Journal of Education and Human Development
September 2018, Vol. 7, No. 3, pp. 39-44
ISSN: 2334-296X (Print), 2334-2978 (Online)

Published by American Research Institute for Policy Development
DOI: 10.15640/jehd.v7n3a5
URL: https://doi.org/10.15640/jehd.v7n3a5

Analysis of the Methodology Applied in Aviation English Course at a Military School in Salinas

Marisol Gutierrez Santos[1], Victor Almeida Pacheco[2], Rosalba Rodríguez Reyes[3], Germán Veintimilla Vargas[4]

Abstract

The objective of this research is to analyze the Methodology applied during an "English for Specific Purposes" (ESP) Aviation course. This module is taught before the Basic Flight training and it contains main expressions used for flight operations and Radiotelephony operations at Escuela Superior Militar de Aviación "Cosme Runnells Barbatto" (ESMA) in Salinas, Ecuador. The data gathered in this research was both quantitative and qualitative; hence, the design for this study is a mixed method approach. The instruments used to obtain the collected data were a mock Aviation English test, an interview for teachers, and a survey for first year students. For this study, fifteen pilot cadets of first year were considered as well as the aviation English module instructor. Teachers and students' perceptions towards the Aviation English module were monitored, observed and analyzed. The results of this research showed that some aspects regarding the Methodology of the Aviation English module taught at ESMA must be improved since not all the cadets were familiarized with ICAO's Language Proficiency Requirements manual or The ICAO Standardized Phraseology manual. This investigation suggests that a Blended Learning design may contribute to improve the methodology applied in this course.

Keywords: Aviation English, ICAO, Blended Learning, Radiotelephony Operations, Standardized Phraseology

1. Introduction

In Aviation, English is considered the "lingua franca", i.e. everybody who is involved in this field must use it as the main mean of communication. It is of paramount importance to mention though, that the kind of English used for international aviation is not general, but a precise type called English for Specific Purposes(Estival, Farris & Molesworth., 2016).The International Civil Aviation Organization (ICAO), which is a specialized agency, involved in aviation safety, legal regulations, and operating procedures that contribute to international civil aviation, establishes in one of its policies that pilots and air traffic controllers must demonstrate proficiency in English (ICAO, 2010). This study has taken into consideration the most relevant parts of the guidelines provided by the ICAO in terms of to the implementation of Aviation English training programs are presented and explained as well as the importance of the ICAO's manual of Language Proficiency Requirements needed to obtain a national and international flight license.The cadets, who are trained to become military pilots at Escuela Superior Militar de Aviación "Cosme Runnells Barbatto" (ESMA), must be able to pass one module of Aviation English to fly an aircraft. Nonetheless, the grades obtained in the Aviation English Mock Test applied for data collection on this investigation revealed that the level is lower than the required by the ICAO, which is the "Operational Level 4" equivalent to B1 in Common European Framework of

[1]Universidad de la Fuerzas Armadas – ESPE, Sangolquí, Quito – Ecuador
[2]Universidad Católica Santiago de Guayaquil
[3]Universidad de la Fuerzas Armadas – ESPE, Sangolquí, Quito – Ecuador; German Veintimilla, también pertenece a la Universidad de Fuerzas Armadas - ESPE
[4]Correo electrónico: megutierrez2@espe.edu.ec, Teléfono: 593-99-6907943. Marisol Gutiérrez es la autora principal

Reference for Languages (CEFR). In the third chapter, the results of the survey and the interview confirmed that the Aviation English course at ESMA does not fulfil the needs of future pilots to be. This research seeks to determine how the current ESP methodology affects the achievement on Aviation students.

2. Literature Review

The International Civil Aviation Organization (ICAO) is known as the most relevant organization worldwide in this field. Its main goal isto keep and promote safety inaviation. The policies established by this organization have enormously contributed to civil aviation internationally (MacKenzie, 2010). Some of the most important and relevant characteristics ICAO proposes for the creation of an English for Specific (ESP) course will be explained in this section.

