RAE

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2. **TITULO:** DISEÑO Y EVALUACIÓN DE UN CURSO DE INGLÉS TÉCNICO AERONÁUTICO SIMPLIFICADO EN LA UNIVERSIDAD DE SAN BUENAVENTURA.
3. **AUTORES:** Andrés Alfredo Tamayo Cely y José Julián Cubides Domínguez
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6. **PALABRAS CLAVE:** Inglés con Fines Específicos y Evaluación de Cursos.
7. **DESCRIPCIÓN DE LA TESIS:** El objetivo principal de esta tesis es obtener la percepción de satisfacción que tienen los estudiantes con respecto al curso de Inglés con fines específicos ESP diseñado para un grupo de estudiantes de Ingeniería Aeronáutica de la Universidad de San Buenaventura.
8. **LÍNEA DE INVESTIGACIÓN:** Educación y Práctica Pedagógica.
9. **METODOLOGÍA:** Teoría fundamentada y metodología cualitativa para analisis de datos.
10. **CONCLUSIONES:** La evaluación de un curso de Inglés con fines específicos ESP que un grupo de estudiantes de Ingeniería Aeronáutica de la Universidad de San Buenaventura realizó, reveló que el curso implementado reforzó el aprendizaje y el uso del idioma inglés mediante el desarrollo de un proceso educativo basado en inglés con fines específicos (ESP). Los estudiantes destacaron la importancia de acceder a los cursos de Inglés enfocados al estudio de conceptos técnicos ya que consideraron que dicho conocimiento podría ser usado en un futuro trabajo relacionado a su campo.

DESIGN AND EVALUATION OF A SIMPLIFIED AERONAUTICAL TECHNICAL ENGLISH COURSE AT SAN BUENAVENTURA UNIVERSITY

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Thesis presented in fulfilment of the requirements for the degree of Bachelor of Arts in English Language

Advisor: Diana Milena Celis Vargas

M.A in Applied Linguistics to TEFL

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DEDICATORIAS:

A Paola, mi esposa y Andrés Felipe, mi hijo, motivadores e inspiradores de éste gran proyecto de vida. Ellos son la causa por la que hoy con alegría pueda dedicar este trabajo a ellos, al igual que a mi familia nuclear.

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José Julían Cubides Dominguez

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José Julían Cubides Dominguez

ABSTRACT

This qualitative case study aimed at designing and implementing an ESP course for a group of Aeronautical Engineering students of San Buenaventura University who later evaluated the materials, methodology and contents of the course. The Simplified Aeronautical Technical English course aims to strengthen the ability of English language learning in students with the active participation of all the stakeholders through reading comprehension, vocabulary, speaking and listening exercises regarding aeronautical technical material, thus developing new language skills that will help them to communicate in situations related to the aeronautical field. The data was collected during the 2017-2018 academic year.

Researchers interviewed the students after the activities carried out. The participants also completed a survey on the importance and personal opinion about this kind of courses. The participants answered questions about the methodology and materials used for the lessons, as well as the relevance of the topics included in the course.

The data were analyzed using the principles of Grounded Theory and the results obtained indicated the need and importance of implementing the course for all the students in the academic program. It is concluded that the contents of the course were rated by the students as appropriate. Besides, the materials and methodology used were also considered by the students as adequate. Therefore, this kind of courses should be part of the curriculum for Aeronautical Engineering students in the context of the research. Finally, it is suggested to increase the number of hours allotted for the course on a weekly basis.

Key words: English for Specific Purposes, Course Evaluation, Aeronautical Engineering Aviation, Technical English.

RESUMEN

El presente estudio de caso cualitativo se enfocó en el diseño e implementación de un curso de inglés con propósitos específicos para un grupo de estudiantes de Ingeniería Aeronautica de la Universidad de San Buenaventura quienes luego evaluaron la métodología, los materiales y los contenidos del curso. El curso de Inglés Técnico Simplificado pretende fortalecer la habilidad del aprendizaje del idioma inglés con la presencia de los participantes a través de ejercicios de comprensión lectora, vocabulario, escucha y habla basados en material técnico aeronáutico, desarrollando nuevas habilidades en el idioma que los ayudará a comunicarse en situaciones relacionadas con el campo aeronáutico. Los datos fueron recolectados durante el periodo académico 2017-2018.

Los participantes asistieron a las actividades descritas, las clases fueron grabadas para dar soporte a la información. Adicionalmente, los investigadores entrevistaron a los estudiantes después de haber llevado a cabo las actividades de comprensión lectora, de escucha y comunicación oral. Los participantes también diligenciaron una encuesta acerca de la importancia y opinión de este tipo de cursos y evaluaron la metodología usada y la pertinencia de los contenidos para la práctica profesional de Ingeniería.

Los datos fueron analizados utilizando los principios de “Grounded Theory” y los resultados obtenidos muestran la necesidad de implementar el curso para todos los estudiantes de Ingeniería Aeronáutica en el contexto donde surgió la investigación, de manera que el curso haga parte del currículo. Los resultados demuestran que los estudiantes evaluaron los contenidos del curso como relevantes y los materiales y la metodología usados en el curso fueron evaluados como adecuados. Los participantes consideraron que este tipo de cursos deben incluirse en el

currículo del programa de Ingeniería Aeronáutica en el contexto de la investigación. Finalmente, se sugiere aumentar la intensidad semanal del curso.

Palabras clave: inglés con propósitos específicos, evaluación de cursos, ingeniería aeronáutica e inglés técnico.

1. IDENTIFICATION OF THE PROJECT

This research project was carried out with the purpose of designing and implementing an English basic course in the aeronautical program at San Buenaventura University to promote communication about different topics included in the aeronautical program and identify the satisfaction of the participants about the course.

1.1. Title of the Project

Design and evaluation of a simplified aeronautical technical English course at San Buenaventura University

1.2. Faculty and Academic Program

This research proposal belongs to the Facultad Humanidades y Ciencias de la Educación and it is part of Programa de Licenciatura en Lengua Inglesa.

1.3. Group and Research Line

Research Group: Faculta de Humanidades y Ciencias de la Educación.

Research Line: Educación y Practica Pedagógica.

1.4. Topic

English for Specific Purposes refers to the teaching process with academic or professional purposes that differs from traditional English. English for Specific Purposes focuses on specialized tasks and inherent themes based on the students' requirements. This may be conditioned to language skills, in other words, the teachers must consider the needs of their students; for example, it is not the same to teach English to pilots or air traffic controllers and to teach aeronautical maintenance personnel or engineers. The first ones need to develop mainly

listening and speaking skills, while the second group needs to focus on reading comprehension and vocabulary.

Given that English for specific purposes defines the specific requirements of students, it also uses a methodology and activities specific to the discipline it serves.

1.5. Project Tutor

Diana Milena Celis Vargas holds a Bachelor degree from Universidad Nacional de Colombia in Philology and English and an M.A. in Applied Linguistics to TOEFL from Universidad Distrital. She has been working at the university level for 9 years teaching English, Linguistics, and French as well as a thesis advisor. Her research interests come from her experience in evaluation of speaking in educational settings. Currently, she is a full-time teacher at San Buenaventura University.

1.6. Researchers

Andrés Alfredo Tamayo Cely

Jose Julian Cubides Dominguez

2. INTRODUCTION

Safety experts are constantly seeking to identify means of improving safety in order to reduce the already low accident rates. With mechanical failures featuring less prominently in aircraft accidents, more attention has been focused in recent years on human factors that contribute to accidents. Communication is one human element that is receiving renewed attention.

In 1998, the ICAO Assembly, taking note of several accidents and incidents where language proficiency of all personnel involved in aviation was a causal or contributory factor, recommended the Contracting States to take steps to ensure that all personnel involved in aviation operations where the use of the English language is required are proficient in conducting safety operations. (“Standard: ICAO 9835," 2010)

Simplified English can be defined as a subset of conventional English designed for specific purposes. However, it is not the first controlled language that has been developed. The company Catapillar defined it in 1971 as "Fundamental English"; later on, in the aeronautical field, McDonnell Douglas edited a "Technical Dictionary" in 1979, which included a list of approved terms (Philiph Shawcross).

The Simplified Aeronautical Technical English Course was specifically designed for students of Aeronautical Engineering at the University of San Buenaventura. The learners were able to develop skills in order to improve understanding of texts and aeronautical material. The students were guided by a teacher who had a good command of both areas English and Aeronautical Engineering, and focused students' needs on practical topics in order to have better prepared professionals in the aeronautical industry. One of the relevant factors that motivated the

research project was the fact that nowadays English is the universal language spoken worldwide, and that aviation has not been unaware of this situation since all aeronautical products and processes are part of that universal language. The Simplified Aeronautical Technical English course aimed at including some topics already studied in aviation in order to acquire the technical vocabulary through discussion spaced around aviation.

Classes were held at the University of San Buenaventura four hours per week, each session covered among others, aeronautical issues such as, major components of an aircraft, aircraft systems, and aviation engines. This generated a new vocabulary environment for the students, which in turn guided the classes towards talks and technical discussions, where the central axis was aviation, encouraging the students to create new learning environments around aviation. Perhaps the biggest obstacle that the project faced was the fact that this was a free course without repercussion in the academic process of the students of Aeronautical Engineering so it caused discouragement in the attendance and continuity of the course. It is also important to mention the English level of the students, bearing in mind that the classes were entirely in English and about aeronautical subjects. Students were expected to have a B1 English level since they had studied English at school and during the first semesters of their academic programs. However, most of the student-participants that joined the course didn't have the expected level. This is not surprising since many professionals graduated from Aeronautical Engineering who are currently working in the aviation industry, such as Pilots, Aeronautic Engineers, maintenance personnel, dispatchers and flight attendants have English levels that do not even meet an A2 within the Common European Framework of Reference. This project was carried out with the purpose of designing and implementing a course in the aeronautical program at the University of San Buenaventura to encourage the acquisition of technical vocabulary and identify the

satisfaction of the participants with respect to this acquisition. Therefore, the project includes the following chapters. In the first part, the identification of the project is indicated. Chapter 2 presents the introduction, where the general guidelines of the investigation are found. Subsequently, chapter 3 identifies the description of the project, the question that guided the research and the research objectives. Chapter 4 is identified with the theoretical framework, leading to the orientation of meaningful learning and the strengthening of English for aeronautical engineers. In chapter 5, we explain the study type, the context where the research was conducted, we name the participants that contributed to the research, explain the data collection instruments, and finally in the instructional design we show the syllabus with all the classes included in the English Course that was implemented with the ICAO operational manuals and the expertise of one of the teachers that is a Commercial Pilot. Chapter 6 shows the data analysis procedure. In that chapter there is information about the data collection instruments that were used to code and extract the students' opinions, the categories, opinions that were obtained, and some comparative studies that were relevant in this research. Chapter 7 shows the conclusions and implications of the course expressed by the researchers' opinion and finally in chapter 8 we explain the limitations and further research.

3. DESCRIPTION OF THE PROJECT

3.1. Statement of the Problem

In a multicultural and plural world, understanding, interaction of cultures and living together with others must be the crucial point of respect and equity, as well as support, integration and interchange between cultures. Therefore, the knowledge of a second language must imply that understanding and interaction with different people.

The purpose of this study was to provide Aeronautical Engineering students with tools such as technical vocabulary, specialized readings and talks in order to face a competetive industry taking into account the lack of this kind of courses into the curriculum at San Buenaventura University, which was identified by the researchers through the surveys applied to the students and by reading the curriculum of Aeronautical Engineering.

The student-participants of this research joined an English course desgined to help them learn technical English. The participants experienced a learning process held in the presence-based modality supported also through a virtual learning environment. This also helped to promote an autonomous development of the students and improve their creativity and collaborative work. We also considered the “Pillars of Education for the XXI Century” stated by UNESCO such as: “Learning-learn; Learning-making; Learning-being; Learn-To live” That is to say; such knowledge is learned, implemented and analyzed. Students also reflected upon their roles as social beings and thought about how to respect and how to understand each other, considering the differences between one and other.

As a result, this project intends to leave a legacy for both the institution and future students of Aeronautical Engineering in order to improve their reading comprehension skills,

technical vocabulary and interpretation of manuals in order to have better professionals in aviation. As experience gained not only as an English teacher in different training centers and aviation academies to train pilots, maintenance personnel, flight attendants and dispatchers but also as a pilot in more than ten years of experience, I have observed that aeronautical professionals keep on repeating the same mistakes that were once corrected in those training centers. Same happens with the Aeronautical Engineers that work for important aviation companies ignoring the basic technical terms and misunderstanding repair manuals and troubleshooting.

Finally, and considering the above mentioned, it was the concern and interest of this research proposal, to train qualified professionals able to communicate properly not only with technical knowledge but also ethically compromised in their classrooms and in their jobs.

In accordance with the above statements, the following question was formulated which guided the research project.

3.2. Research Question

What is the result of Aeronautical Engineering students´ evaluation at U.S.B. regarding the design and implementation of a Simplified Aeronautical Technical English course?

3.3. Objectives

3.3.1. General Objective.

To analyze the evaluation of sixth semester students of Aeronautical Engineering about the design and implementation of a technical English course based in English for Specific Purposes at the Univesity of San Buenaventura.

3.3.2. Specific Objectives

- To identify the characterisitcs highlighted by the students about the design and implementation of the Simplified Aeronautical English course.
- To describe possitive aspects and drawbacks derived from the students' evaluation of a simplified aeronautical technical English course at San Buenaventura University.

3.4. Rationale

In a competitive industry, those who show more abilities and training for a specific work are the ones who succeed. For this particular case, the participants of the research will have a significant number of new words and vocabulary to face the aviation sphere. This will lead to arouse student´s interest on reading more about their field of study which will contribute to the acquisition of knowledge that benefits Aeronautical Engineers to be more competitive at work not only in local airlines but also in international ones.

There is an overall need to study not only general English but also English for Specific Purposes that allow students to better develop professionally and the University of San Buenaventura does not offer this kind of courses in any of the programs. In this case a survey was conducted with Aeronautical Engineering students and positive results were obtained.

If the Simplified Aeronautical English Course is implemented in the curriculum of Aeronautical Engineering, the university will graduate better professionals which will be highlighted by the aviation industry giving a goodwill to the program. On the other hand, the university might offer the Simplified Aeronautical English Course to other universities and aviation companies as an additional course which can also be worthy in financial terms and the campus will also be recognized for its high level of professionalism in the Aeronautical Engineering program.

English teachers and universities will realize the importance of implementing English for Specific Purposes in the curriculum of every single program giving students the chance to learn the vocabulary and expression used in each particular academic program.

3.5. Literature Review

Many documents have been read and checked to fulfill the RAE requirements; however, regarding aviation only technical reports and recommendations have been issued.

English is today the universal language not only for day-to-day communication, but also for big business and the aviation field is no stranger to this situation since communication between pilots and flight controllers is done in English. Large aircraft manufacturers and aeronautical products publish their manuals in English, maintenance and repair manuals are written in English. Therefore, all personnel involved in aviation must have an English level, not only grammatical and conversational but also technical, mastering a large number of keywords, specific to their areas of work, in order to ensure a correct understanding and application of them in each of their responsibilities and duties.

Although there are internationally recognized entities for accreditation of schools where English as a foreign language is taught as well as certifications of the competence of English teachers, there is no accreditation or certification systems for institutes and teachers who organize and teach technical English, in other words teaching English for aviation is an unusual activity.

However, teaching technical English has objectives, content, criteria regarding competence of users as well as specific and professional interests that distinguish it from teaching languages in any other field of human activity, thus:

- The language is intended to ensure unambiguous communication between its participants (pilots, engineers, flight attendants, maintenance personnel, dispatchers)
- A very specific set of vocabulary and expressions are used.
- The final criteria for evaluating are based on operational effectiveness.
- Communication can be oral or written.

Considering that English is the language most commonly used by the world aeronautical community, the focus of attention is to improve spoken English levels and comprehension of written material.

Table 1 – RAE 1

Year	2018
Reference	KHOIRUNNISA KHOIRUNNISA; SUPARNO SUPARNO; SLAMET SUPRIYADI, ESP Teacher's and Students' Perceptions on Teaching Speaking for a Tourism Program, DINAMIKA ILMU Vol. 18 No. 1, 2018 P-ISSN: 1411-3031; E-ISSN: 2442-9651 doi: http://dx.doi.org/10.21093/di.v18i1.945
Type of document	Article

Description	The study focuses on English for Specific Purposes in a private Vocational Secondary School in Surakarta. This study is about the perception of English teaching for a Tourism Program. The study talks about the necessity of English in the Tourism Industry and also mentions the English Speaking as a main reason to teach and design an ESP course, it also shows the importance to use English in the different practical activities that a student of Tourism has. Additionally, it referenced the variety of learning activities in order to desing an ESP course. The study used a case study method concerned with the Students´ and Teacher´s perceptions based on ESP for tourism.
Conclusions	The study mentions that ESP is important and the participants including the teacher expressed that speaking skills are extremely necessary to Tourism Students and their own future career. However, the other basic skills in English are important too and the teacher expressed that the methods can vary, focused on the necessity of students and the skills to be developed. The idea of ESP in this course is to help students understand what they are going to learn, how they will improve their knowledge, use, interaction, etc. in order to build guiding skills in English.

