

Universidad de Huelva

Departamento de Filología Inglesa



The metaphorical awareness and metaphorical competence within the ESP context of aeronautics students

**Memoria para optar al grado de doctora
presentada por:**

María Dolores Camacho Díaz

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Bajo la dirección de la doctora:

Carmen Fonseca Mora

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TESIS DOCTORAL

**The metaphorical awareness and
metaphorical competence within the
ESP context of aeronautics students**

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VºBº

La directora de la tesis

VºBº

La doctoranda

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A todos y todas quienes me han apoyado

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«La educación es el *principal vestido para la fiesta de la vida*»

Carolina Herrera

«La educación lo es todo»

Yo

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List of Abbreviations and Acronym

ACA	Academic Cooperation Association
ATC/ ATCO	Air Traffic Control (Tower)
CAA	Civil Aviation Authority
CBI	Concept/ Content-Based-Instruction
CC	Communicative Competence
CEFR	Common European Framework of Reference for Languages
CF	Conceptual Fluency
CG	Control Group
CL	Cognitive Linguistics
CLIL	Content and Language Integrated Learning
CMA	Contemporary Music Approach
CMT	Conceptual Metaphor Theory
e.g.	For example
EAP	English for Academic Purposes
EBP	English for Business Purposes
ECMPT	English Conventional Metaphor Proficiency Test
EFL	English as a Foreign Language
EG	Experimental Group
EGAP	English for General Academic Purposes
EGBP	English for General Business Purposes
EHEA	European Higher Education Area
ELL	English Language Learners
ELP	English for Legal Purposes
ELT	English Language Teaching
EMFE	English for Management Finance and Economics
EMI	English as a Medium of Instruction
EMP	English for Medical Purposes
EOP	English for Occupational Purposes
ERASMUS	European Region Action Scheme for the Mobility of University Students
ESAP	English for Specific Academic Purposes
ESBP	English for Specific Business Purposes
ESL	English as a Second Language
ESP	English for Specific Purposes
EST	English for Science and Technology
EST	English for Science and Technology
EU	European Union
FL	Foreign Language
GE	General English
GEP	General English Purposes
GIA	Grado en Ingeniería Aeroespacial
GYOTA	Grado en Gestión y Operaciones del Transporte Aéreo
HMA	High Metaphorical Awareness
HMC	High Metaphorical Competence
i.e.	For instance
ICAO	International Civil Aviation Organization

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ICT	Information and Communication Technology
Idk	I don't know
IP	Intervention Programme
L1	Native Language
L2	Second Language
LMA	Low Metaphorical Awareness
LMC	Low Metaphorical Competence
LSA	Learning Situation Analysis
LSP	Learning for Specific Purposes
LSP	Language for Specific Purposes
MC	Metaphorical Competence
MC	Metaphorical Competence
MCQ	Metaphorical Competence Questionnaire
MD	Metaphorical Density
MIP	Metaphor Identification Procedure
MMA	Medium Metaphorical Awareness
MMC	Medium Metaphorical Competence
MMIP	Music-Mediated Intervention Programme
NNS	Non-Native Speaker
NS	Native Speaker
NTSB	National Transportation Safety Board
OBA	Orienting Basis of an Action
OPT	Oxford Proficiency Test
PSA	Present Situation Analysis
RAE	Real Academia Española
RQ	Research Question
SBU	Situation-Bound Utterance
SCOBA	Schema for Orienting Basis of an Action
SCT	Sociocultural Theory
SL	Second language
SLA	Second Language Acquisition
SPSS	Statistical Product and Service Solutions
SSIMH	Song-stuck-in-my-head
STI	Systemic Theoretical Instruction
TEFL	Teaching English as a Foreign Language
TESL	Teaching English as a Second Language
TSA	Target Situation Analysis
WWW	World Wide Web