2.1. Manual on the Implementation of ICAO Language Proficiency Requirements

ICAO published the first edition of this manual in 2004 and since that there was the need of establishing basic guidelines for Aviation English training programs, a second edition was printed in 2010. Among the aspects listed by the organization, it is clearly specified that any valid aviation English training must be designed with specific tasks that allow learners to address the six language skill areas which are detailed in the ICAO Rating Scale. These are: pronunciation, structure, vocabulary, fluency, comprehension and interactions. This document also specifies that the training must guarantee that all students achieve proficiency at least at ICAO Operational Level 4 in all six skill areas, otherwise the participants will not obtain the license (ICAO, 2010).

The ICAO establishes an analytical rating scale and a set of holistic descriptors to defines the level of language proficiency required by pilots and Air Traffic Controllers or ATCOs(ICAO, 2010). These are the main characteristics of the skills evaluated in Aviation English proficiency stipulated by the ICAO:

- Structure and Vocabulary descriptors which refer to circumstances that are not common or unexpected, whereas Comprehension and Interactions descriptors refer to a change of plans or events. Within the context of radiotelephony communications, these descriptors can be understood as conditions, which diverge from intentional, routine and predictable aircraft operations.
- To provide appropriate management from standard phraseology to plain language. The Fluency descriptor refers to the change from studied or prescribed speech to natural interaction.
- Finally, though not linked necessarily to radiotelephony communications per se, both Vocabulary and Comprehension descriptors refer to a test taker's ability to talk about and understand 'work-related topics', which can be interpreted as any topic connected to the professional lives and activities of pilots and ATCOs, including communications on the radiotelephone.

2.2. Aviation English Training programs: Profiles and Background

According to the guidelines established by the ICAO for Aviation English Programs (ICAO, 2010), instructors must possess a qualification in Teaching English as a Foreign Language (TEFL), in addition toa certificate in technical or operational experience in Aviation training. The fact of counting with professionals on language teaching is a fundamental requirement for the course to be effective. Aviation English is an example of English for Specific Purposes (ESP), and the teacher of this subject must be aware of the goals and the learning strategies employed in ESP courses. As there is a difference in teaching General English to Aviation English, it is preferable to have trainers who know how to apply the most suitable teaching methods in ESP training programs (Wang, 2011).

2.3. Call for Aviation English Training according to the ICAO

The official organization in charge of the determining the requirements for any aviation English training program is the International Civil Aviation Organization (ICAO). According to the ICAO's manual related to Language Proficiency Requirements, Computer-assisted language learning (CALL) enables Aviation English training programs to practice the skills needed to perform flight operations(ICAO, 2010). The importance of computers in language acquisition is increasing due to their benefits, includes the access to updated websites that offer a variety of specialized visual material, resources for autonomous practice in specific areas of the language, interactive tools, internet access to investigate more information about linguistic elements found (online dictionaries) or on topics and themes being treated, access to platforms for completion of tasks related to Aviation English and having immediate feedback on certain aspects of language proficiency such as pronunciation and fluency.

The ICAO also remarks the importance of computers as supporting tools during the training process; nonetheless, this organization clarifies that any technological device could replace the role educators have in language learning. Computers are part of the instruments used for interaction among learners and instructors providing learners with the opportunity of practicing the language on their own. On the other hand, speaking as well as listening skills must be primarily developed in face-to-face sessions, particularly in the context of plain-language radiotelephony communications (ICAO, 2010).

The ICAO, on its manual for language proficiency, stipulates that training programs must motivate learners to be independent and autonomous, especially in tasks that require further research. Some of the advantages of applying CALL in Aviation English training are: length reduction of face-to-face instruction, the relationship between cost and teaching and learning effectiveness and independent, responsible and motivated learners(ICAO, 2010).

3. Methodology and Results

The method selected for this investigation is action research, which is aimed at finding solutions to problems derived from the methodology, the context, the students or any other educational agent(Wallace, 2006). It allows the investigator to get information from the learners' performance and determine whether it is effective or not. Taking this into account, the present study, apart from analyzing how the current ESP methodology may be affecting the process of learning Aviation English, it also aims to propose a solution if it is found that the methodology is the problematic field.

