was equally split between beginner and intermediate users. While in the 36-55 year-old-age group there were more intermediates (about 60%), about 30% at a beginner level and only 10% who felt were advanced users. Finally, in the 55+ year-old-group it was surprising to see equally split a 50% who considered themselves beginners and the other 50% advanced.

Out of experience, when enrolling and placing technicians in our courses, the above data could be called to question since we noticed by our student body that most of the experienced and actively working technicians showed an A1/ A2 CEF level of English. We have even noticed that our ab-initio young technicians even come with an A0 at times. The number of technicians coming to our center showing an intermediate level of English is quite limited and many of those with a higher level coincidently perform other roles in aviation, such as: flight instructor, private pilot or aircraft dispatcher. That is, they perform roles for which they are required to have a higher level in their use of English as part of their license or as a hiring requirement.

Regarding what they felt were their English language needs for their role, 70% considered “reading manuals” their most necessary activity, while a little over 20% mentioned “writing reports”, and the percentage remaining mentioned “oral communication” with other crew members and with the tower. When considering the use of English as critical to safety, 50% mentioned “reading and interpreting manuals” again, 30% said “troubleshooting/testing”, while other 10% mentioned “communication with tower” and a last 10% mentioned “other situations” without specifying.
When asked how qualified or competent to understand manuals and or write reports, about 60% said they did, 20% did not, and the remaining 20% could only do it with assistance.

Based on these results, my experience in English language teaching, and in Aviation, along with my very own technician husband’s input, I could come up with an initial English training course aimed at technicians at CIPTA in 2012. The initial course worked quite well the first year. After being evaluated by our trainers and students through trial and error in our classrooms, it later developed in follow up level courses for different level technicians with several variations and adaptations throughout the years including courses for Aircraft Dispatchers’ as well.

Nowadays, our program is presented to technicians in the following way:

Step 1: Diagnosis - Placement test to determine technicians’ level of English and most adequate training

Step 2: Course selection from our offer:


In case of low-level students, General English Intro level courses are offered and in case of over-level students, tailored workshops are offered, so that they can work on a specific language skill for instance or in overall language maintenance.

Regarding methodology and delivery, each course lasts a semester, and technicians have flexible schedule options, they can either book a fixed timetable for a course or if they have rotating shifts, they can book their classes monthly in their days or shift off. The purpose is that they complete a minimum of 3 hours of class per week no matter which day or time. Classes are
delivered live at the center or online through Skype, they can choose either type or combined them if appropriated for them.

In addition, a “Free pass” alternative is available to them in which they can attend any class/course within their English level. They only book classes monthly as they can or wish. This option has allowed many technicians maintain their contact with language by giving them enough flexibility as to match their difficult or rotating shifts.

Periodical reviews and revisions are part of the spiral learning process encouraged and a final progress check is also delivered for the technicians to see their accomplishments at the end of each course upon receiving a certificate of completion.

This flexibility that is featured in our trainings is also connected to understanding and noticing fatigue in our aircraft technicians, most of it derived from the rotating shifts and workload, being the night shift particularly tiring, which creates a challenge in having early classes and in keeping students’ attention and participation active. I have included techniques and share mitigation strategies in my instructors’ trainings so that they can share them in class with our technicians. It is important to raise awareness on fatigue and its impact in language learning, and how it affects their attention span, short and long term memory and how they can try to mitigate these negative effects. (IATA, 2014)

In addition to the design of the courses, there have always been some constant questions going around at our center: How can we prepare for eventual ICAO LPR’s? Will they ever be tested? Will English Language Requirements be a part of the non-native speakers’ technicians’ license? With all these in mind, we strive to provide them with a kind of training that gives them language tools and skills in order to face some identified needs or situations by technicians. Nonetheless, it would be enriching and enlightening to have a document from ICAO or local aviation authorities with guidelines regarding maintenance technician’s English language training and testing.