	Finally, the study affirms that teaching English for Tourism Students is important in order to reinforce English skills especially for tourism purposes.
Contribution to the project	When it comes to teaching English for Specific Purposes, teachers need to organize material and activities based on individual needs. They also have to take into account the students´previous knowledge of grammar, vocabulary and speaking in order to organize groups with the same English levels in order to make the course more efficient for the students.

Table 2 – RAE 2

Year	2018
Reference	HAIYUN GU ; LEI REN, Enhancing the teaching effect of ESP for engineering students with interactive tools based on WeChat, Published in: 2018 IEEE Global Engineering Education Conference (EDUCON), DOI: 10.1109/EDUCON.2018.8363313.
Type of document	Article
	As a prerequisite for EMI (English as Medium of Instruction) specialized coursed, ESP (English for Specific Purposes) is supposed to help the engineering students learn the academic

Description	vocabulary and terms, discuss the related topics, and improve their research skills. The study used an interactive tool called Wechat which is the most popular social app in China. Wechat is a public platform which provides an efficient way to share and spread information. In order to enhance the teaching effect and the student engagement, two Wechat-based interactive tools, Rain classrooms and Formtalk were adopted in the ESP classroom for 40 electronic engineering students. The students´ feedback were also collected by the interactive tools before, during and after the lectures.
Conclusions	The study demonstrates based on the evaluations with the students' feedbacks, the importance of using technology and interactive teaching tools in ESP, and how the technology improved the students' interest in the learning process and enhanced the ESP teaching process outcomes. Additionally, it shows the importance of designing an ESP as an educational project, because the paper is supported by the Project of Shanghai Model EMI Course for international students, and the Project of EMI Engineering Course at Shanghai Maritime University.

Contribution to the project	Technology and virtual platforms may also be used when teaching English for Specific Purposes since it motivates students´ learning process. Although Wechat may not be widely used outside China, some other platforms and social networking have become a very important part of students´everyday life and thus teachers nowadays must be aware of this fact in order to assign homework or paperworks using this kind of technology.

Table 3 – RAE 3

Year	2015
Reference	ROSEMARY WETTE; SUSAN J. HAWKEN, English for Specific Purposes, ISSN: 0889-4906, Vol: 42, Page: 38-49.
Type of document	Article
Description	At the University of Auckland, a group of medical students had the chance to take a course in English for Medical Purposes (EMP) in order to assist develop knowledge and skill in this area. Data were gathered from pre- and post-course tests of written knowledge and simulated medical interviews. Results from both test types indicated that students had made progress in their

	knowledge and ability to ask questions and respond appropriately.
Conclusions	Medical students didn't have a good command of vocabulary and expressions used in their field. When the course finished, participants felt more confident when establishing a conversation with their patients. Clinical Communication Skills (CCS) is part of the curriculum in that university, but it was a non-mandatory course, therefore participants attended on a voluntary basis, some of them didn't attend regularly due to heavy work and study loads. Two teachers and assessors of communication skills participated in the study. The language educator LE (Wette) had experience on designing and teaching a number of different EMP courses for undergraduate and qualified medical professionals. The medical educator ME (Hawken) is a qualified general practitioner and communication skills specialist, and at the time of the study had overall responsibility for CCS training for students in the undergraduate medical program.

Contribution to the project	In terms of interest in educational accountability of particular interventions, this study has shown that a relatively short course can have a noticeable impact on knowledge of vocabulary and commonly used technical language, and also to some extent on the sophisticated communicative competence required to effectively manage ESP. The significant gains in students' post-test achievement confirm the value of instruction in informal vocabulary and frequently used formulaic language. Students attending ESP courses should be evaluated at least twice, one exam should be taken at the beginning of the course and the other at the end thus the administrator can keep track of the students' progress.

4. THEORETICAL FRAMEWORK

Humans are communicative beings since they are the axis of social relations. Through communicative processes, they establish all kinds of social reciprocity as the primary axis of cognitive development because information is sent and received in a constant way. So, in a multicultural and intercultural world that leads to globalization we see the importance of knowing several languages, considering the different angles in which the individual moves: family, socio-cultural, economic, labor context, and political among others. Therefore, English language is considered a fundamental element in the various activities of interrelation carried out by the current man. Consequently, learning English for Specific Purposes (ESP) in the last decades has played an important role and has managed to occupy a respectable place in the field of teaching English as a foreign language. Candlin, cited by Bueno Velazco and Hernández Más, considers the ESP as a discipline within the teaching of foreign languages (2002).

From the above considerations, it should be noted that ESP is not recent but it goes back to the sixteenth century by the diversity and interrelation between cultures and it has become consolidated over time as an important axis in the training of future professionals where there is a great motivation in the students´ learning process. ESP focuses on the learning of a language based on the students´needs and the Programs of English for Specific Purposes are being oriented to satisfy the needs of the students due to the demands of the working world. So, this project guides its theoretical reference to the needs of Aviation professionals, it is focused on developing communicative skills of the English language as in this case the course "Simplified Aeronautical Technical English Course At San Buenaventura University".

As a result of the above approaches, the following theoretical guidelines stand out that supported this research project of English for Specific Purposes.

4.1. English for Specific Purposes

The birth of English for specific purposes can be traced back to the sixteenth century due to the need for Huguenot traders and Protestant refugees who arrived to England, focused on a process of commercial use. One of the first attempts to develop the English process for specific purposes was also carried out through a course for Spanish-speaking doctors written as "English for Doctors and Medical Students" written in 1949 by Brown Girl. Subsequently reports show that the educational process for specific purposes appeared later; however, the process was developed until the 1960s and 1970s with books such as Special-Purpose Language Learning: A Perspective and; Language Teaching & Linguistics. Strevens, P. (1977). Additionally, they indicate that thanks to the project of modern language of the European Council, the development of this type of education was useful, since the education was centered like something functional. (Bueno Velazco, 2002)

English for Specific Purposes refers to the teaching process with academic or professional purposes that differs from traditional English. English for Specific Purposes focuses on specialized tasks and inherent themes based on the students' requirements. This may be conditioned to language skills; in other words, the teachers must take into account the needs of their students; for example, it is not the same teaching to pilots or air traffic controllers. The main skills that the latest need to develop are listening and speaking, while aeronautical maintenance personnel and aeronautical engineers may need to develop mainly reading comprehension and vocabulary, referring to English for Aviation with two different approaches.

Richard and Schmidt (2010) define Language for Specific Purposes as “second or foreing languages used for particular and restricted types of communication (e.g. for medical reports, scientific writing, air traffic control) which contain lexical, grammatical, and other linguistic features which are different from ordinary language” (p. 321).

Richard and Schmidt (2010) also add that the “content and aims of English for Specific Purposes course are fixed by the specific needs of a particular group of learners” (p. 198).

The state that English for specific purposes results from the research progressed according to the social, economic and cultural needs of population, as well as the technical requirements of the productive field and international interchange. They also mention that specific needs of students in a given context play an important role in teaching English for Specific Purposes. (Centro Virtual Cervantes cited by Texidor and Reyes, 2015)

English for Specific Purposes focuses on the teaching-learning process which aid in mastering specialized communication; in other words, the language used by professionals of certain fields. Other Authors define English for Specific Purposes as an approach to learning a language which is based on students´needs. Similarly, Evans and St. John (1998 cited by Texidor and Reyes 2015) say that English for Specific Purposes is designed to meet students´ needs, however they emphasize that an appropriate methodology must be used in order to achieve the goals expected. While Mackay and Mountford (1978) consider that ESP courses need to meet a utilitarian purpose. That is to say that English should be taught to achieve specific language skills using real situations, in a manner that allows them to use English in their future profession, or to comprehend English discourse related to their area of specialty.

Generally, the students study English "not because they are interested in the English Language or English culture as such, but because they need English for study or work purposes" (Robinson,1991:2) In ESP, "language is learnt not for its own sake or for the sake of gaining a general education, but to smooth the path to entry or greater linguistic efficiency in academic, professional or workplace environments" (Basturkmen, 2006:18). This denotes that, the role of ESP is to help language learners to build up the needed abilities in order to use them in a specific field of inquiry, occupation, or workplace.

Given that English for specific purposes defines the specific requirements of students, it also uses a methodology and activities specific to the discipline it serves. "The methodologies of ESP teaching conform to the same model of the language teaching process as does any other form of language teaching. That is to say, the basic teaching activities are these; Shaping the input; Encouraging the learners‟ intention to learn; Managing the learning strategies and Promoting practice and use". (Strevens,1988:44).

In ESP teaching, some basic elements have to be taken into considerations, the most important of which are the learner needs, goals and motivation. Furthermore learners´ attitude towards learning and learning strategies are emphasized and seen as fundamental to the ESP process.

As stated above, the materials used when teaching English for Specific Purposes may need to be adapted for students through varying degrees of changes in style, register and vocabulary or through the addition of pre-reading and pre-listening activities. (García and Frances 2015). Consequently, it means that it is necessary to use different activities to strengthen the learning of this language.

4.2. Design of English for Specific Purposes Courses

English for Specific Purposes programs within the curriculum of the universities must be designed to meet the needs and interests of students whose professional profile responds to the demands of their labor market. This means that teaching English for Specific Purposes must fulfill an instrumental role, which serves as a tool to be used by the students allowing them to be in the forefront with the latest advances in their profession. According to Delmastro (2000), English for Specific Purposes courses must fulfill a general objective which is to develop in the student reading comprehension skills for the extraction of information related to the specialty of the student.

And it is precisely the student's specialty that creates the need and interest of the participants; the needs determine the general and specific objectives, which will influence the implementation of the subject in terms of selection of contents and activities. The program in its most limited sense becomes a reasoned description of the purposes, objectives and contents of the course, organized in a sequenced manner for its development and implementation. Richards (1985), refers to a broad concept and a restricted concept of the program. The restricted concept establishes a difference between the design of the program and the methodology; the design is limited to the selection and organization of contents, while the methodology refers to the selection of tasks and learning activities, Nunan (1988), states that the design of a good program depends on three basic factors: a) the adequate understanding of the instruments and planning process, as well as the programs design and the way they relate to the methodology, b) a total clear and realistic vision of the teaching-learning context where the teacher will work; and c) the willingness of the teacher and participants to modify, adapt or improve the program.

However, designing an effective ESP course is governed by further parameters that have to be examined first. According to Miliani (1994), after his exploration of the Algerian context, he stated that four essential points have to be studied and analyzed as a pre-design process, which consist of:

a. Situational analysis: it includes the general requirements of both learners and institutions, their profiles and attitudes, also the existing materials.

b. Setting Aims and Objectives: the identification and analysis of learners' needs lead to setting up general objectives that would be achieved at the end of the course.

c. Generating Syllabus Content: organizing the syllabus content through the sequencing of materials whose layout and presentation should form a continuum.

d. Assessment: gathering data regarding syllabus before or during the course implementation let to readjust the content of the syllabus.

The authors mentioned agree on the idea of identifying and analysing learners´ needs. Therefore, the development of an ESP course should be in line with learners´ requests and wants. Thus, needs outcomes will operate as a guide for the teacher in designing a suitable syllabus, producing course materials as well as teaching and testing methods.

From the aforementioned, we followed a similar pattern with the Simplified Aeronautical English Course at San Buenaventura University. First, we identified a need for technical English courses for Aeronautical Engineering students in the Univeristy of San Buenaventura. We surveyed a group of students to find out if they were interested in an English course that addressed technical vocabulary. Since the group of students were interested in the course, we

wrote down the syllabus and gathered the material needed to teach the classes. At the end of the process a survey was carried out in order to evaluate the teachers and the process itself.

4.3. Course Evaluation

According to Fernandez (2014), evaluation is often considered as an emission of judgments about "something" specific that involves a process, but there are many meanings to refer to what evaluation is. Evaluation in the educational practice should be understood as that permanent process of construction of teachers, students and all the actors that in one way or another take action in the academic context in a coherent way with the teaching-learning process that is followed in the classroom. Then the concept of evaluation refers to the action and the consequence of evaluating, it is a verb whose etymology goes back to the French évaluer which means to indicate, to value, to establish, to appreciate or to calculate the importance of a certain thing or matter.

ESP courses need to be evaluated in order to find out whether the sets of objectives designed were achieved or not, to reach the course aims. Course evaluation provides the teacher with feedback on the efficiency of the course, the teaching methods and materials; and the improvement of the necessary revisions in the ESP course design.

Course evaluations or students ratings are one of the most common tools used to assess classroom teaching (Wright,2006; Seldin, 1999; Centra, 1979). There are many terms used to describe student course evaluations; however, Wright (2008) has suggested that the most appropriate term for end-of-course summative evaluations used is “student ratings of instruction” because this most accurately reflects how the instrument is used.

Some scholars name the common characteristics of evaluation tools. One of them, show us and present the evaluation based on their research on the development and use of course evaluation instruments:

> The historical and traditional method of evaluating instruction in university classes is to have students provide feedback on "effectiveness" using a "cafeteria-style" rating scale… Traditional "cafeteria-style" course evaluation systems have similar characteristics: a) an instrument is developed, comprised of a series of open-and closed-ended questions about course content and teaching effectiveness; b) at least one item addresses "overall" effectiveness; c) written comments about the course content and the effectiveness of the instructor is solicited; d) anonymity of responses is assured and assumed; e) responses are obtained at the end of the term in the absence of the instructor; f) item and scale responses are summarized across instructors, departments, and colleagues and evidence of "teaching effectiveness" used in making various professional development decisions and (g) student (for example, GPA, academic year), course (required, graduate), and instructor (novice, experienced) differences largely are ignored in analysis and reporting of scores reflective of effectiveness.
>
> (Algozzine et al, 2004, p. 135)

The various items included on the course evaluation forms assess different and separable aspects of an instructor´s teaching behaviours and the course. Generally, students assess each of these individually, ranking some more positively than others (Beran, Violato and Kline,2007).

Course evaluations forms are most commonly distributed at the conclusion of a particular unit of instruction. They are almost always anonymous and most frequently

incorporate both qualitative and quantitative responses. At some institutions a standardized form is available for use within all courses, whereas at others forms are customized.

Items on course evaluations seek information about course design and delivery and instructor behavior. Cashin (1995) notes six elements that commonly appear on evaluations: 1) questions about the course content; 2) questions about the instructor´s communication skills; 3) questions about student-teacher interaction; 4) questions about course difficulty and workload; 5) questions about assessment practices in the course; and 6) student-self assessment questions. Similar measures of teaching effectiveness have been identified by Braskamp and Ory (1994) and Centra (1993) and in the Individual Development and Educational Assessment (IDEA) evaluation system developed by R. Cashin at Kansas State University. These include course organization and planning, clarity/communication skills, teacher student interaction/rapport, course difficulty/workload, grading and examinations and students self-rated learning. Except by the student-self evaluation all these features to evaluate courses were taken into account at the Simplified Aeronautical English Course with an excellent qualification given by the students who attended the classes.

Algozinne et al. (2004), however, note that most standard end-of-term course evaluation forms do include an opportunity for students to include written comments. In these cases, although qualitative data is collected, it is often not effectively interpreted, analyzed, or incorporated into summative evaluation procedures. Some faculty place more trust in the qualitative responses to open-ended questions provided by students than in the quantitative ratings; others claim the opposite. However, studies have shown that there is a correlation between the qualitative and quantitative ratings (Cashin,1995). For the present study, students'

answers to open-ended questions were taken into account since they were mainly about suggestions to improve the course offered.

5. RESEARCH DESIGN

5.1. Type of Study

This is a qualitative case study that aimed at finding out the participants' evaluation on the course designed and implemented for a group of Aeronautical Engineering students at Universidad San Buenaventura. This research has the characteristics of a case study since it presents the evaluation that a group of students made on an aeronautical English course at a private University in Bogotá. The research presents the students' opinions of the course in the context explored, studying the case in a particular way. Then, "The real task of the case study is the particularization, not the generalization, you take a particular case and you get to know it well, and not primarily to see where it differs from the others, but to see what it is, what it does " (Stake 1999, p.20)

The study inquired about the different perceptions and opinions that students had about an ESP course. Having said that, we expected to understand or interpret the students' opinions about their experiences during the course, looking for introspection. Through interviews, and surveys we asked the participants of the research to evaluate if the course had met their needs. Regarding the main features of qualitative research, it is to capture the reality of the group being studied, in this case the Aeronautical Engineering students in the Simplified Aeronautical English Course at San Buenaventura University.

5.2. Context

The research was conducted in a private university in Bogotá. The language center of that university offers English courses to all the students of the university. The language center where this research took place was funded in 1708.

The English programs are organized according to the contents of the book, "Modelo Pedagógico Referentes conceptuales, lineamientos curriculares y de flexibilidad", which was designed under the parameters of the Common European Framework of Reference. In consequence, the English programs promote the teaching and learning of the language based on the communicative approach and English for General Purposes.