Action Research also focuses on implementing solutions to boost educational practices (Wallace, 2006). This method is suitable for this investigation since it permits the researchers to obtain reliable information from a specific educational scenery, which in this case involves not only the cadets, but also the Flight instructor, who are the target participants in the ESP module.

3.1 Participants

This study involves the flight instructor assigned for the module of Aviation English by the ESMA. It is important to remark that all the Ecuadorian Air Force Officers have a bachelor's degree in Aeronautical Sciences, and most of them have teaching experience in military subjects. It is not required to demonstrate the level of English that they possess, though. On the other hand, this study will also consider 15 pilot cadets of first year; there is only 1 female learner and 14 male cadets aged from 18 to 20, and most of them come from different regions of the country.

3.2 Data gathering instruments and procedure

The design for this research is a mixed method approach, so there are quantitative and qualitative instruments. In order to collect quantitative data: (1) a mock Aviation Test and (2) a survey was administered to the cadets. As for qualitative data, (3) an adapted semi-structured interview was applied to the instructor. The tests were scored in order to determine the level of Aviation English the cadets have after finishing the module at ESMA. ICAO's rating scale was applied to present the results on a table. As for the results of the survey conducted, these characterized the cadets' perceptions regarding teaching techniques used by the instructor during the ESP module. On the other hand, qualitative information was also necessary in order to identify the perception of the instructor regarding aspects such as: teaching methodology, organization of the syllabus, assessment of the ESP module, and the importance of Aviation English for Military pilots. Therefore, an interview related to these topics was carried out to analyze aspects that are essential in the process of acquiring knowledge.

3.3 Procedures

The first step in the process of data collection was to send a formal letter to the Officer in charge of the Academic Department to ask permission for applying the test and the survey to the 15 cadets of first year as well as to interview the Flight Instructor in charge of the Aviation English module. It is important to mention that this course takes place inside the hangars, which are restricted areas that can only be accessed by military personnel. For this reason, class observations and documents like grade reports of previous courses were not possible to be included as part of the data collection. The place assigned for the cadets of first year to take the test and survey was the English Laboratory. They were under the supervision of the researchers who explained the instructions of the test as well as the parameters and specifications of the survey. As for the interview, the Flight Instructor answered all the questions and explained the process of teaching Aviation English at ESMA.

3.4 Analysis of data

The first instrument that was applied to collect quantitative data was the mock Aviation English test. It was used to determine the level of Aviation English that cadets have after passing the course at ESMA. It is divided into five sections: Fluency, Comprehension, Interactions, Structure, and Vocabulary.

- The Fluency section presents 12 questions related to picture descriptions.
- The Comprehension section uses real life audios to test listening comprehension skills in eight questions.
- The Interactions, Structure, and Vocabulary sections consist of multiple-choice questions to test these skills, 10 questions per area are presented.

There are fifty questions on the test; therefore, it was doubled the score to calculate the results in terms of percentage in relation to the Extended level 5 that the ICAO details on the rating scale for Aviation English proficiency.

4. Results

The results of the mock test of Aviation English provide strong evidence that the level that cadets obtain at the end of the ESP course at ESMA does not reach the minimum requirements established by the ICAO on its manual for language proficiency -Operational 4-. Five out six language skills were tested in order to analyze the knowledge acquired during the ESP course taught at ESMA. The results of each skill reveal that there are some aspects regarding instruction that have to be reviewed to provide cadets with enough practice on specific terminology that could help them improve their learning on those areas. The results of the students' survey indicate that there are some aspects of the Aviation English module that need to be improved due to the fact that most of the participants believe that this course does not fulfill their needs as future Pilots. This can be caused by different factors, among them, the lack of an appropriate methodology for foreign language teaching.