As part of our own center assessment, we regularly conduct a satisfaction survey to find out more about whether our program is meeting their needs or if it needs adjustments at the end of each course. The following is a sample of a general survey conducted with our former and current students at the beginning of this year.
The questions former and current students answered to are:

- What’s your role in aviation?
- What’s your age group?
- How many years of experience in aviation do you have?
- What’s your current level of English?
- In which area of Maintenance do you work?
- Which and how many courses have you taken at CIPTA - APTA?
- Which were the strengths of your course/s?
- Which were the weaknesses of your course/s?
- Have you found useful what you have learned at CIPTA- APTA? What and How?
- What would the ideal English training be like for Maintenance Technicians? What type of classes/courses?

The data collected showed that almost 86% of our students are within the range of 18 to 45 year old group, being equally divided in three sectors of 18-25 years old, 26-35 years old, and 36-45 years old respectively, and only about 14% are in the range of 46- 55+ years old.

Regarding their job experience in Aviation, almost 43% have between 1 to 5-year experience, almost 43 % between 6-15-year experience and about 14% have 16-20 years in the job.

In reference to their current level of English, almost 43% of them consider themselves as intermediate language users, almost 36% think they are advanced and around 21% think of themselves as beginners. If compared to how those technicians who did not take our courses felt about their level of English, the figures from our former students are more encouraging and we can assess by our own assessment at the end of each course that they actually improve their level after studying in our program.

When asked what they considered were our courses strengths, some of them mentioned:

- Innovation – how pedagogical training is.
• All training is in English.
• Aviation English Content (hard to find in Argentina).
• Flexible schedule, affordable tuition fees, instructors’ rotation (different trainers).
• Spoken language and grammar reviews.
• Excellent: teaching, materials, studying and learning environment.
• Handling of technical vocabulary fluency.
• Instructors’ academic level, didactics, flexible schedule.
• Multiplicity of tasks: listening practice, games, grammar, instructors’ commitment.

When asked what they considered were our courses weaknesses, some of them mentioned:

• 46% of them said “None”.
• The course is not long enough.
• There is a lack of afternoon availability.
• Manuals and notes.
• Lack of authentic materials, more use of Manuals.
• Little grammar.
• Lack of continuity and fluency (due to personal Student reasons).
• Geographical distance to center.
• Grammar.

What we have noticed is that the course content in terms of language skills or the materials used is always an issue for debate since there are many personal perceptions involved. Some of our technicians consider our language and material selection a strength, while others do not, and they want this aspect to be improved. Therefore, we have been working on balancing out both the use of textbooks and authentic material, and we are constantly looking for including varied didactics in the classroom in order to contemplate all learning styles and intelligences.

Besides, technicians were asked in which way our courses had been useful for them, they responded:

• I got a better understanding of the areas where I were assigned to.
• Understanding manuals without using a translator.
The course worked well, according to the level of English required at work.
Useful for interpreting manuals and when travelling on duty.
Effective and important in my learning. The course gave me continuity in the use of the language.
Got better reading comprehension.
It helped me interact confidently with my colleagues and interpret manuals better.
It was very useful for my daily life and for travelling too.
It helped me a lot in many aspects.
It made it easier to understand and read manuals.
Do not know.

In terms of which could possibly be the ideal training for aircraft technicians, they responded:

- 31% - training should be practical and in groups.
- 15% - should be as is at CIPTA (our center), it is a good option.
- Other 15% - do not know.
- Other 15% - courses should have more and varied materials.
- 8% - training should be compulsory.
- Other 8% - training should have more grammar.
- And the last 8% - training must be face to face.

**Conclusion**

Considering our data collected in addition to the assessment of what has been analyzed based on our classes, courses and experiences at CIPTA throughout these past 8 years in Buenos Aires, I can conclude that there are certain highlights to be considered when thinking of designing and delivering Aviation/Technical English Training for Maintenance Technicians.