5.3. Participants

Aeronautical Engineering students at U.S.B. with whom the research project was carried out, have an average age of 22 years old, they are taking classes between fifth to ninth semesters. As a prerequisite, in order to be able to enter the university students need a high school degree, which means that the students have studied eleven years of primary and secondary school where English is part of the academic curriculum. Considering that none of them studied in a bilingual school, the average number of English lessons per week can reach up to ten hours. Considering the above, the students' English level must be at least B1 having as reference the Common European Framework. Additionally, Aeronautical Engineering students at U.S.B. continue their English studies within the curriculum offered by the academy with an average of four hours per week and a studies program divided as follows; Basic I, Basic II, Intermediate I, Intermediate II, Advanced I and Advanced II. However, the subject offered by the university does not include English for specific purposes within the program, in other words,

technical English specialized in aviation. Based on the aforementioned, we designed and implemented this specific course for a specific group of Aeronautical Engineering students in order to help them practice technical English within a purely aeronautical environmnent.

5.4. Data Collection Instruments

The methods used to carry out the process are defined as semi-structure interviews, questionnaires and surveys. Defining what an interview is might be a bit complicated considering that the practice of interviewing at social level is seen from different perspectives and depends on the position that we have in front of the research that is going to be done. Alonso (1998) defines an interview as: "a conversation between two people, an interviewer and an informant directed and recorded by the interviewer with the purpose of favoring the production of a continuous conversational discourse with a certain line of argument not fragmented, segmented, pre-coded and closed by a previous questionnaire of the interviewee about a subject defined in the framework of the research". We must bear in mind that the interview can be developed in two ways. In a structured way, developing a pre-established questionnaire with a standard sequence, with a fixed number of questions and generally in the same order and a semi structured one which requires to have an interview guide prepared, this is a list of questions and topics that need to be covered during the conversation. Semi structured interviews also allow informants the freedom to express their views in their own terms. For this study a semi structured interview was also carried out during the research in order to know the students perception about the contents, methodology and materials used. (Appendix4).

For this research, we also used a questionnaire as a technique to collect data. This technique is used in research because it does not generate a high cost for the development of the interview. In addition, this process can reach different participants facilitating the data collection process thus being able to quantify and obtain a quick analysis of them. Hernández Sampieri (2010), states that "the instrument most commonly used to collect data is the questionnaire". For this study, a questionnaire was used to gather data about the students´evaluation of the contents, methodology and materials used in the Simplified Aeronautical English course. (Appendix 3)

A survey process was also carried out in order to determine the feasibility of the course before starting it. This data collection technique is practical and additionally, it is a great tool for the research process. In this way a verification process is carried out in order to show the need that was being raised at the university, denoting that a number of students from San Buenaventura University were interested in having an ESP course. In order to inquire about the students´ needs, a survey was carried out using the Google Forms platform, in which students were asked through a survey of 7 questions their age and sex. The feasibility of an additional English course related to aviation, the schedule in which they might be interested, their technical English knowledge, their preference in specific skills such as listening, writing or reading or all of the aforementioned. Questions about students' likes regarding topics of study, such as aerodynamics, aircraft system aircraft regulations meteorology, aircraft performance, navigation and so on. The information collected was used to determine the content and schedule for the aeronautical English course (Appendix1. Encuesta Curso de Inglés Técnico Aeronáutico).

Halfway through the educational process order to inquire about the students' evaluation of the ESP course implemented, a survey was carried out using the U.S.B. model. The students

were asked through a survey of 21 questions about different aspects that they answered conscientiously according to the project that was being carried out. First, they were asked for academic aspects, second administrative aspects and finally they were asked about the general performance of the teachers who taught the course (Appendix 2).

5.5. Instructional Design

In order to understand how the classes were taught, it is important to define that we used a PPP sequence. PPP stands for presentation, practice and production and it is a model used to describe typical stages of a presentation of new language. The practice stage aims to provide opportunities for learners to use the target language. On the other hand, in order to collect the information in the presentation stage, the teacher introduced the material and explained it. In this stage, new vocabulary was also introduced so that students started to become familiar with the new topic.

Next, in the practice stage, students had opportunities to apply the new language with guidance and support. Students practiced smaller parts or segments of the new material and progressively included more.

Finally, in the production stage, the teacher encouraged the students to use the new language in context through activities or tasks they completed with minimal teacher assistance.

At the beginning of the class, the teacher was the one who spoke the most. Later on with the introduction of new topics, the teacher created discussion environments in order to force students to speak and put into practice the new vocabulary learned promoting students talking time.

In order to grab students´ attention, the classes started with warm-up activities such as videos, audio files or by showing some pictures in order to create discussion environments.

Since grammar or pronunciation mistakes appeared through the discussion stages, the teacher chose methods that guided students without making them feel they had done something wrong. For example, if a student mispronounced a word, the teacher repeated the word to reinforce the correct pronunciation. On the other hand, if a student did not know the meaning of a word, the teacher encouraged him/her to look for synonyms in order to express the same idea.

5.5.1 Syllabus

5.5.1.1. Course description

The Simplified Aeronautical English Course pretended to create an English for Aviation environment where Aeronautical Engineering Students at San Buenaventura University learnt new vocabulary and practiced topics related to aviation in order to reinforce their English skills as well as their knowledge in aviation. Among others, the class covered basic Aerodynamics, engine systems, fuel systems, fire protection systems and some additional topics focused on aviation. The contents, materials and methodology used for the course were carefully planned by the researchers of this study.

5.5.1.2. Objectives

Education is not only a matter of transferring knowledge, education should also motivate students to learn and apply new information in their lives; thus, during the Simplified Aeronautical English Course students were involved in an English for Aviation environment where they talked about different topics related to aviation. Students were guided through the achievement of objectives related to the acquisition and application of aeronautical vocabulary. Some activities that promoted

the achievement of the objectives were connected to reading comprehension exercises, as well as excercises to improve their listening skills by watching videos or listening for specific information. After the implementation and evaluation of the course, students mentioned the acquisition of new vocabulary, skills development such as reading, listening and writing, group work; and oral communication about aviation and maintenance.

5.5.1.3. Prerequisites

Course aimed to Aeronautical Engineering students from fifth to tenth semester.

5.1.1.4. Required materials

The Pilot´s Manual, second edition, Trevor Thom

Flight Engineer Test Prep, 2001.

FAR/AIM 2017, U.S. Department of Transportation

5.1.1.5. Organization of the course

Content for each class was presented by the teacher through the use of videos or stories about aviation. Students had the chance to learn and put into practice the new topics presented. Discussion boards were managed in order to improve students´ oral skills, spaces to improve reading comprehension and vocabulary.

The classes were held at San Buenaventura University on the face to face basis

Total of hours: 36 hours

5.1.1.6. Evaluation and grading policy

Students presented one test at the end of the last class.

Participation in class and attendance gave additional score for the final test.

Week 1

Activity: The airplane´s main components.

Product: The students will describe the main components of the aircraft.

Date: September 29th 2017

Objective: To identify and describe the main components of the aircraft.

Vocabulary: Propeller, spinner, landing gear, nosewheel, flaps, slats, fuselage, empennage, rudder, leading edge, trailing edge, wing root, engine cowling, vertical stabilizer, horizontal stabilizer, cockpit.

Activities: The teacher will show a picture of an airplane, students will try to identify the main components of that aircraft. Since the students' vocabulary is very limited, additional vocabulary mentioned by the teacher will be introduced. The teacher will hand out some photocopies, students will fill in the blanks with the vocabulary given in order to identify the main components of the aircraft.

Students will have five to ten minutes to finish the exercise then it will be corrected in groups with the teacher´s help and students ´participation.

In order to reinforce the topic and the vocabulary introduced, a short video about the main parts of the aircraft will be shown; students will have the chance to ask questions as the video plays.

As a closure activity, the teacher will show the photo of another aircraft and will ask students about the main components of it.

Week 2

Activity: Reading comprehension about the primary effect of each main flight control

Product: The students will analyze and discuss the primary effect of each main flight control.

Date: October 6th 2017

Objective: To discuss the primary effect of moving each main flight control.

Vocabulary: Pitch, roll, yaw, center of gravity, lateral axis, longitudinal axis, normal axis, elevator, ailerons, rudder.

Activities: The teacher will show a scale airplane and students will describe it, then the teacher will show some of the maneuvers a pilot does in order to fly the aircraft. This will introduce the primary effect of each main flight control. Then as a group activity, the teacher and the students will read a text about the main flight controls, new vocabulary will be explained as the reading progresses. After reading the text, the teacher will give the students some minutes in order to answer the questions about the reading done. Later, the exercise will be corrected. Finally, students will watch a video which will expand their knowledge and vocabulary about the topic introduced.

As a production activity, students will work in pairs, the teacher will hand out each pair some words with certain stages of flight such as taxi, climb, right turn, left turn, descend.

Example:

Student A will ask Student B questions like: Which flight control do you use in order to climb?

Student B will answer the question as follows: In order to climb you use the elevators.

Week 3

Activity: The main components of an engine

Product: Students will describe the main components of an engine.

Date: October 13th 2017

Objective: To recognize the main components of an engine by learning new vocabulary.

Vocabulary: Bearing, blade, casing, clearance, flame-out, intake, lever, connecting-rod, powerplant, shroud, stall, spool, surge, vane, cowl, crankcase, crankshaft, spark-plug, spinner.

Activities: A five-minute video will be shown in order to engage students with the new topic (reciprocating engines video) Students will write down the main components mentioned in the video then the teacher will correct spelling problems and will explain and talk about each of those parts. Since the video is about reciprocating engines, the teacher will ask students if they know any other kind of engines used in aviation, that question will lead to talk about different kinds of engines and thus new vocabulary will appear; once the vocabulary is understood a reading comprehension exercise will be done so that students will put into practice the words learned in real aviation contexts. Finally, the exercise will be corrected.

Production activity: Persuading a manufacturer

The teacher will divide the class in three different groups, each group will be assigned with a different model of engine (reciprocating engine, turboprop engine and jet engine), each group must prepare a five-minute presentation in order to persuade an important manufacturer who is not satisfied with the kind of engine he will use in a new aircraft model. Since new vocabulary will appear the teacher will guide the questions.

Week 4

Activity: Readings about fuel systems

Product: Students will analyze and discuss how the different components found in the aircraft´s fuel system work.

Date: October 20th 2017

Objective: To talk about the different components found in the aircraft´s fuel system.

Vocabulary: kerosene, jet fuel, turbine blades, water contamination, OAT, fueling port, crossfeed, fuel leaks, boost pumps, fuel dump system, high octane fuel, AVGAS.

Activities: Students will read an article about fuel system then they will answer the questions proposed in order to verify their reading comprehension skills, new vocabulary will appear which will be explained by the teacher. After that, students will watch the explanation and functioning of the Airbus fuel system by watching a C.B.T. (Computer Based Training), they will watch in a real life context the vocabulary learned through the readings.

As a production activity, students will make groups of three, then the teacher will give each group the fuel diagram of some non-complex aircrafts such as C-152, C-182 and PA-28 so students will analyze their components and prepare a short presentation of the aircraft assigned.

Week 5

Activity: The components moved by the hydraulic system.

Product: Students will talk about the main components of the aircraft that are moved by the hydraulic system.

Date: October 27th 2017

Objective: To talk about how the hydraulic system of an aircraft work.

Vocabulary: high lift devices, landing gear, brakes, nosewheel steering, reservoir, lines, pumps, actuator, cooling system, hydraulic accumulator, ground spoilers, servo tab, antiskid system.

Activities: The class will start with a 15-minute video in which an aviation accident occurred due to hydraulic malfunctions so that students will realize the importance of this system.

The video will create discussion and will give the chance to introduce new vocabulary and brief explanations about the system. Then, students will read a text and answer some questions which will expand their knowledge about hydraulic system and will give the chance to gain new vocabulary, finally the exercise will be corrected in group.

Students will work in groups to read about some accidents occurred due to hydraulic failures and discuss the specific component that didn't work in each case, they will also give a corrective action that they would take as engineers in order to avoid future accidents.

Week 6

Activity: The fire protection system

Product: Students will talk about the fire protection system.

Date: November 3rd 2017

Objective: To talk about the fire protection system.

Vocabulary: blow-out disc, bottle, cartridge, device, discharge, fire handle, fire-resistant, loop, rack, shunt, sniffer, squib, smoke detector, fumes, trigger, split, removal.

Activities: By watching a video student will be involved in the topic about fire protection system, the teacher will pause the video each time he considers necessary in order to expand the explanation, many questions and discussions will appear with the video giving students the chance to practice oral skills. Then, students will read some aircraft maintenance manuals extracts about the fire protection system and will answer some questions in order to encourage reading comprehension skills. The teacher will answer vocabulary questions as necessary. At the end, the students will verify the vocabulary learned in class by filling in a crossword about the system introduced in class.

Students will work in groups to watch some photos of fire protection systems that were not properly set. Students will discuss the problem in each case based on the information read in some aircraft maintenance manuals extracts about the fire protection system, finally they will write recommendations to the manufacturer so that they will take them into account for future construction of aircrafts.

Week 7

Activity: Filling in the boxes of incomplete paragraphs.

Product: Students will talk about the functioning of the TCAS (Traffic Collision Avoidance System)

Date: November 10th 2017

Objective: To talk about the functioning of the Traffic Collision Avoidance System (TCAS)

Vocabulary: A.T.C., transponder, response, ground, display, interface, avionics rack, R.H., knob, input, output, signal, SBY, ON, ALT, VFR, TST.

Activities: The teacher will start the class with a brief story of a mid-air collision occurred in 2002, the story will lead to the new topic introduced in class: Traffic Collision and Alert Avoidance System. Once the teacher has mentioned the TCAS, he will start asking random questions about TCAS, the teacher will write on the board the key words mentioned by the group.

With the aid of the keywords, the teacher will make a brief description of the TCAS then he is going to play a video which explains in detail the TCAS. The video will be paused each time the teacher considers necessary to expand the explanation and allowing students to ask questions as well.

After the video, students will fill in the gaps of a technical text which explains in detail how the TCAS work. At this time, students have already a general idea of the TCAS so it will be easier to understand the text. When the exercise is corrected the teacher will ask random questions to verify if the students learnt properly the topic taught.

Students will work in groups to read and discuss some cases of Traffic Advisories and Resolution Advisories and how the TCAS worked for each case.

Week 8

Activity: The A.P.U.

Product: Students will talk about the A.P.U. and some accidents related to this topic.

Date: November 17th 2017

Objective: To talk about the A.P.U. and some accidents related to this topic.

Vocabulary: A.P.U., pneumatic, fuselage, air-conditioning, source, fireproof, bulkhead, demountable, single-shaft, single-stage, accessory drive, fuel pump, F.O.D., compressor, warning horn.

Activities: The class will start with a short introduction and explanation of the A.P.U. by the teacher, during the explanation additional topics about electrical system will appear. In order to complement the explanation given by the teacher, a video will be presented so that students will understand the topic better. The video will be paused each time the teacher needs to expand certain topics, questions, examples and students´ comments will appear. After the video, students will read a text about the A.P.U. The text is divided into paragraphs so that students will answer each question after reading each paragraph. The exercise will be corrected in group. At the end of the class the teacher will show a video about an incident caused by a flock of birds in which the correct decision of turning on the A.P.U. and some other factors avoid a tragedy.

Students will read a report about the Hudson River splashdown occurred in 2009 and discuss how the A.P.U. was vital to avoid a catastrophe.

Week 9

Activity: The rain and ice protection systems.

Product: Students will discuss some cases about bad weather conditions and the use of ice protection systems.

Date: November 24th 2017

Objective: To discuss some cases about bad weather conditions and the use of ice protection systems.

Vocabulary: Windshield heat, cockpit windows, ice and frost, deicing, anti-icing, thermal shock, pitot tube, static ports, rain repellent, hot bleed air, deicing fluid, holdover time.

Activities: The teacher will introduce the topic by showing a video where adverse weather conditions are present so students will understand and be conscious of the importance of the rain and ice protection system in aircrafts. At the end of the video the teacher will give students some time to ask questions and expand the topic. After that, they will read some articles related to the rain and ice protection system, at this stage they will put together the information received from the video, the teacher´s explanation and the articles in order to answer the questions proposed. When everybody is finished, the exercise will be corrected and discussed in class.

Students will work in groups to read and discuss about some accidents occurred for bad weather and how the correct use and proper functioning of the ice protection system would have avoided those accidents.

After that, students will show how much they learned through the course by answering the quiz proposed by the teacher, the quiz will handle different topics and vocabulary related to aviation, the quiz will include a reading comprehension exercise as well as vocabulary check. Finally, the quiz will be corrected and graded so that students and the teacher will realize how useful the course was. The whole syllabus was designed by the researchers.

6. DATA ANALYSIS

This chapter presents the process of data collection, organization and classification as well as the way in which the data collected in the research process is analyzed and validated. This process of data collection is done through data collection instruments; including a survey and semi-structured interviews. The semi-structured interviews helped to gather data about the evaluation of the contents, materials and methodology used in the simplified aeronautical English course. The categories that stand out from the analysis reflect the students´ opinions and help describe each aspect related to the content and the teaching-learning process of the Simplified Aeronautical Technical English Course at U.S.B.