The first-year cadets are aware of the role that the ICAO plays in the Aviation context; however, not all of them are familiarized with ICAO's Language Requirements, which means that among the topics listed in the Aviation English module, a presentation of this relevant tool in the world of Aviation must be included. Moreover, the skills which are evaluated in the ICAO's Rating Scale of Language Proficiency as well as the levels established by the ICAO for Aviation English must be analyzed. Tasks to develop fluency are considered as another aspect that needs to be enhanced in order to understand radiotelephony operations. This includes communicative tasks implemented in the module in which pilots must be able to exchange messages, recognize and resolve misunderstandings while flying, fulfill the cadets' expectations since the current speaking tasks do not. The methodology and contents of the Aviation English module must be revised and compared to the guidelines given by the ICAO for Language Proficiency. According to the participants of the course, computer-based activities represent a useful resource for the acquisition of an appropriate lexicon in the field of aviation. The instructor of the subject does not have a degree in English teaching. However, his personal experience when taking private Aviation English courses has allowed him to guide the cadets during this module. Plus, he has been assigned to teach military subjects; therefore, he realizes the impact of methodology in the field of education. The contents of the Aviation English module are selected by the instructor who is in charge and there is no specific teaching methodology; nevertheless, he considers that drills as well as grammar translation are the main techniques applied in class. The resources of the module are: the ICAO phraseology manual and the manual of Ecuadorian Air Force flight manuals. The instructor strongly believes that ICTs tools are the best option for this type of courses; in fact, he uses some online activities to complement some topics but some of them do not adapt to the cadets needs.

5. Discussion

The results of this research indicate that there are some aspects regarding the Methodology of the Aviation English module taught at ESMA that must be revised in order to be improved. Aviation English courses have their own methodology, teaching strategies must be carefully reviewed in order to develop the skills that pilots must possess for communicational purposes while flying(Alderson, 2008). The participants of this research are aware of the ICAO's importance in the Aviation field worldwide. Yet, not all of them are familiarized with the ICAO's Language Proficiency Requirements manual. In this regard, on the second edition of this manual, it is specified that any valid Aviation English training must be designed with specific tasks which allow learners to address the six language skill areas that can be found in the ICAO Rating Scale which are: pronunciation, structure, vocabulary, fluency,

comprehension and interactions (ICAO, 2010). Therefore, the instructor of the Aviation English module at ESMA must fully understand the guidelines established on this manual when selecting the methodology, content and tasks presented on the course. This document also stipulates that the training must also guarantee that students achieve proficiency in all six skill areas of the ICAO Operational Level 4 (ICAO, 2010). In spite of this fact, some participants do not consider that the activities developed in the course would prepare them to reach this level, especially because the tasks to develop fluency within the aviation context need to be improved to understand radiotelephony operations. Radiotelephony conversations are interpreted as the communication among pilots and air traffic controllers; these include exchanging of messages, recognition of misunderstandings as well as solving problems while flying (Wang, 2007).

Aviation English embraces (but must not be limited to) the phraseology manual established by the International Civil Aviation Organization (ICAO) as well as "plain language", which is also known as general English(Wang, 2011). Therefore, it is necessary that the instructors who are in charge of this module must possess not only expertise in flying an aircraft, but also in English teaching due to the fact that the role of the teacher in Aviation English courses is essential when combining plain language with the terminology and expressions detailed in the phraseology manual, especially in irregular circumstances as well as emergency situations (Kim & Elder, 2009).

In the guidelines for teaching Aviation English established by the ICAO, it is classified as English for Specific Purposes (ESP) and the communicative approach is the principal teaching methodology; nevertheless, the contents of the Aviation English module at ESMA are selected by the instructor in charge and there is no specific teaching methodology, but drills and grammar translation as the main techniques applied in class. In the communicative approach the subject matter to be taught must be developed through the application of communicative strategies which must be added in the module of Aviation English in order to ensure the correct use of technical expressions(Richards, J. & Rodgers, T. , 2001).According to the ICAO guidelines for the implementation of Aviation English courses, the course materials are required to be relevant researches and documents supported by the use of visual aids that allow learners to become familiar with aviation topics in order to create meaningful experiences(ICAO, 2010). Nevertheless, the activities developed in the course are mainly based on the two books used by the instructor: phraseology and aircraft manuals. This means that the teacher must include more materials such as: flight simulators, recordings of live traffic online or cockpit voice from authentic incidents.