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INTRODUCTION

INTRODUCTION

Communicative competence refers to the speaker's ability to communicate successfully using language. It is the knowledge of discourse processing conventions (Gumperz, 1984) and in the mother tongue it is developed "wherever social interaction occurs" (Sauvignon, 2018). It encompasses much more than just grammatical rules, such as the interrelationship between speech and a "variety of genres, narration, dance, drama, song, instrumental music and visual art" (Hymes, 1972, p. 65). Bachman and Palmer (1996) highlight that communicative competence consists of organizational and pragmatic competence which are bifurcated into grammatical and textual competences, along axis of illocutionary and sociolinguistic competences, respectively.

More recently, The Common European Framework of Reference for Languages supports such a statement and describes communicative competence as the lexicon, semantics, grammar, phonology, orthography, and orthoepic of the language, in addition to the sociolinguistic and illocutionary aspects of life in society. In this light, the understanding of terms like norms of use of words and rules, and appropriacy along with cohesion and coherence (Canale and Swain, 1980) facilitate the acquisition of the concept. The development of the notion of communicative competence prompted the creation of strategies on communicative approaches to teaching a second language, since "communicative competence can be considered to be the target of second language acquisition, a main goal of second or foreign language teaching and learning" (Whyte, 2019, p. 1). Thus, the existence of the TOEFL examination and the like.

Sabet and Tavakoli (2016) state that full language proficiency necessitates that learners pool their understanding that metaphors are pervasive in everyday speech as speakers' metaphorical competence contributes to their overall communicative competence. Lakoff and Johnson in 1980 realized that metaphorical competence was a negated linguistic skill and hence a new grassroots advocacy had to be addressed. Their work *Metaphors We Live By* (Lakoff & Johnson, 1980a) explain that metaphors are pervasive in everyday language and that the way we structure our thoughts and ideas is metaphorical. They stated: "Metaphor is pervasive in everyday life not just in language but in thought and action" (pp. 3); for example, *argument is war* where an urban conflict is identified

INTRODUCTION

with a well-known domain such as a war to express the strong emotion of ferociousness.

This conceptualization of metaphor led to the development of the Conceptual Metaphor Theory based on the nature of the human conceptual system, which is fundamentally metaphorical in character (Lakoff & Johnson, 1980b). Although it also contains non-metaphorical concepts, which are those that arise directly from our experience and are defined in their own terms, the objective of their work is the metaphorical concepts of language, which are understood and structured in terms of other concepts, such as *you're running out of time*, in colloquial language but also in professional fields, such as aviation in expressions like *crabbing* or *belly landing*.

In broad terms, it can be couched that humans speak metaphorically in their mother tongue without even realizing it, in other words, without metaphorical awareness. Expressions, such as *She is the light of my life*, are frequently used when having an informal chat or formal speech not meant to be taken literally but figuratively. Metaphorical awareness is the realization that certain expressions are figurative and therefore cannot be understood literally. This happens in our native language(s) even though sometimes we are not conscious of it. Similarly, metaphorical competence is “the ability to comprehend and use metaphors in L2” (Sabet & Tavakoli, 2016, p. 32).

In this vein, these definitions connect with the communicative competence of each language learner, in such a way that their metaphorical competence may be prone to increase their communicative competence. For Danesi (1992) metaphorical competence is closely linked with conceptual fluency. Such an assertion is based on the contingency of an L2 student's ability to master conceptual fluency once and if metaphorical competence is achieved in the first place. The above statement is exemplified with: “A is B structuring” (Danesi, 1992, p. 490) which represents the native speaker uttering a particular expression but meaning something else, so much so that the conceptual domain of *I'm feeling blue* is assumed metaphorically when it is delineated that the speaker feels sadness; this is

the highly coveted metaphorical competence, that is, to be able to interpret a certain conceptual domain in the target language.