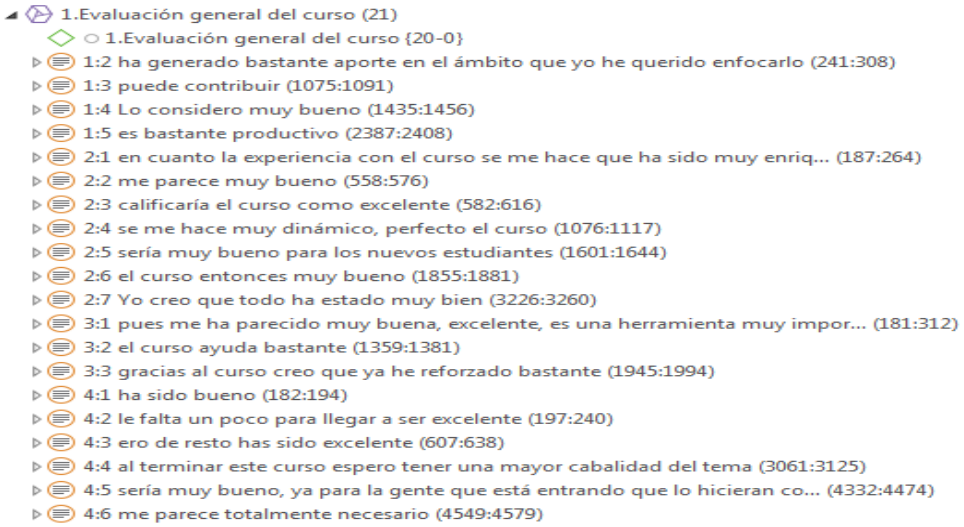

Image 1 - Example of the codes that emerged from the analysis of the data gathered through the interview

The Grounded Theory was used to analyze the data. The data went through the process of open, axial and selective coding process in order to answer the research question.

6.1. Data Analysis Procedure

The data collected through a semi-structured survey, was subsequently coded in two-column tables in order to obtain the information in an appropriate way. The initials of the student´s name and a code of distinction was assigned to the excerpts in order to be accessible when analyzing the data. Afterward, a validation data process was carried out, based on the axial coding process; with the demo software, "Atlas.ti" that allows systematically the analysis process resulting in information trees about the opinions given by the students about the course taught at the University of San Buenaventura. (Appendix 6.)

The whole process was developed at San Buenaventura University, giving the necessary relevance to the execution of the course and thus considering the students´ opinions about the simplified aeronautical English course. The semi-structured interview asked the students for their general opinions about the course, the content course evaluation and its development, the evaluation of the methodology used in the course, the evaluation of the relevance of the course for aeronautical engineering students, the evaluation of the course as a resource for the personal development of the students, the evaluation of the time spent in the course, and the students' suggestions to improve the course. Thus, the data collected provided us with relevant information regarding the students' evaluation of different aspects of the course. Below is the analysis of the results of both the interview and survey applied to students. There are also diagrams that present the results of the survey in order to provide a comprehensive view of the results.

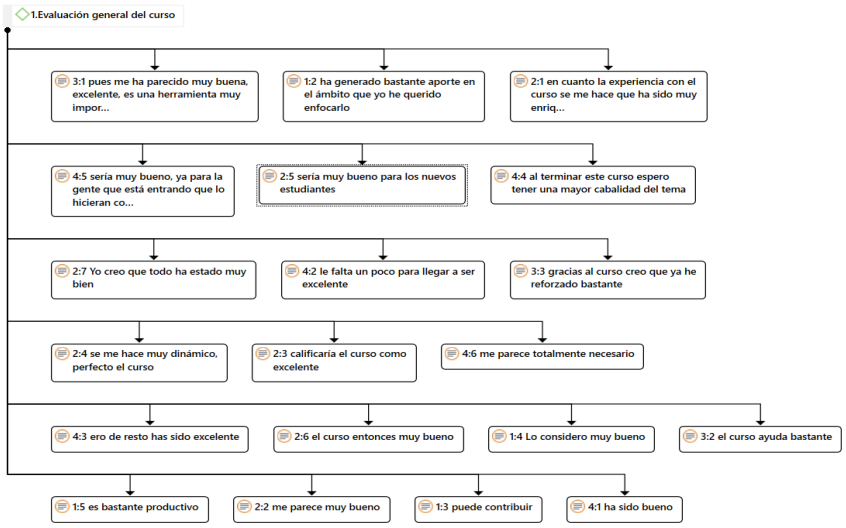

Image 2 - Example of the codes that emerged from the analysis of the data gathered through the questionnaire.

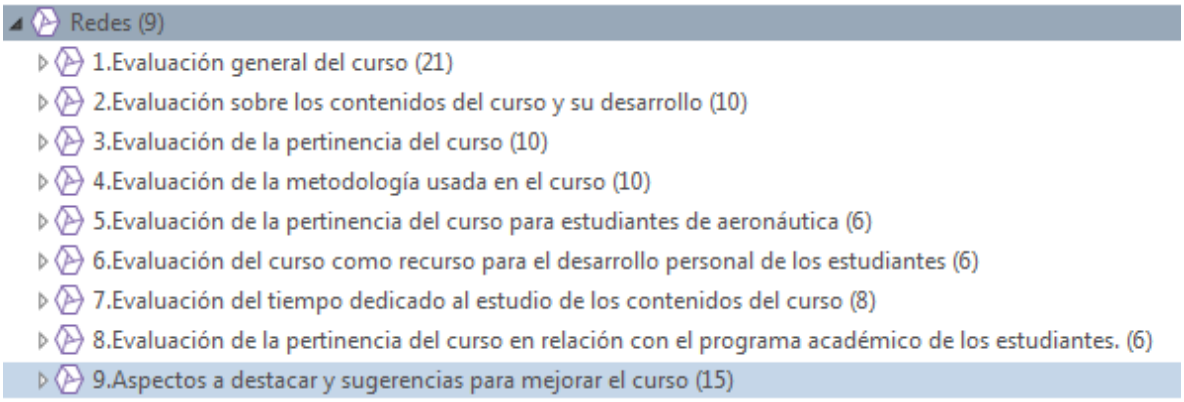

Image 3 - List of evaluation codes

Therefore, the information on the analysis made to the surveys is broken down (Appendix 4). In addition, this information is contrasted with the evaluative criteria mentioned above (Appendix 5, Appendix 6 and Appendix 7). After that, and under selective coding the process is centralized in categories that led to the relevance of the specific purpose of the course (Appendix 8). Thus, process accounts for a qualitative analysis of the data.

Table 4 - Example of Chart category list AtlasTi

Word	*Long*	*Freque ncy*	*Frequen cy %*	*Interview 1 %*	*Intervie w2 %*	*Intervie 3 %*	*Interview 4 %*
Good	5	16	1,76	3,63	2,77	3,07	1,99
knowledge	12	7	0,77	1,59	1,21	1,34	0,87
excellent	9	15	1,65	3,4	2,6	2,88	1,86
important	10	9	0,99	2,04	1,56	1,73	1,12
neccesary	9	7	0,77	1,59	1,21	1,34	0,87

6.2. Categories

We found three categories that helped us answer the research question. The first two categories refer to the contents and methodology used to develop the course meanwhile the third refer to the time and necessity of implementing this kind of courses at U.S.B. for Aeronautical Engineer students. (Appendix 11.)

Table 5 - Category list (axial coding process)

Category	Explanation
Evaluation of the contents.	Every one of the students evaluated the contents positively. Participants mentioned that the course is developed in a dynamic way so everybody practices

	their oral skills in an aviation environment.
Evaluation of the methodology	The methodology used was evaluated positively by the students, they found the course interesting since it is very different from the English lessons they take in the curriculum at U.S.B.
Students' Suggestion	Most of the students suggest increasing the number of hours, In regards to the time spent in the course, students mentioned that it is not enough and it should be taught twice a week

Source. The authors, according to the information collected

6.2.1. Category 1. Evaluation of the contents.

The different viewpoints that students expressed in the interview helped us to identify the appropriatenesss of the contents included in the Simplified Aeronautical Technical English Course for Aeronautical Engineering students at San Buenaventura University. Every one of the students evaluated the contents positively. Participants mentioned that the course had been developed in a dynamic way so everybody practiced their oral skills in an aviation environment. These answers given by the students are related to the course contents:

"The contents of the English course are quite useful since you can improve your kwoledge about aviation. On the other hand, the teacher was qualified to teach the course." D1:17 (529:731)

The comment above shows the importance of further building up this type of learning, which indicates the value of considering significant learning, reinforcing it in their professional practice with the information that is incorporated into their daily practice.

Another comment to highlight is as follows:

> "The development of the contents is always carried out in a dynamic way. It´s not a matter of the teacher standing up to teach different topics and vocabulary but it is very dynamic; every one of the students has the chance to speak." D2:24 (740:967)

The contributions given within the information gathering creates even more the value of the strengthening the English language for real life in aviation in order to have clear communication and to avoid mistakes, including both oral and written communication, integrating the entire system of knowledge. In one way or another, this comment indicates the importance of further strengthening this type of learning, which indicates the value of considering significant learning, strengthening it in their professional practice with the information that is incorporated into their daily practice.

This finding is similar to the results of the research carried out by Wette and Hawken (2015) at the University of Auckland. In that context, a group of medical students took an ESP course and at the end of the course the students expressed that they had learnt technical vocabulary that they needed to communicate adequately in their field. This finding also revealed that students' needs, which were identified through a survey, were considered in the design and implementation of the course. The students' needs were met through the contents of the course; therefore, the participants evaluated the contents as relevant for their field. The following excerpt exemplies the students' opinions about the content of the course:

"I think they are excellent, since we are dealing with regulatory issues, some systems that are used in aircraft. We also studied forms used by pilots, we learnt how to handle those forms. That is very important, especially in the aeronautical field, then I find it excellent" D3:15 (628:915)

In accordance with what was expressed by the students interviewed where they show the need of learning for life, meaningful learning implies a recognition of the links between the concepts and the social reality that they have to live in the aviation field. The last comment is analyzed from the excellence of the course. In other words, they see its value for real life situations and their consistency in their professional performance.

"The content has been excellent so far" D4:31 (1190:1245)

The results of the survey which are presented in the following diagram also reveal the students' satisfaction with the contents of the course.

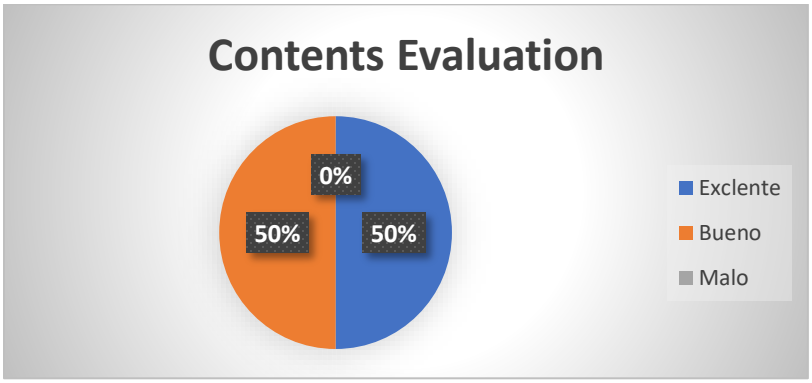

Image 4 – Evaluation of the contents

The course was developed in an interactive way where each of the members strengthened the learning ability through appropriate communication strategies to interact orally, likewise in writing with creative activities that led to meaningful learning according to the teacher's proposal.

According to the information presented, this fact is demonstrated in the perception given by the interviewees regarding the contents of the course, which they considered excellent and good.

6.2.2. Category 2. Evaluation of the methodology.

The methodology used was evaluated positively by the students, they found the course interesting since it is very different from the English lessons they take in the curriculum at U.S.B. as exemplified in the following excerpts:

> "The methodology has been good so far; I mean different topics are seen in a short period of time." D1: 18 (1196:1305)

> "Excellent. As I said before, it is very dynamic, the way the course is developed. Very good." D2:25 (1771:1882)

> "It seems to me that is correct" D3:16 (1467:1493)

> "Good and suitable, it has been carried out very well in terms of topics and activities" D4:32 (1912:1999)

Most students were pleased with the course and evaluated the methodology used as excellent or good. This perception of the students indicates the way the academic activities of

this subject develop positively with a great fulfillment where 75% of the students are pleased with the course as shown in the following image.

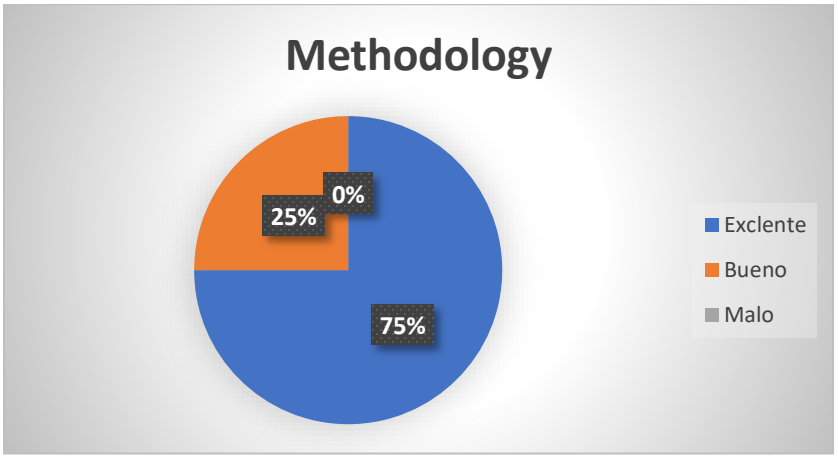

Image 5 – Evaluation of the methodology

From the previous assessments, it is necessary to have the ratification stated that "Successful teaching of an English program for aviation depends on a combination of quality teaching materials, motivated students and dedicated and qualified instructors". (Guidelines for English language programs for aviation, page 19). At the same time, it is necessary to know what the students' needs are in relation to their learning process from oral and written communication and their progress in this second language.

6.2.3. Category 3. Students' Suggestions.

Although the contents and methodology of the course were mostly evaluated as excellent or good, some students also suggested changes regarding the number of hours allotted to the course. The students expressed that it was necessary to increase the time for the lessons so they could have more time to practice. Those suggestions are exemplified in the following excerpts:

> "I would say that the course should be twice a week, four hours per week; so that we don't forget the topics." D2:26 (2052:2609)

In regards to the time spent in the course, students mentioned that it is not enough and it should be taught twice a week. Students also consider necessary to develop this course as mandatory in the University of San Buenaventura. The following excerpt exemplifies the students' opinions on this topic:

> "It is very important to include this course in the curriculum. When you are in second or third semester all books and all bibliography is in English and sometimes it is very difficult to understand the technical words, so it is necessary for your studies. On the other hand, in the labor field all books and manuals are written in English." D4:32 (1364:1826)

The satisfaction of the participants showed necessary the implementation of this kind of activities in the curriculum. The study confirms the need of implementing ESP in the curriculum of the Aeronautical Engineering program in order to graduate better professionals.

The following graph shows the students' suggestions. 34% of the students suggested increasing the number of hours, 33% suggested that the course should be mandatory; while the other 33% considered that the course should be taught twice a week.

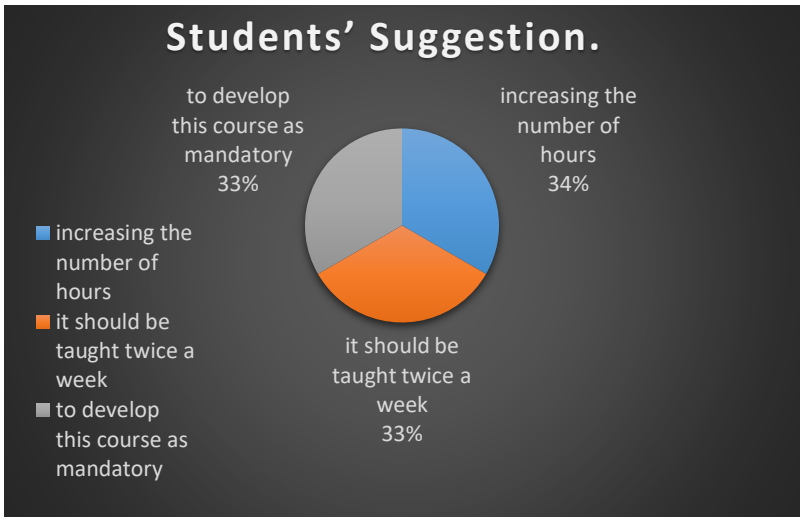

Image 6 - Students' suggestions

7. CONCLUSIONS AND IMPLICATIONS

7.1. Conclusions

The implementation of an Aeronautical Technical English course for Aeronautical Engineering students at the University of San Buenaventura as part of the curriculum, helped to train future professionals in the aviation field to face a competitive, globalized and everyday life change labor field.

In this research, the perception of the students was characterized, considering the aspects established by the University of San Buenaventura, which allowed the interaction and participation of the students through a series of talks and explanations about aeronautical issues. Learners mentioned that they were pleased with the type of activities implemented since they had the chance to improve their written, oral, listening and reading comprehension skills focused on their field of studies.