The results also show the total acceptance of the participants in using tasks performed on the computer in the process of acquiring the lexicon needed for flight operations, and according to the ICAO's guidelines for Aviation English training, the use of Blended Learning for this type of courses can be a more efficient teaching approach since "foundation skills" (structure, vocabulary, listening comprehension and, to a certain degree, pronunciation) can easily be practiced in the autonomous hours of study inside of a lab or computer-based learning environments (ICAO, 2009). Trainers may use classroom sessions to reinforce topics which take more time to be studied.

Communication is challenging because miscommunication errors can easily take place in the aviation environment during flight operations; therefore, the Aviation English module at ESMA must be focused on developing communicational skills to understand and solve all possible situations while flying. For this reason, the module must be revised and adapted to the guidelines provided by the ICAO regarding Language Proficiency (Kukovec, 2001).

6. Conclusions

The methodology of the Aviation English module taught at ESMA must be adapted to an ESP course based on the requirements provided by the ICAO for Language Proficiency in order to develop the necessary skills that pilots must possess for communicational purposes while flying. The Aviation English module should incorporate specific tasks which allow learners to address the six language skill areas detailed in the ICAO Rating Scale which are: pronunciation, structure, vocabulary, fluency, comprehension and interactions; and the objective of the course must be reaching the Operational Level 4 established by the ICAO as minimum requirement for flying. The instructor of the Aviation English module at ESMA must fully understand the ICAO's manual of Language Proficiency due to the fact that the role of the teacher is to guide learners in the process of combining "plain language" or general English with the terminology and expressions detailed in the phraseology manual. The communicative approach must be the principal teaching methodology in the Aviation English module at ESMA.

The materials selected for the course must include relevant researches and documents supported by the use of visual aid ssuch as: flight simulators, recordings of live traffic online or cockpit voice from authentic incidents that allow learners to become familiar with aviation topics in order to create meaningful experiences. The implementation of Blended Learning in the Aviation English module taught at ESMA may represent a more efficient teaching approach in order to allow the students and teacher to use classroom sessions to reinforce topics which take more time to be studied.

References

Alderson. (2008). *Final report on a survey of aviation English tests.* Retrieved December 3, 2008, from www.ealta.eu.org/guidelines.

Estival, Farris & Molesworth. (2016). *Aviation English: a Lingua Franca for pilots and air traffic controllers.* London: Routledge, Taylor & Francis Group.

ICAO. (2009). *Guidelines for Aviation 45 English Training Programmes.* Cir 323, ICAO.

ICAO. (2010). Retrieved from Manual on the Implementation of ICAO Language Proficiency Requirements: http://teleduc2.icea.gov.br/EPLIS_wp/docs/Doc9835.pdf

Kim, H., & Elder, C. (2009). 'Understanding aviation English as a lingua franca: Perceptions of Korean aviation personnel' . *Australian Review of applied linguistics*, 23.1–23.17. doi:10.2104/aral0923

Kukovec. (2001). *Flying, Aviation English.* Ljubljana: Select CO d.o.o.

MacKenzie, D. (2010). *ICAO: A History of the International Civil Aviation Organization.* Toronto: University of Toronto Press.

Richards, J. & Rodgers, T. . (2001). *Approaches and Methods in Language Teaching.* Cambridge University Press.

Wallace, M. (2006). *Action Research for Language Teachers.* Cambridge teacher training and development.

Wang. (2011). *A Methodological Probe to Aeronautical English Vocabulary Instruction.* College of Foreign Languages, Civil Aviation University of China, Tianjin, China.

Wang, A. (2007). A Research and Discussion Note: Teaching aviation English in the Chinese context: Developing ESP theory in a non-English speaking country, English for Specific Purposes. *Science Direct, 26*(1), 121-128. Retrieved from https://www.sciencedirect.com/science/article/pii/S0889490605000864