Concomitantly, the reason why humans need the metaphor relies on the fact that metaphors allow us to understand abstract thoughts and feelings that cannot be directly seen, heard, touched, smelled, or tasted. Gibbs (1996) provides a new definition of metaphor with far reaching consequences: “metaphor is not merely a figure of speech but is a specific mental mapping that influences a good deal of how people think, reason, and imagine in everyday life” (pp. 309). On this account, metaphors have been present in literary texts since ancient Egypt, centuries before the Greek philosophers. Illustratively, spatial metaphors were used in normal daily life as a tool for educational instruction.

The Teaching of Menena, as it is known today, is a tale based on ancient texts from the Middle Kingdom of Egypt that covers the XI and XII dynasties; Menena, a draughtsman and a father from the New Kingdom with Ramesses III (XX dynasty) uses what seems to be an already-made sentence, to reprimand his wayward son for his bad behaviour (Tait, 2003) for his life choices using the following line: “you have gone off without sandals because you have not yet been brought (back) by a thorn!” (Di Biase-Dyson, 2013, p. 170). And for this ability to synthesize so well, metaphor is a commonly used notion in literature: “Figures of speech are imaginative tools in both literature and ordinary communications used for explaining speech beyond its usual usage” (Fadaee, 2011, p.19).

However, metaphorical awareness and metaphorical competence have been overlooked. There is a neglected dimension in teaching and learning a second or foreign language which Danesi (1992) points out as metaphorical competence. Prior to the 1980s, there was a distorted image in which metaphorical awareness and metaphorical competence were ascribed a much less valorisation, as metaphors did not commensurate with their importance in the native language or in second language acquisition. Since then, besides its common usage, metaphors are also used in different industries for different purposes and it is understood that metaphorical awareness and metaphorical competence are key for students of any ESP subject, like architecture (Caballero-Rodríguez, 2014), aviation (Anic, 2014),

business (Köller, 2003), and literature and poetry (Freeman, 2000; Steen, 2009) to develop strong communicative competence.

In this regard, in poetry, a form of literature, humans express and explore their feelings and emotions, which has a noteworthy impact on the lyrics of contemporary songs. Viewed in this way, several studies about metaphors in song lyrics published in the last three decades show that metaphors are present in all sorts of discourses to give an account of all topics. Proof of this are flamenco songs in which themes such as love, heartbreak, sexuality, happiness, ambition, violence, and madness are wrapped in a poetic narrative that not only embellishes the discourse but also provides tangible semantics about the feelings and emotions of songwriters (Fonseca-Mora & Camacho-Díaz, 2021). Furthermore, studies on song lyrics and musical style have developed in a variety of approaches; the work of Harpela (2015) examines Kylie Minogue's love metaphors in the singer's song repertoire; other academics analyse the different thematic of metaphors in rock songs (Kennedy, 2013); also, the medical and psychological help provided by metaphors in the songs as a healing treatment has been studied (Lehtonen, 2005; Peltola & Saresma, 2014), where the affective value is also explored with the aid of invoked metaphors and image schemas (Zyga, 2020).

Specifically, metaphor has been examined in a number of economic sectors from a linguistic point of view to expand studies on conceptual metaphor theory (Llicevic, 2020) and metaphors in different fields as a teaching tool in the classroom (Claramonte-López, 2021; Weinrauch, 2005). Hence, Abuczki (2009) discusses how the advertising industry is presented as "the ways the media uses and manipulates people's thinking by applying a specific type of figure speech" (Abuczki, 2009, p. 18). This definition is close to those of Socrates's and Plato's who developed the idea of persuasion by the orator. Thus, whenever watching an advertising spot on TV, visual and linguistic metaphors combined appeal as a rhetorical means for arousing emotions (Charteris-Black, 2011). An example of how the advertising industry has run some parfum campaigns for males and females depict occasionally women as sexual objects through metaphorical cues, where sexual desire is enhanced by men's hunger when promoting a woman's perfume; the advertising policy gets more entrenched when women are presented

linguistically as attractive food for men: *feast your senses, spice things up*. The metaphorical vision of a woman, who is the source domain and a physical concept, is elevated to an abstract projection, in this case as (sexual) food for men.