In addition, students considered that the implementation of the technical English course was essential for their professional practice as well as for their academic process since the course contents are relevant. On the other hand, from the methodological point of view proposed it allowed participation according to the group's objectives. Likewise, students' satisfaction was expressed. Consequently, the level of appreciation was also established in which the interviewees underscored how the teaching process has a practical application focused on the enrichment of their work skills in which their abilities are strengthened.

Finally, the students interviewed made a positive suggestion regarding the importance of implementing this course within the academic curriculum of the University. The participants considered that the Aeronautical Technical English is focused on a specific purpose with particular objectives which is different from general English courses, so it requires that the

professional leader of the course be proficient, not only with an excellent command of the English language but also of aeronautical issues.

7.2. Implications

During the academic period 2017-2018, researchers taught Technical English to Aeronautical Engineering students at San Buenaventura University because a survey revealed that students didn't have previous knowledge of technical terms related to aviation despite the fact that they had taken English lessons previously. That lack of knowledge on technical English might be due to the focus on English for general purposes that English lessons have at the university. Therefore, researchers designed and implemented an English course to address the students' needs regarding the acquisition of vocabulary, expressions and technical words related to their academic programs. At the end of the course, the participants considered that the contents of the course had been useful and the methodology had been adequate. In addition, the participants suggested that the course should be offered to all the members of that academic program, which might have implications on the curriculum of the Aeronautical program at the University of San Buenaventura.

If changes were made to the curriculum of the Aeronautical program, it would imply to plan and put into practice a training for teachers aimed at designing and implementing similar courses. That will be necessary since teachers' knowledge is vital not only to fulfill the goals but also to arouse students´ interest on the topic through the selection of readings and videos available in Internet and related to the aviation field.

Adopting the proposal presented in this research would also require to establish the requirements of language and aviation knowledge that students would need to join the course

since it is suggested that they have a B1 level that allows them an active participation and interaction with the teacher.

8. LIMITATIONS AND FURTHER RESEARCH

When the researchers started the classes with Aeronautical Engineering students at San Buenaventura University, they expected to meet students with at least a B1 level having as a reference the Common European Framework since most of them were pursuing advanced semesters in their career as engineers. Unfortunately, most of the students didn't reach that requirement considered important since the classes were held in English language about aviation topics. We infer that some students dropped out because they didn't have a good command of English. On the other hand, a few students of first semester with good command of English started the classes but they didn't know much about aviation so they didn't continue perhaps due to the advanced topics held in class. However, this fact didn't affect the surveys since they were done with the participants who attended the class regularly.

Another limitation faced during the research was the schedule, since the researchers had other professional duties as well as the students. Some of the participants agreed to attend certain days but that schedule didn't fit with other students, then the researchers had to organize a schedule that was convenient for most of the students.

Finally, when the classes started some students didn't attend when they had special activities such as exams, presentations or reports to be handed in to their teachers at the university.

In connection with any of the above, the following questions arise;

- Considering a higher English level, would the participants feel more comfortable to attend in future courses?
- Setting up a convenient schedule for everyone, would the course engage more participants?
- Making compulsory this kind of activities, would create more commitment in the students?
- Is it necessary to implement English for Specific Purposes (ESP) in every single career at San Buenaventura University?

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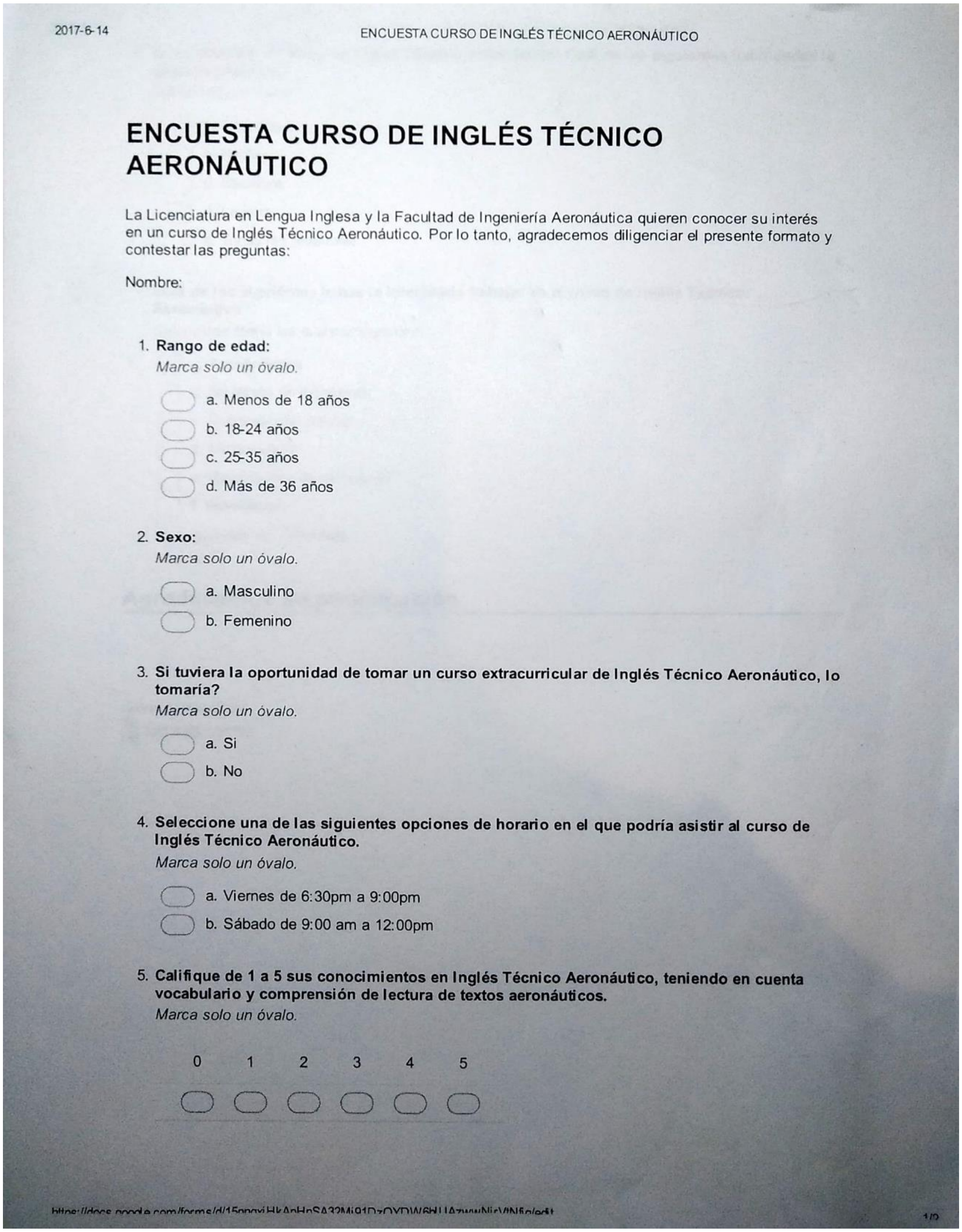
APPENDIX

Appendix 1. Encuesta Curso de Inglés Técnico Aeronáutico



2017-6-14 ENCUESTA CURSO DE INGLÉS TÉCNICO AERONÁUTICO

ENCUESTA CURSO DE INGLÉS TÉCNICO AERONÁUTICO

La Licenciatura en Lengua Inglesa y la Facultad de Ingeniería Aeronáutica quieren conocer su interés en un curso de Inglés Técnico Aeronáutico. Por lo tanto, agradecemos diligenciar el presente formato y contestar las preguntas:

Nombre:

1. **Rango de edad:**
   Marca solo un óvalo.
   - a. Menos de 18 años
   - b. 18-24 años
   - c. 25-35 años
   - d. Más de 36 años

2. **Sexo:**
   Marca solo un óvalo.
   - a. Masculino
   - b. Femenino

3. **Si tuviera la oportunidad de tomar un curso extracurricular de Inglés Técnico Aeronáutico, lo tomaría?**
   Marca solo un óvalo.
   - a. Si
   - b. No

4. **Seleccione una de las siguientes opciones de horario en el que podría asistir al curso de Inglés Técnico Aeronáutico.**
   Marca solo un óvalo.
   - a. Viernes de 6:30pm a 9:00pm
   - b. Sábado de 9:00 am a 12:00pm

5. **Califique de 1 a 5 sus conocimientos en Inglés Técnico Aeronáutico, teniendo en cuenta vocabulario y comprensión de lectura de textos aeronáuticos.**
   Marca solo un óvalo.

   0 1 2 3 4 5

6. **Si se ofreciera un curso de Inglés Técnico Aeronáutico; Cuál de las siguientes habilidades le gustaría practicar?**

Marca solo un óvalo.

- a. Escucha
- b. Habla
- c. Escritura
- d. Lectura
- e. Todas las anteriores

7. **Cuál de los siguientes temas le interesaría trabajar en el curso de Inglés Técnico Aeronáutico?**

Selecciona todos los que correspondan.

- a. Aerodinámica
- b. Sistemas de aeronaves
- c. Regulaciones Aéreas
- d. Meteorología
- e. Rendimiento de aeronaves
- f. Navegación
- g. Todas las anteriores

Agradecemos su participación.

Con la tecnología de Google Forms

Appendix 2. Survey

Survey

INGLES TECNICO AERONAUTICO

Conocer su opinión sobre los contenidos académicos, la metodología, los objetivos de aprendizaje, el diseño general del curso o diplomado y la gestión administrativa con el fin de mantener nuestros programas de formación en el nivel de calidad y eficacia esperados.

INSTRUCCIONES

Analice y de la manera más objetiva marque con una X la letra correspondiente a la valoración que usted le da a cada uno de los aspectos, guiándose por la siguiente tabla:

DEFICIENTE	D	ACEPTABLE	A
BUENO	B	EXCELENTE	E
NO APLICA	NA	Observaciones Generales: En este espacio escriba aspectos	

1. ASPECTOS ACADEMICOS	D	A	B	E	NA
La selección de los contenidos fueron pertinentes					
La secuencia de los contenidos fue lógica					
Hubo concordancia entre los contenidos temáticos y					
Los contenidos fueron innovadores					
Nivel de satisfacción personal					
El trabajo se realizó hacia el logro de los objetivos					
La metodología propuesta permitió la participación					
Las estrategias didácticas enriquecieron los					
Las estrategias de enseñanza permitieron cumplir					
La capacitación enriqueció sus habilidades y					
Las enseñanzas tienen aplicación práctica					

Las enseñanzas enriquecen las competencias					
Nivel de satisfacción personal					
2. ASPECTOS ADMINISTRATIVOS	D	A	B	E	NA
El seguimiento en asistencia fue adecuado					
Las orientaciones realizadas por la Dirección del Programa fueron acorde a sus necesidades					
Los salones fueron adecuados					
La atención personalizada fue pertinente					

A continuación de una manera objetiva evalúe la acción pedagógica del docente capacitador:

DESEMPENO GENERAL DE LOS DOCENTES					
	D	A	B	E	NA
Posee habilidades para escuchar y resolver					
Posee habilidades para promover la participación					
Da muestra de haber cumplido con los objetivos					
Hace uso adecuado del tiempo					
Posee claridad, fundamentación y profundización					
Hace uso creativo del material y las estrategias					
Da muestras de consultar fuentes bibliográficas					
Hace uso adecuado de estrategias tecnológicas					
Motiva los procesos de aprendizaje de sus					

COMENTARIOS GENERALES

Observaciones Generales:

Appendix 3. Questionnaire

Questionnaire

INGLES TECNICO AERONAUTICO

Conocer su opinión sobre la metodología, los objetivos de aprendizaje y el diseño general del curso o diplomado dictado como complemento educativo en la Universidad de San Buenaventura.

INSTRUCCIONES

Se toma nota de manera abierta y objetiva acerca de las preguntas realizadas a los estudiantes por el tutor, se transcriben las respuestas y la valoración que el estudiante da a cada una de las preguntas realizadas, guiándose por la siguiente tabla:

DEFICIENTE	D	ACEPTABLE	A
BUENO	B	EXCELENTE	E
NO APLICA	NA	Observaciones Generales: En este espacio escriba aspectos	

Fecha de terminación del último nivel de inglés cursado:

Por favor conteste de forma objetiva.

1. ¿Qué cursos de inglés ha tomado?

2. ¿Cómo sintió usted el desarrollo de la formación recibida durante el tiempo que se llevó a cabo el curso de inglés aeronáutico, dé su opinión al respecto y en lo posible califique su experiencia con el curso?

3. ¿Cómo cree usted que se desarrollaron los contenidos?, ¿Cuál es su punto de vista y cómo calificaría esos contenidos?

4. ¿Considera usted importante que se desarrollen este tipo de cursos como parte del proceso educativo que se desarrolla en la universidad San Buenaventura? Justifique su respuesta.

5. ¿Podría dar usted una opinión sobre la metodología tomada por parte de los maestros de este curso?

6. ¿Considera que el curso es apropiado para su conocimiento técnico o considera usted que es como cualquier otro curso?

7. ¿Podría usted realizar una evaluación básica de sus conocimientos en inglés aeronáutico?

8. ¿Sabe usted en qué nivel se encuentra y cree usted que la adquisición de vocabulario técnico va a ser de ayuda para su desarrollo personal?

9. ¿Cómo calificaría usted el tiempo estimado para desarrollar los contenidos, cree que el curso es apropiado para los fines específicos de su profesión?

10. Por favor indique los aspectos a destacar y qué sugerencias tiene usted para un futuro curso de inglés técnico aeronáutico.

Appendix 4. Interviews

Interview

INTERVIEW 1

Entrevista a Alvaro Bejarano:	Date :
RESEARCH QUESTION What is the result of Aeronautical Engineering students' evaluation regarding the Simplified Aeronautical Technical English course at U.S.B?	
TRANSCRIPTION	CODES
Pues hasta el momento ha sido, pues bastante, como decirlo, ha generado bastante aporte en el ámbito que yo he querido enfocarlo, en cuanto a la experiencia de la persona que lo dicta muy acorde para lo que se está enseñando. Bueno.	¿Cómo sientes el desarrollo de la formación recibida durante el tiempo que se ha llevado a cabo el curso de inglés? ¿lo calificas cómo aceptable, deficiente, bueno o excelente?.
Los contenidos al semestre que estoy son bastante útiles y ya uno se puede desenvolver un poco más y agrandar un poco más el campo de acción en este caso con el profesor y calificarlo realmente muy bueno.	¿Cómo crees que se desarrollan los contenidos? ¿Cuál es tu punto de vista y cómo calificarías esos contenidos?

Si lo considero y de todas formas en este momento yo estoy haciendo las prácticas laborales precisamente por eso, de pronto que uno llegue de un campo en donde todo es nuevo y un Inglés que no es muy adecuado el que uno trae puede contribuir a ese aprendizaje.	¿Consideras importante que se desarrolle este tipo de cursos como parte del proceso educativo en la Universidad?
La metodología hasta el momento ha sido buena, o sea se abarcan bastantes temas en el poco tiempo que tenemos.	¿Podrías dar una opinión sobre la metodología usada por los docentes del curso?
Lo considero muy bueno pues porque como te digo en el semestre en el que estoy ya uno tiene un poco más de criterio y puede más ahondar en ciertos temas de interés de cada persona.	¿Consideras que el curso es apropiado para tu conocimiento de Inglés técnico o consideras que es como cualquier otro curso?
Estoy en A2, y considero que sí, el vocabulario se incrementa en una forma muy grande.	¿Sabes en qué nivel te encuentras y crees que la adquisición de vocabulario de inglés técnico va a ser de ayuda para tu desarrollo personal?

Yo creería que con una intensidad un poco mayor.	¿Cómo calificas el tiempo estimado para desarrollar los contenidos?
Si es apropiado para los fines	¿Crees que el curso es apropiado para los fines específicos de tu profesión
No, pues a destacar que es una persona que está en el medio y que tiene bastante experiencia y a futuro pues no sé, yo creo que hasta el momento está bien, no reportaría como nada. No, pues de pronto el tiempo que es muy corto, de resto es bastante productivo el tiempo que se tiene.	