For instance: 1. **flexibility**, which has proven to be one of the most effective components due to the nature of technicians’ rotative and overloaded work schedule, especially for those working on the line. Flexibility in different aspects such as: course schedule options, delivery options (face2face, online, blended, group, individual, and the like), instructors (different trainers/styles)
offers them the chance to com study English and to improve or maintain their current level. 2. **Adequate content/ level selection.** I have noticed that many times realia or authentic material exceed the possibilities of technicians learning and understanding due to their low English level. Therefore, the adaptation of certain materials becomes necessary or the use technical/aviation textbooks with a simplified approach for those initial levels in order to scaffold them into comprehending real work-like material in follow up or higher-level courses. Additionally, the course contents should contain progress checks which serve the purpose of self-assessment in order to recognize need improvement areas with the adequate feedback. These are used not only as a learning aid and, but also as a teaching tool. In this way, the testing process is assumed naturally by technicians and it is considered ultimately as a learning instance as well. 3. **Variety:** in terms of sources, methodology, use of technology, learning by projects. As to prevent instructors’ pedagogical automatization, a concept developed by Lewin (2017), in which it is necessary to approach the class and training with a variety of resources and methods which will keep classes innovating and up to date in order to encourage students’ interest and motivation in learning. Furthermore, variety in the class delivery enhances and considers multiple intelligences and learning styles (Gardner, 1983) which enables different technicians learning modalities making their experiences in training meaningful and adequate to their own needs. 4. Last, but not least, **Excellent instructors.** Even though, it may sound as cliché excellent trainers DO make a difference. It is essential to have committed, well-trained and motivated instructors because it truly shows in the training outcome. Good trainers have good classroom management, know how to identify each technicians’ needs and to help them accordingly and they know how to keep technicians’ interest and motivation in learning the language, trainers are genuine facilitators. It is important to point out that it is a great challenge, at least in Argentina, to find well qualified English teachers with experience or specialization in the subject matter of Aviation. It is worth considering investing in aviation training when coming across good language teachers. Let us keep in mind that even though having a good trainer is expensive, having a bad trainer turns out to be way more expensive and it can cause problems which will undermine all of the efforts in designing an adequate training program and center.

Finally, as it happens in education and aviation, in the end it is all a matter of trial and error, careful observation, active listening and having situational awareness. These tools will provide us with the possibility of analyzing and reflecting constantly about what is working at our
training programs an what is not in order to make the necessary adjustments to meet aviation specialists training demands and needs efficiently.

**References**


**Appendix**

*General Aircraft Technicians’ survey results*
Former and current Aircraft Technician - Students at CIPTA Survey

**Feels qualified to understand Manuals and/or write Reports**

- **Yes**: 60%
- **No**: 20%
- **With assistance**: 20%

**Age Group**

- **18-25 yrs old**: 28.6%
- **26-35 yrs old**: 28.6%
- **36-45 yrs old**: 28.5%
- **45-55 yrs old**: 7.1%
- **55+ yrs old**: 7.1%
**Work Experience**

- 16-20 yrs: 14.3%
- 11-15 yrs: 21.4%
- 6-10 yrs: 21.4%
- 1-5 yrs: 42.9%

**Current English Level**

- Beginner: 21.43%
- Intermediate: 42.86%
- Advanced: 35.71%
STRENGTHS

- Innovation: how pedagogical their training is
- All in English
- Aviation English (hard to find)
- Flexible schedule
- Affordable prices
- Instructors' rotation
- Spoken language and grammar
- Handling of technical vocabulary
- Fluency
- Vocabulary/Content selection
- Excellent: - teaching - materials - studying & learning environment
- Instructors' academic level, didactics, flexible schedule
- Multiplicity of tasks: * Listening Practice * Games * Grammar * Instructors' commitment
Ideal Training Courses according to Maintenance Technicians

- Don't know: 15,0%
- Face2Face: 8,0%
- Compulsory: 8,0%
- Group/Practical: 31,0%
- More&Varied Materials: 15,0%
- More grammar: 8,0%
- As Is @ APTA: 15,0%