INTERVIEW 2

Entrevista a Daniel Guillermo Rojas Mora:	Date :
RESEARCH QUESTION What is the result of Aeronautical Engineering students' evaluation regarding the Simplified Aeronautical Technical English course at U.S.B?	
TRANSCRIPTION	CODES
Bueno, en cuanto la experiencia con el curso se me hace que ha sido muy enriquecedor debido a que nos han explicado, se nos ha enseñado nuevas palabras que no se conocían, pues	¿Cómo sientes el desarrollo de la formación recibida durante el tiempo que se ha

las que no tenía conocimiento de algunas palabras, también se ha hablado de algunos sistemas que yo conocía, si que yo conocía pero no había visto con profundidad entonces se ha profundizado en eso, me parece muy bueno, yo calificaría el curso como excelente.	llevado a cabo el curso de inglés? ¿lo calificas cómo aceptable, deficiente, bueno o excelente?
Bien, el desarrollo de los contenidos me parece que se hace de forma dinámica siempre, no es simplemente de que el instructor se para en el tablero a dar un montón de temas o de vocabulario si no que es más dinámico, todos interactúan, lo chévere es que se habla en Inglés entonces mejor así, pues para que todos podamos practicar. Entonces, se me hace muy dinámico, perfecto el curso.	¿Cómo crees que se desarrollan los contenidos? ¿Cuál es tu punto de vista y cómo calificarías esos contenidos?
Si, claro. Para mi es bastante importante porque pues si se logrará hacer para los estudiantes de los primeros semestres ya llegarían con una base muy buena en Inglés, normalmente hay unos compañeros que se pierden con algunas palabras en los libros, casi todos los libros están en Inglés y tienen vocabulario técnico y hay veces que se les ve sufriendo, entonces sería muy bueno para los nuevos estudiantes que se les pueda brindar esa herramienta.	¿Consideras importante que se desarrolle este tipo de cursos como parte del proceso educativo en la Universidad?

excelente. Me parece lo que ha le había dicho, muy dinámico en la que se desarrolla el curso entonces muy bueno.	¿Podrías dar una opinión sobre la metodología usada por los docentes del curso?
Es apropiado. Sí es apropiado para el conocimiento técnico.	¿Consideras que el curso es apropiado para tu conocimiento de inglés técnico o consideras que es como cualquier otro curso?
En este momento no sé en qué nivel me encuentro, pero sí yo creo que en un intermedio II, pues en los cursos de inglés normal le explican a uno el inglés común, pero el técnico es de gran ayuda y es como un plus.	¿Sabes en qué nivel te encuentras y crees que la adquisición de vocabulario de inglés técnico va a ser de ayuda para tu desarrollo personal?
El tiempo considero que podría ser un poco más intensivo, por ahí unas cuatro horas a la semana, sería bueno.	¿Cómo calificas el tiempo estimado para desarrollar los contenidos?

Si es apropiado para los fines específicos de mi profesión	¿Crees que el curso es apropiado para los fines específicos de tu profesión
¿Qué aspectos a destacar? Los temas que se abordan, personalmente han sido de gran interés, porque pues son cosas relacionadas con esa pasión por la aviación entonces los temas que se abordan son muy buenos, y sugerencias yo creo que el horario, un poco más temprano pues porque los estudiantes de semestres más bajos no se quedan hasta estas horas en la universidad, sería muy bueno que se pudiera hacer en un horario si más temprano. Yo creo que todo ha estado muy bien.	

INTERVIEW 3.

Entrevista a Andrés Felipe Ibarra Hernández:	Date :
RESEARCH QUESTION What is the result of Aeronautical Engineering students' evaluation regarding the Simplified Aeronautical Technical English course at U.S.B?	
TRANSCRIPTION	CODES
pues me ha parecido muy buena, excelente, es una herramienta muy importante y más que todo para la carrera de ingeniería	¿Cómo sientes el desarrollo de la formación recibida

aeronáutica, se han desarrollado temas bastante interesantes que uno va a utilizar en el campo laborar y pues yo personalmente he reforzado bastante vocabulario y me he soltado más a la hora de hablar en ingles	durante el tiempo que se ha llevado a cabo el curso de inglés? ¿lo calificas cómo aceptable, deficiente, bueno o excelente?
me parecen excelentes, ya que estamos tratando temas de normatividad, algunos sistemas que se utilizan en las aeronaves también esos formatos que utilizan los pilotos, aprender a manejar esos formatos son muy importantes y más que todo en el campo aeronáutico entonces me parece excelente	¿Cómo crees que se desarrollan los contenidos? ¿Cuál es tu punto de vista y cómo calificarías esos contenidos?
a mi me parece que si se deberían seguir con este proceso ya que el inglés que uno maneja normalmente en la universidad no es el suficiente para poder salir a trabar en campos laboral en el tema aeronáutico, nosotros vemos las clases en aeronáutica con muchos términos en ingles, pero hace falta mucho fortalecer eso y pues el curso ayuda bastante	¿Consideras importante que se desarrolle este tipo de cursos como parte del proceso educativo en la Universidad?

me parece que está correcto	¿Podrías dar una opinión sobre la metodología usada por los docentes del curso?
no es bastante apropiado, es importante, estamos manejando solamente temas aeronáuticos	¿Consideras que el curso es apropiado para tu conocimiento de inglés técnico o consideras que es como cualquier otro curso?
¿calificarme? Pues yo tenía un nivel más o menos, yo me sentía en un 6 o 7 sobre 10 pero gracias al curso creo que ya he reforzado bastante pienso que ya estaría subiendo de a poco. si más o menos sé en qué nivel me encuentro, sé que podría comunicarme fácilmente. si, va a ser de bastante ayuda ya que, el próximo semestre voy a entrar a prácticas y creo que todo el conocimiento que estoy adquiriendo me va a servir bastante.	¿Sabes en qué nivel te encuentras y crees que la adquisición de vocabulario de inglés técnico va a ser de ayuda para tu desarrollo personal?

el tiempo pienso que está bien debido a que hay otras cosas que hay que hacer dentro de la vida personal y estudios.	¿Cómo calificas el tiempo estimado para desarrollar los contenidos?
Para los fines específicos si es muy importante	¿Crees que el curso es apropiado para los fines específicos de tu profesión
para destacar me gusta que toda la clase se maneja en ingles se comunica todo el tiempo en ingles con el profesor y es muy bueno porque te da confianza a futuro para poder comunicarte después, los temas que se desarrollan, estamos manejando vocabulario técnico, y a futuro me gustaría que siguieran en el mismo campo de estar manejando material técnico	

INTERVIEW 4.

Entrevista a David Ricardo Diaz: DD	Date :
RESEARCH QUESTION What is the result of Aeronautical Engineering students' evaluation regarding the Simplified Aeronautical Technical English course at U.S.B?	
TRANSCRIPTION	CODES

ha sido bueno, le falta un poco para llegar a ser excelente, en cuanto que de pronto falta un poco de variación en la temática, sobre todo en las actividades, llegan a ser un poco repetitivas, hasta la clase pasada que cambio bastante el tema, de pronto también que pudieran ligar un poco las clases de un tema pasa muy cortante a otro tema entonces poder ligar uno con otro, como una secuencia de temáticas seria excelente, ero de resto has sido excelente	¿Cómo sientes el desarrollo de la formación recibida durante el tiempo que se ha llevado a cabo el curso de inglés? ¿lo calificas cómo aceptable, deficiente, bueno o excelente?
Pues como decía, los contenidos han sido muy buenos, técnicos, especialmente es muy acorde para el curso que se está dando que es ingles técnico aeronáutico, sobre todo el vocabulario ha sido excelente, que es lo que más uno llega a necesitar, se han hablado sobre los sistemas de las aeronaves, procedimientos que se realizan en situaciones de mantenimiento, o manuales que uno puede llegar a encontrar cierto vocabulario técnico, así pues, que el contenido ha sido excelente hasta ahora	¿Cómo crees que se desarrollan los contenidos? ¿Cuál es tu punto de vista y cómo calificarías esos contenidos?
si totalmente, es super importante que lo incluyan, desde segundo tercer semestre uno empieza a ver toda la bibliografía, todo lo que uno investigue sobre la carrera, el 80-90% de la información se encuentra en inglés y llega a ser un poco confuso la terminología técnica, entonces es necesario para desarrollar la carrera, uno, y dos porque en el campo de laboral todo lo va a	¿Consideras importante que se desarrolle este tipo de cursos como parte del proceso educativo en la Universidad?

encontrar en lengua inglesa entonces es super necesario para desarrollar su profesión	
buena y adecuada, la ha llevado muy bien en cuento a las temáticas y tipos de actividades, a veces llego a ser un poco repetitiva las primeras clases, las mismas actividades en la misma secuencia, pero en general han sido buenas, complementan bien o abarcan bien los temas que se quieren abordar, así que llega a dar buena cabalidad al tema	¿Podrías dar una opinión sobre la metodología usada por los docentes del curso?
no, justamente su nombre lo dice es ingles técnico aeronáutico, ya se debe tener unas bases del inglés para poder enfocarse totalmente en la terminología aeronáutica	¿Consideras que el curso es apropiado para tu conocimiento de inglés técnico o consideras que es como cualquier otro curso?
antes del curso yo creo que de 1 a 10 un 4, por mucho y teniendo en cuenta que ya estoy en 10 semestre que ya he llevado ciertas materias y experiencia en el tema, leyendo la información que necesitaba, pero alguien que este empezando no creo que tenga algo de experiencia en el tema. tomando estas clases y la experiencia, un 5 o 6, todavía no es lo suficiente, pero al terminar este curso espero tener una mayor cabalidad del tema al	¿Sabes en qué nivel te encuentras y crees que la adquisición de vocabulario de inglés técnico va a ser de ayuda para tu desarrollo personal?

menos un 7-8, pues es lo esperado. claro totalmente, porque como lo dije es super necesario para el desarrollo de la profesión	
y en cuanto a los tiempos me parece insuficiente, yo diría que es necesario verlos al menos dos veces a la semana, unas 4 horas semanales para poder tener una secuencia y que los temas no se lleguen a olvidar	¿Cómo calificas el tiempo estimado para desarrollar los contenidos?
para los fines específicos si, totalmente, es super necesario para el desarrollo	¿Crees que el curso es apropiado para los fines específicos de tu profesión
a destacar, uno positivo y uno negativo, el positivo pues que es excelente el enfoque que le están dando, no es un enfoque solo de ver las partes del avión en ingles sino más a la práctica que uno va a desarrollar, más terminología de reparación de mantenimiento, realmente lo que uno va a utilizar en el campo. El punto negativo es que de pronto se podrían ligar más los temas, podría ser de mucha ayuda, uno llega a referencias los temas y los asocia con otra cosa que se haya visto anteriormente. de lo que he dicho la mezcla de los temas, seria excelente que se pudieran hacer más horas, sería muy bueno, ya para la gente que está entrando que lo hicieran como una optativa en el programa o incluso una materia o un curso necesario. si, como una	

electiva o incluso como un curso obligatorio, porque a mí me parece totalmente necesario	

Appendix 5. Data Analysis

Palabra	*Largo*	*Frecuencia*	*%*	*Interview 1*	*%*	*Interview 2*	*%*	*Interview 3*	*%*	*Interview 4*	*%*
apropiado	9	13	1,43	13	2,95	13	2,25	13	2,5	13	1,61
ayuda	5	8	0,88	8	1,81	8	1,38	8	1,54	8	0,99
bastante	8	14	1,54	14	3,17	14	2,42	14	2,69	14	1,74
bueno	5	16	1,76	16	3,63	16	2,77	16	3,07	16	1,99
conocimiento	12	7	0,77	7	1,59	7	1,21	7	1,34	7	0,87
contenidos	10	15	1,65	15	3,4	15	2,6	15	2,88	15	1,86
curso	5	35	3,86	35	7,94	35	6,06	35	6,72	35	4,34
cursos	6	5	0,55	5	1,13	5	0,87	5	0,96	5	0,62
específicos	11	7	0,77	7	1,59	7	1,21	7	1,34	7	0,87
excelente	9	15	1,65	15	3,4	15	2,6	15	2,88	15	1,86
experiencia	11	6	0,66	6	1,36	6	1,04	6	1,15	6	0,74
fines	5	8	0,88	8	1,81	8	1,38	8	1,54	8	0,99

importante	10	9	0,99	9	2,04	9	1,56	9	1,73	9	1,12
metodología	11	5	0,55	5	1,13	5	0,87	5	0,96	5	0,62
momento	7	5	0,55	5	1,13	5	0,87	5	0,96	5	0,62
necesario	9	7	0,77	7	1,59	7	1,21	7	1,34	7	0,87
personal	8	5	0,55	5	1,13	5	0,87	5	0,96	5	0,62
proceso	7	5	0,55	5	1,13	5	0,87	5	0,96	5	0,62
profesión	9	7	0,77	7	1,59	7	1,21	7	1,34	7	0,87
semestre	8	5	0,55	5	1,13	5	0,87	5	0,96	5	0,62
técnico	7	16	1,76	16	3,63	16	2,77	16	3,07	16	1,99
tiempo	6	14	1,54	14	3,17	14	2,42	14	2,69	14	1,74
totalmente	10	5	0,55	5	1,13	5	0,87	5	0,96	5	0,62
universidad	11	6	0,66	6	1,36	6	1,04	6	1,15	6	0,74
vocabulario	11	11	1,21	11	2,49	11	1,9	11	2,11	11	1,36

907 palabras en documento(s) 69 palabras individuales "Razón: 7,61%"

Appendix 6. Data Analysis

Palabra	*Largo*	*Frecuencia*	*%*	*1.Evaluación general del curso*	*%2*	*2.Evaluación sobre los contenidos del curso y su desarrollo*	*%3*	*3.Evaluación de la pertinencia del curso*
apropiado	9	5	0,9	5	2,98	5	7,58	5
ayuda	5	2	0,36	2	1,19	2	3,03	2
bastante	8	9	1,63	9	5,36	9	13,64	9
bueno	5	12	2,17	12	7,14	12	18,18	12
conocimiento	12	2	0,36	2	1,19	2	3,03	2
contenido	9	1	0,18	1	0,6	1	1,52	1
curso	5	9	1,63	9	5,36	9	13,64	9
específicos	11	1	0,18	1	0,6	1	1,52	1
excelente	9	9	1,63	9	5,36	9	13,64	9

experiencia	11	1	0,18	1	0,6	1	1,52	1
fines	5	1	0,18	1	0,6	1	1,52	1
importante	10	5	0,9	5	2,98	5	7,58	5
momento	7	1	0,18	1	0,6	1	1,52	1
necesario	9	7	1,27	7	4,17	7	10,61	7
proceso	7	1	0,18	1	0,6	1	1,52	1
profesión	9	2	0,36	2	1,19	2	3,03	2
semestre	8	1	0,18	1	0,6	1	1,52	1
técnico	7	2	0,36	2	1,19	2	3,03	2
tiempo	6	3	0,54	3	1,79	3	4,55	3
totalmente	10	4	0,72	4	2,38	4	6,06	4
vocabulario	11	1	0,18	1	0,6	1	1,52	1
553 palabras en documento(s) 194 palabras individuales "Razón: 35,08%"								

Appendix 7. Data Analysis

Palabra2	*%4*	*4.Evaluación de la metodología usada en el curso*	*%5*	*5.Evaluación de la pertinencia del curso para estudiantes de aeronáutica*	*%6*	*6.Evaluación del curso como recurso para el desarrollo personal de los estudiantes*
apropiado	9,8	5	21,74	5	27,78	5
ayuda	3,92	2	8,7	2	11,11	2
bastante	17,65	9	39,13	9	50	9
bueno	23,53	12	52,17	12	66,67	12
conocimiento	3,9	2	8,7	2	11,11	2
contenido	1,96	1	4,35	1	5,56	1
curso	17,65	9	39,13	9	50	9
específicos	1,96	1	4,35	1	5,56	1
excelente	17,65	9	39,13	9	50	9

experiencia	1,96	1	4,35	1	5,56	1
fines	1,96	1	4,35	1	5,56	1
importante	9,8	5	21,74	5	27,78	5
momento	1,96	1	4,35	1	5,56	1
necesario	13,73	7	30,43	7	38,89	7
proceso	1,96	1	4,35	1	5,56	1
profesión	3,92	2	8,7	2	11,11	2
semestre	1,96	1	4,35	1	5,56	1
técnico	3,92	2	8,7	2	11,11	2
tiempo	5,88	3	13,04	3	16,67	3
totalmente	7,84	4	17,39	4	22,22	4
vocabulario	1,96	1	4,35	1	5,56	1

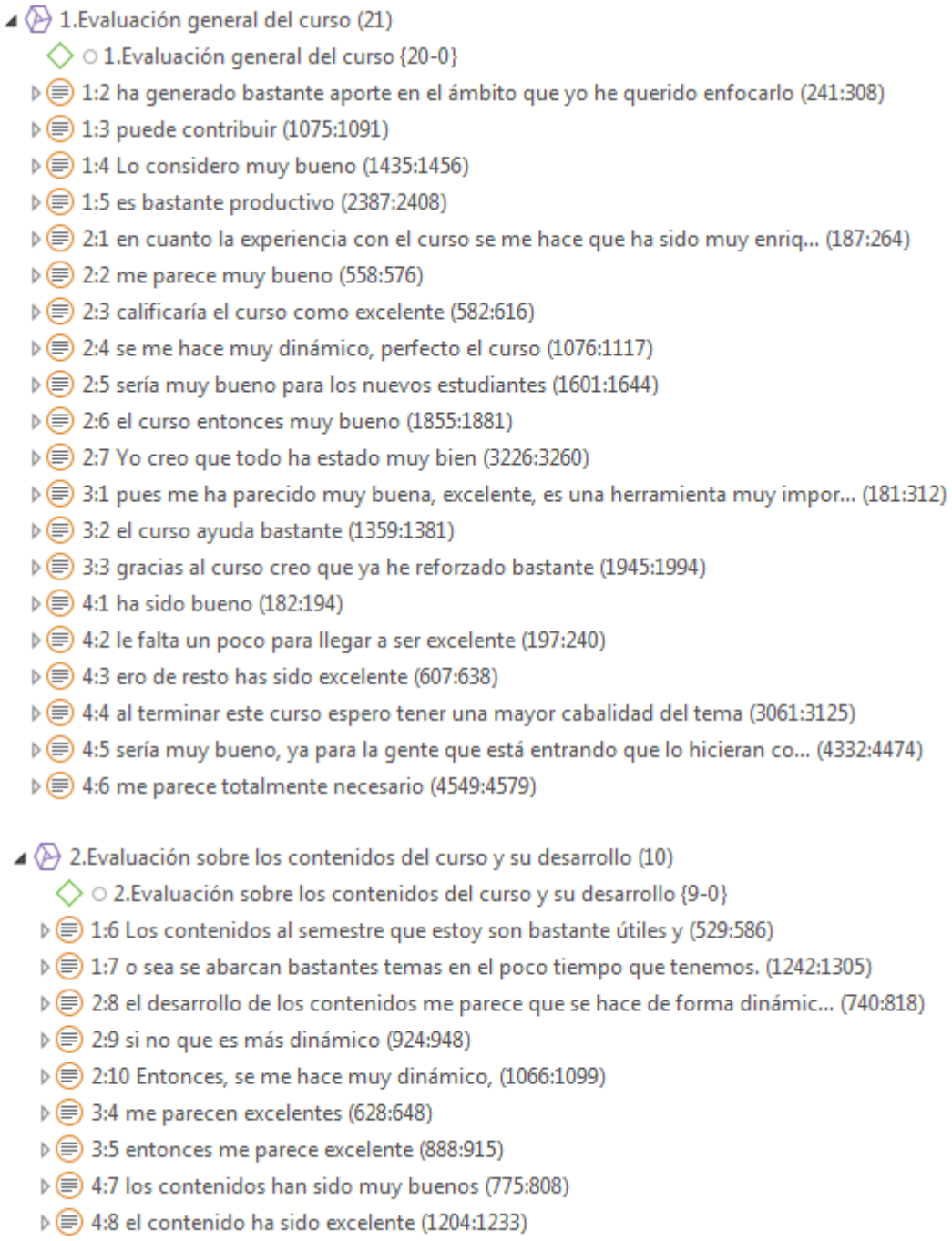
553 palabras en documento(s) 194 palabras "Razón: 35,08%"

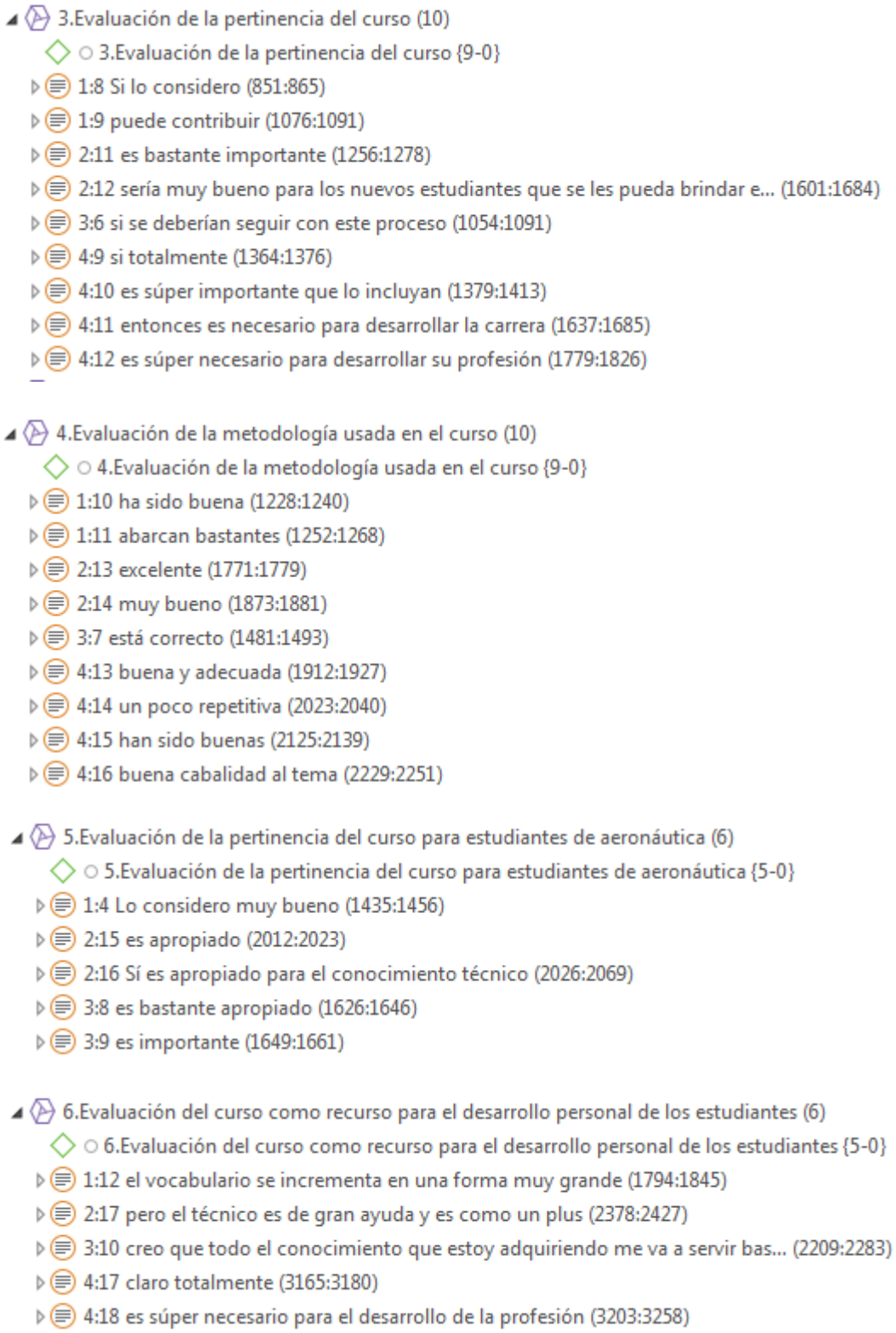
Appendix 8. Data Analysis

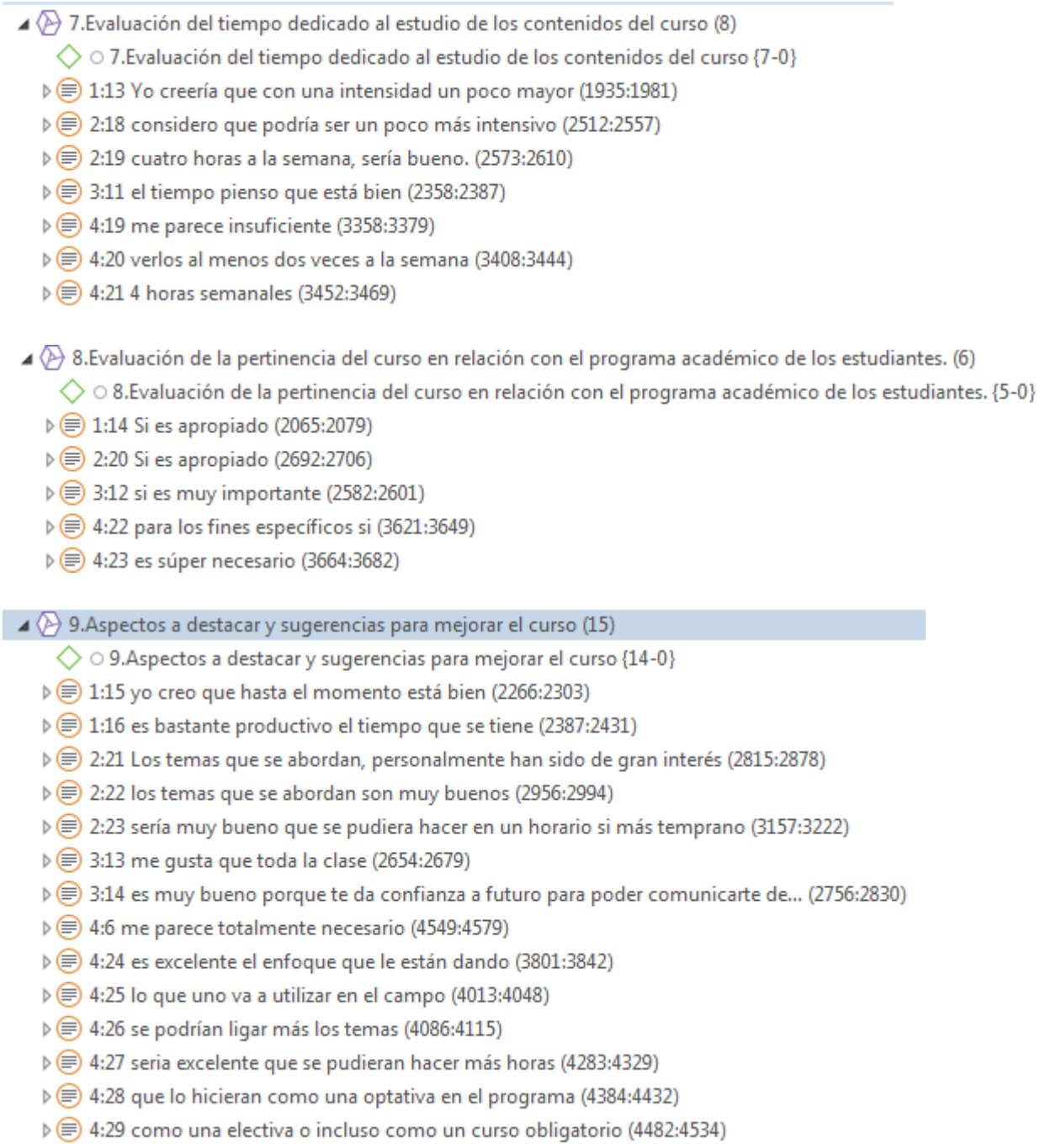
Palabra3	*%7*	*7.Evaluación del tiempo dedicado al estudio de los contenidos del curso*	*%8*	*8. Evaluación de la pertinencia del curso en relación con el programa académico de los estudiantes.*	*%9*	*9.Aspectos a destacar y sugerencias para mejorar el curso*	*%10*
apropiado	11,11	5	11,36	5	27,78	5	4,17
ayuda	4,44	2	4,55	2	11,11	2	1,67
bastante	20	9	20,45	9	50	9	7,5
bueno	26,67	12	27,27	12	66,67	12	10
conocimiento	4,44	2	4,55	2	11,11	2	1,67
contenido	2,22	1	2,27	1	5,56	1	0,83
curso	20	9	20,45	9	50	9	7,5
específicos	2,22	1	2,27	1	5,56	1	0,83
excelente	20	9	20,45	9	50	9	7,5

experiencia	2,22	1	2,27	1	5,56	1	0,83	
fines	2,22	1	2,27	1	5,56	1	0,83	
importante	11,11	5	11,36	5	27,78	5	4,17	
momento	2,22	1	2,27	1	5,56	1	0,83	
necesario	15,56	7	15,91	7	38,89	7	5,83	
proceso	2,22	1	2,27	1	5,56	1	0,83	
profesión	4,44	2	4,55	2	11,11	2	1,67	
semestre	2,22	1	2,27	1	5,56	1	0,83	
técnico	4,44	2	4,55	2	11,11	2	1,67	
tiempo	6,67	3	6,82	3	16,67	3	2,5	
totalmente	8,89	4	9,09	4	22,22	4	333	
vocabulario	2,22	1	2,27	1	5,56	1	0,83	
553 palabras en documento(s) 194 palabras "Razón: 35,08%"								

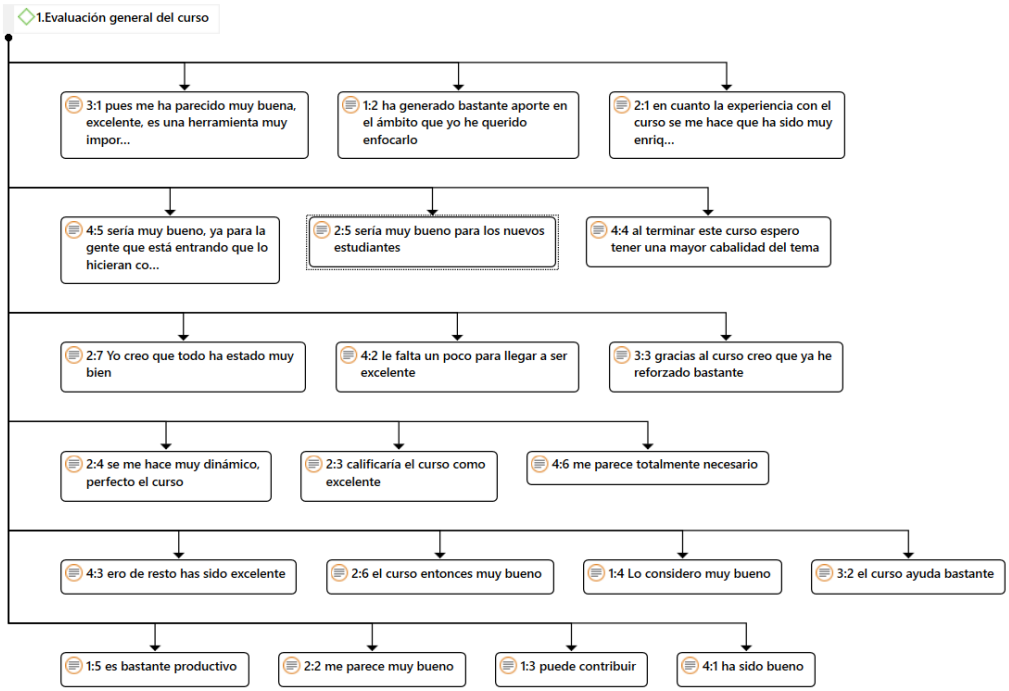
Appendix 9. Data Analysis

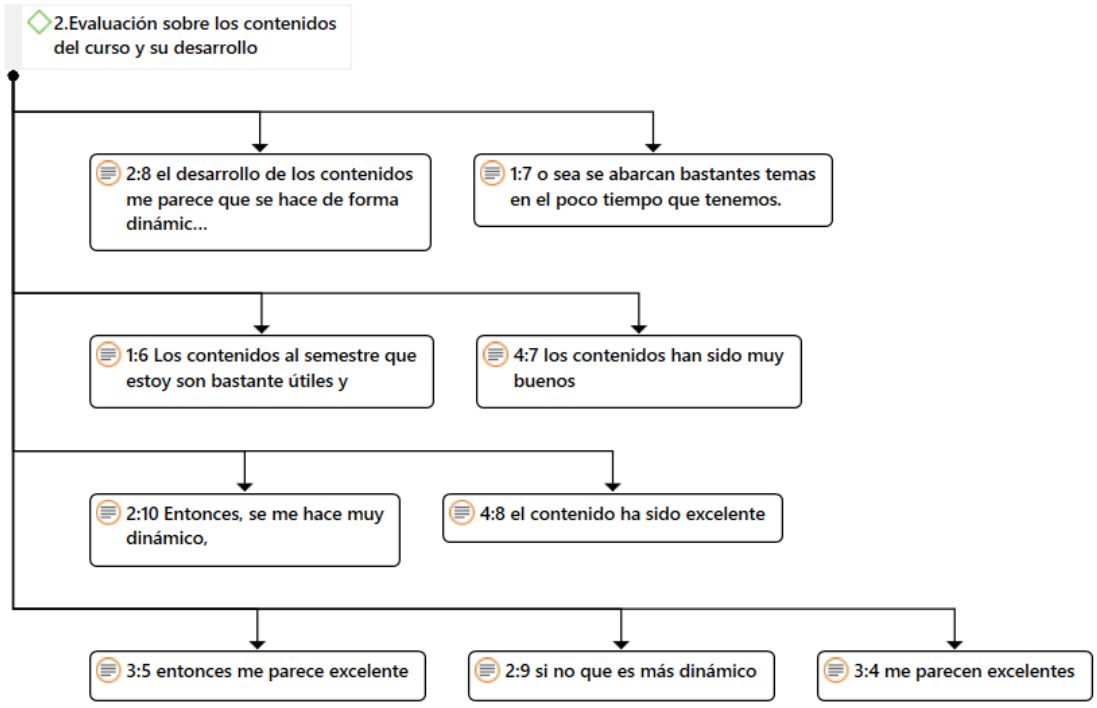


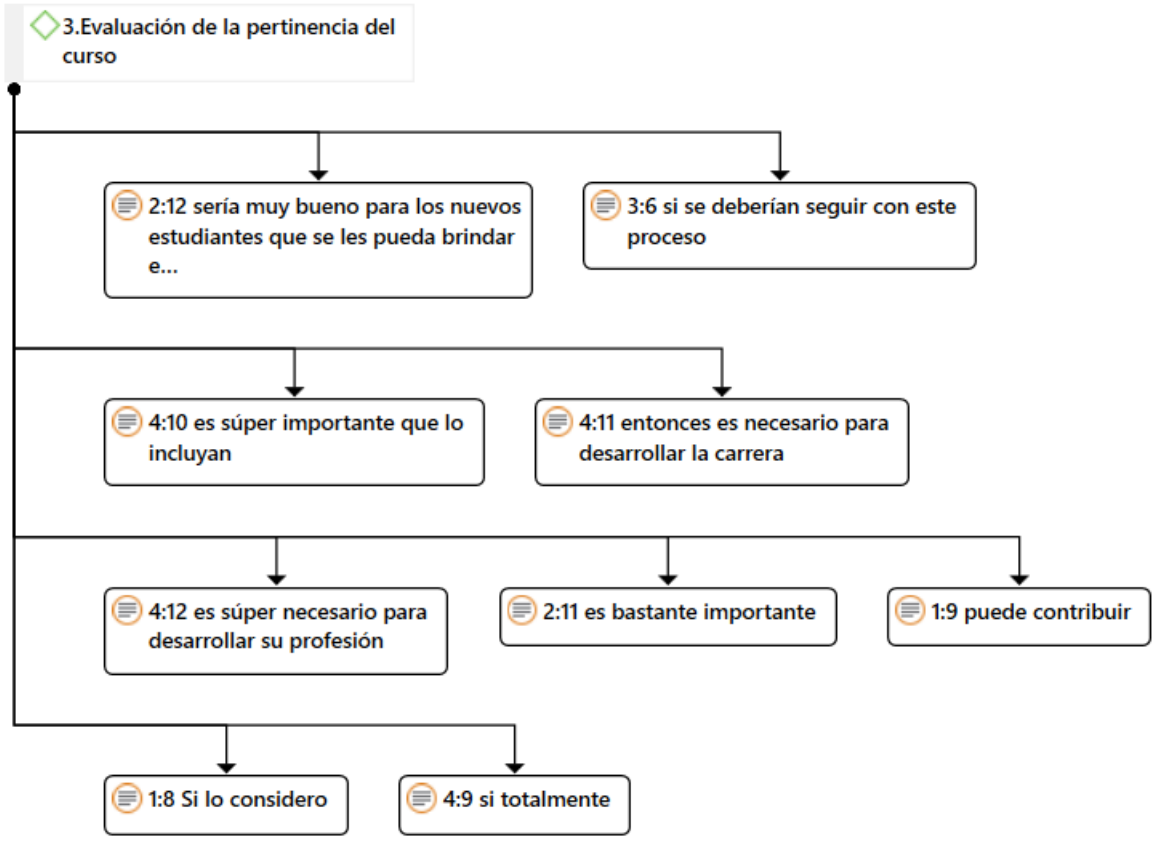

3.Evaluación de la pertinencia del curso (10)
3.Evaluación de la pertinencia del curso {9-0}
1:8 Si lo considero (851:865)
1:9 puede contribuir (1076:1091)
2:11 es bastante importante (1256:1278)
2:12 sería muy bueno para los nuevos estudiantes que se les pueda brindar e... (1601:1684)
3:6 si se deberían seguir con este proceso (1054:1091)
4:9 si totalmente (1364:1376)
4:10 es súper importante que lo incluyan (1379:1413)
4:11 entonces es necesario para desarrollar la carrera (1637:1685)
4:12 es súper necesario para desarrollar su profesión (1779:1826)
4.Evaluación de la metodología usada en el curso (10)
4.Evaluación de la metodología usada en el curso {9-0}
1:10 ha sido buena (1228:1240)
1:11 abarcan bastantes (1252:1268)
2:13 excelente (1771:1779)
2:14 muy bueno (1873:1881)
3:7 está correcto (1481:1493)
4:13 buena y adecuada (1912:1927)
4:14 un poco repetitiva (2023:2040)
4:15 han sido buenas (2125:2139)
4:16 buena cabalidad al tema (2229:2251)
5.Evaluación de la pertinencia del curso para estudiantes de aeronáutica (6)
5.Evaluación de la pertinencia del curso para estudiantes de aeronáutica {5-0}
1:4 Lo considero muy bueno (1435:1456)
2:15 es apropiado (2012:2023)
2:16 Sí es apropiado para el conocimiento técnico (2026:2069)
3:8 es bastante apropiado (1626:1646)
3:9 es importante (1649:1661)
6.Evaluación del curso como recurso para el desarrollo personal de los estudiantes (6)
6.Evaluación del curso como recurso para el desarrollo personal de los estudiantes {5-0}
1:12 el vocabulario se incrementa en una forma muy grande (1794:1845)
2:17 pero el técnico es de gran ayuda y es como un plus (2378:2427)
3:10 creo que todo el conocimiento que estoy adquiriendo me va a servir bas... (2209:2283)
4:17 claro totalmente (3165:3180)
4:18 es súper necesario para el desarrollo de la profesión (3203:3258)

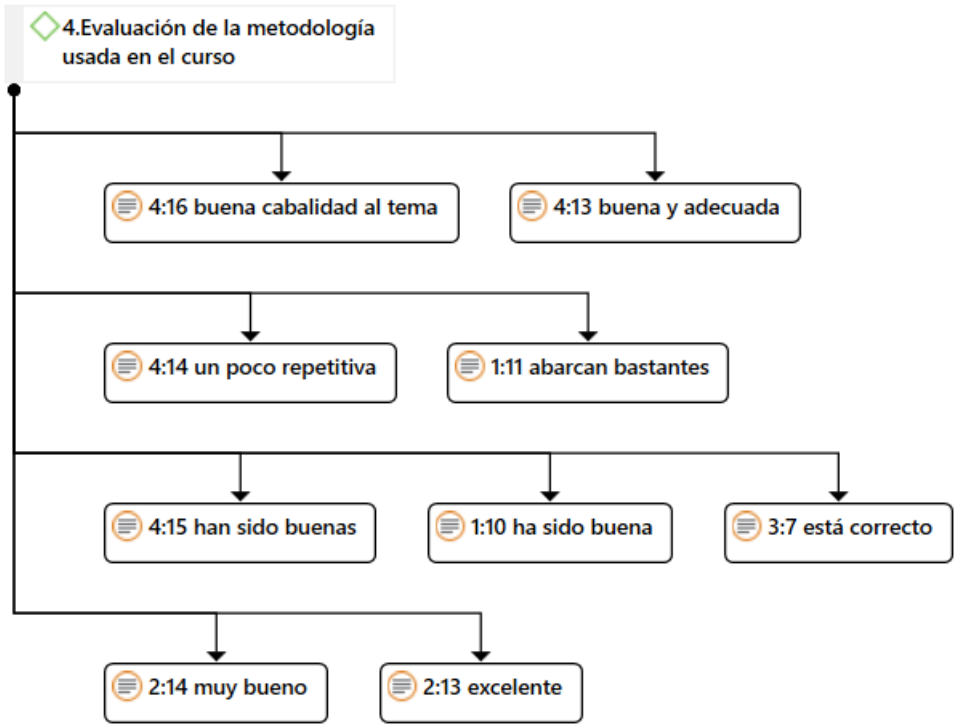

7.Evaluación del tiempo dedicado al estudio de los contenidos del curso (8)
7.Evaluación del tiempo dedicado al estudio de los contenidos del curso {7-0}
1:13 Yo creería que con una intensidad un poco mayor (1935:1981)
2:18 considero que podría ser un poco más intensivo (2512:2557)
2:19 cuatro horas a la semana, sería bueno. (2573:2610)
3:11 el tiempo pienso que está bien (2358:2387)
4:19 me parece insuficiente (3358:3379)
4:20 verlos al menos dos veces a la semana (3408:3444)
4:21 4 horas semanales (3452:3469)
8.Evaluación de la pertinencia del curso en relación con el programa académico de los estudiantes. (6)
8.Evaluación de la pertinencia del curso en relación con el programa académico de los estudiantes. {5-0}
1:14 Si es apropiado (2065:2079)
2:20 Si es apropiado (2692:2706)
3:12 si es muy importante (2582:2601)
4:22 para los fines específicos si (3621:3649)
4:23 es súper necesario (3664:3682)
9.Aspectos a destacar y sugerencias para mejorar el curso (15)
9.Aspectos a destacar y sugerencias para mejorar el curso {14-0}
1:15 yo creo que hasta el momento está bien (2266:2303)
1:16 es bastante productivo el tiempo que se tiene (2387:2431)
2:21 Los temas que se abordan, personalmente han sido de gran interés (2815:2878)
2:22 los temas que se abordan son muy buenos (2956:2994)
2:23 sería muy bueno que se pudiera hacer en un horario si más temprano (3157:3222)
3:13 me gusta que toda la clase (2654:2679)
3:14 es muy bueno porque te da confianza a futuro para poder comunicarte de... (2756:2830)
4:6 me parece totalmente necesario (4549:4579)
4:24 es excelente el enfoque que le están dando (3801:3842)
4:25 lo que uno va a utilizar en el campo (4013:4048)
4:26 se podrían ligar más los temas (4086:4115)
4:27 seria excelente que se pudieran hacer más horas (4283:4329)
4:28 que lo hicieran como una optativa en el programa (4384:4432)
4:29 como una electiva o incluso como un curso obligatorio (4482:4534)

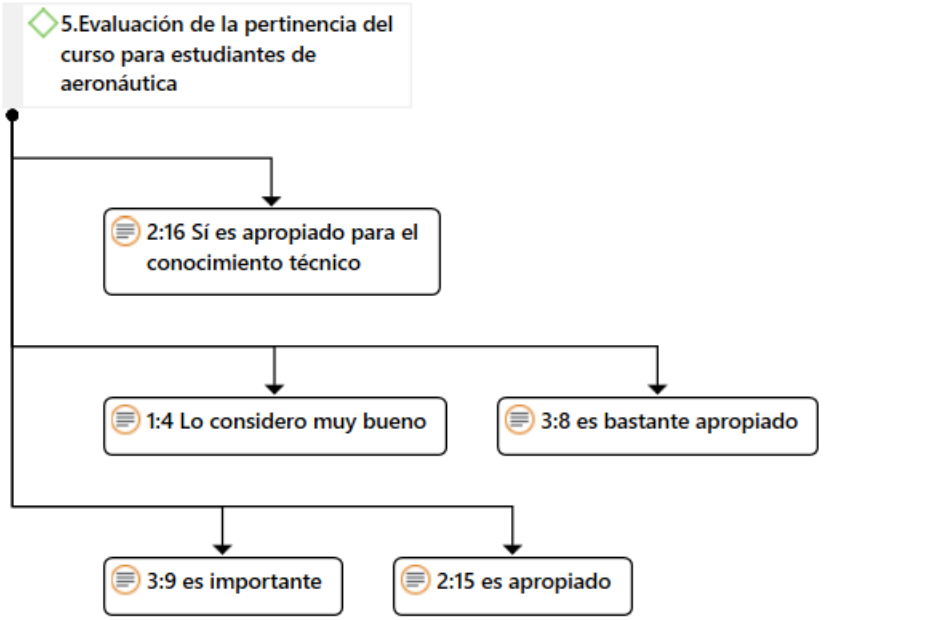
Appendix 10. Evaluación general del curso

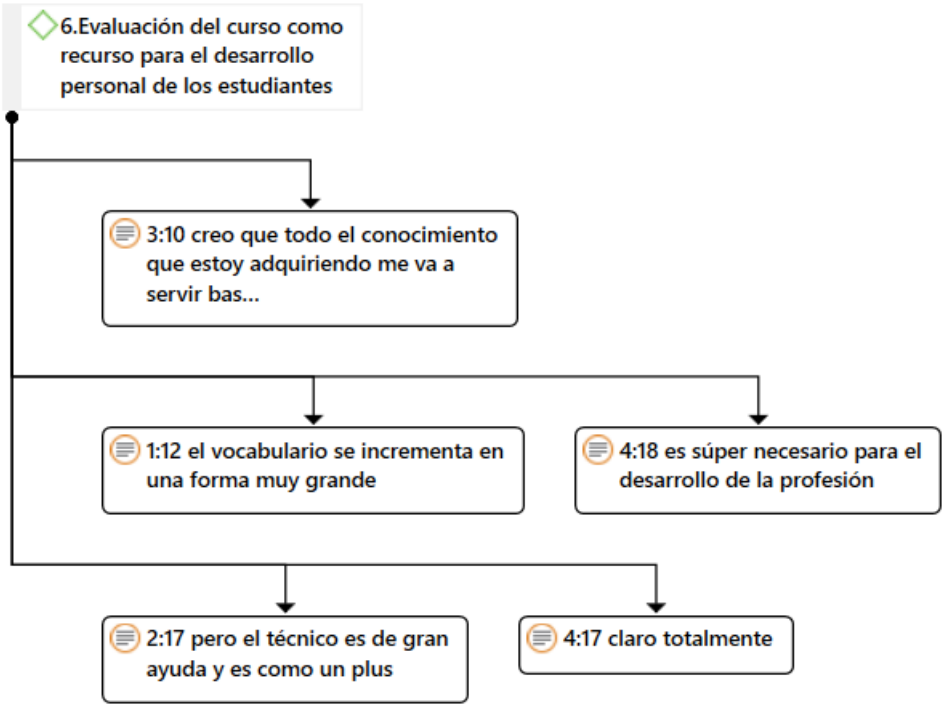


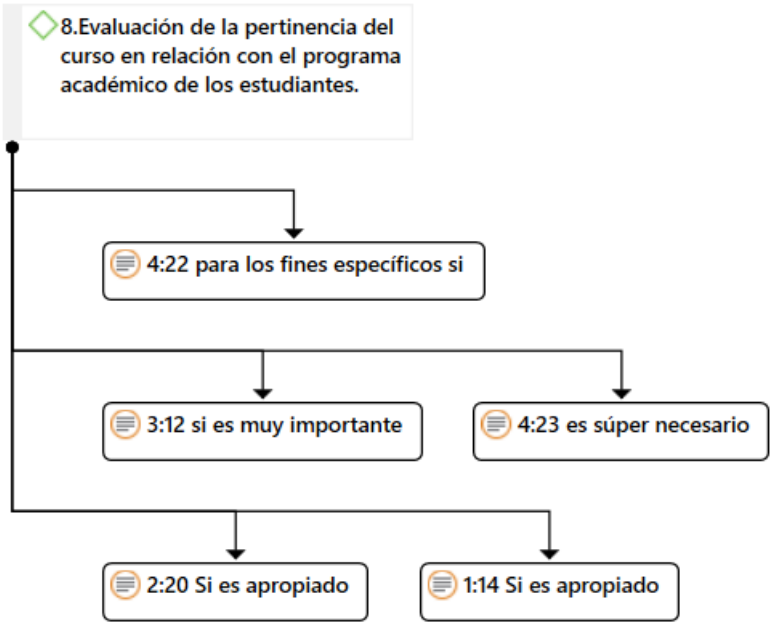



3.Evaluación de la pertinencia del curso
2:12 sería muy bueno para los nuevos estudiantes que se les pueda brindar e...
3:6 si se deberían seguir con este proceso
4:10 es súper importante que lo incluyan
4:11 entonces es necesario para desarrollar la carrera
4:12 es súper necesario para desarrollar su profesión
2:11 es bastante importante
1:9 puede contribuir
1:8 Si lo considero
4:9 si totalmente


4.Evaluación de la metodología usada en el curso
4:16 buena cabalidad al tema
4:13 buena y adecuada
4:14 un poco repetitiva
1:11 abarcan bastantes
4:15 han sido buenas
1:10 ha sido buena
3:7 está correcto
2:14 muy bueno
2:13 excelente


5.Evaluación de la pertinencia del curso para estudiantes de aeronáutica
2:16 Sí es apropiado para el conocimiento técnico
1:4 Lo considero muy bueno
3:8 es bastante apropiado
3:9 es importante
2:15 es apropiado


6.Evaluación del curso como recurso para el desarrollo personal de los estudiantes
3:10 creo que todo el conocimiento que estoy adquiriendo me va a servir bas...
1:12 el vocabulario se incrementa en una forma muy grande
4:18 es súper necesario para el desarrollo de la profesión
2:17 pero el técnico es de gran ayuda y es como un plus
4:17 claro totalmente


8.Evaluación de la pertinencia del curso en relación con el programa académico de los estudiantes.
4:22 para los fines específicos si
3:12 si es muy importante
4:23 es súper necesario
2:20 Si es apropiado
1:14 Si es apropiado

Appendix 11. Qualitative perception about the "Simplified Aeronautical English Course" and academic performance.

CATEGORIES	SUBCATEGORIES	INDICATOR	ANSWERS AND/OR COMMENTS
CONTENTS	Sequence	Relevance to the objectives and innovation.	Good. Dynamique. Pertinence with the regulations and the forms used by the pilots. Important. Appropiate
STUDENTS´ SATISFACTION	Academic and personal	Objectives proposed. Relationship between the groups. Achievements.	They have been good and useful. We have been ok. It´s almost excellent.

			They are a good complement. You must have some previous knowledge in order to understand the topics.
METHODOLOGY	Students participation, motivation.	Didactic strategies, material used, technological strategies.	Excellent. The methodology has been good and suitable. The topics are excellent. It is necessary to link certain topics.
SCHEDULE	Hours per week	Hours per week	More time is needed.

Practical application	Abilities and skills	Job skills	Linked with our passion for aviation

Source: The authors