In this light, the use of a metaphorical expression bolsters a powerful invocation in this and many other fields. In architecture, for instance, when architects describe a specific design *as a surface wraps itself* (Caballero-Rodríguez, 2014), they use a linguistic figurative expression; and when a structure in the shape of a seahorse is built by them, they use a visual metaphor which stands for *as delicate as a seahorse*. As it is appreciated, there are two overlapping, even slightly confusing meanings: one is the linguistic meaning, and the other one is the visual understanding of metaphor. Thus far, metaphor plays a crucial role in the process of becoming an architect (Caballero-Rodríguez, 2014).

Moreover, another interesting field intertwining dynamically the physical and abstract domains is the business industry, with a considerable amount of war metaphors, such as *Marketing is war* (Köller, 2003) which are highly entrenched. This kind of imagery is used to explain the level of importance pertaining to economic issues (Martínez-Costa et al., 2021), being such issues *the foundation of our society*. Köller (2003) exploits the business and economic discourses from magazines and newspapers to elicit from the reader an awareness that talking about war on the one hand, and on the other, talking metaphorically about business, is practically indistinguishable (Köller, 2003). In this sense, there are also other examples that compare an economic crisis with a sickness, such as *la crisis del euro es una enfermedad* which means *the euro crisis is a disease* (Martínez-Costa et al., 2021).

In the field of aviation, an aircraft is compared to a bird since the invention of the aeroplane was based on how birds fly. Potaluy and Voronko (2016) establish a set of metaphors found in aviation manuals were *TCAS (Traffic Collision Avoidance System) is designed to provide a set of electronic eyes* or *The heart of the airspeed indicator is a diaphragm that is sensitive to pressure changes*.

INTRODUCTION

Our analysis took a fine-grained approach to examining metaphorical awareness and metaphorical competence in the ESP classroom. The need to speak more than one language in a university background in a globalised society has become a steppingstone for second language learners to achieve effective professional communication (Arnó-Macià et al., 2020). In the context of ESP in higher education, university students seek to reinforce their communicative skills by learning new inputs in their field with the use of real case scenarios. Part of the teaching and learning strategies within SLA circumscribes the lexicon. Nevertheless, the metaphorical component of language seems to be a forgotten subject in the curriculum.

Consequently, it stands to reason that if metaphors, as stated above, are ubiquitous in industrialised languages, expressing complex ideas with just a few words, and are so pervasively present in all types of discourses, it seems that ESP courses should also focus on how to develop metaphorical awareness and metaphorical competence to instruct the students to understand further beyond the grammatical form and semantic context, since the use of the language at any moment serves a specific purpose, which makes it communicative (Widdoson, 1998). Converging evidence in different fields seen earlier and others such as translation (Gutiérrez-Pérez, 2016) and the generic ESP class in higher education (MacArthur, 2010) suggests that metaphorical awareness and metaphorical competence in the ESP classroom at the university level are a missing subject, and as a consequence, the communicative competence of university students is endangered.

The framework established for this investigation relates the connection between the ESP classroom of aeronautics in higher education and students' metaphorical awareness and competence. Analysis of the answers to the following research questions will reveal whether an improvement in metaphorical awareness due to metaphorical instruction increases metaphorical competence, and if so, this work will contribute to the pressure exerted by this and other works for the inclusion of metaphorical awareness and competence as a subject in the ESP syllabus.

Research questions:

- 1) What are the aeronautics students' L2 metaphorical awareness levels?
- 2) Do they increase their metaphorical competence by increasing their metaphorical awareness?
- 3) Do they strengthen their metaphorical awareness and their metaphorical competence with the specific instruction of an intervention programme?

To answer these questions, our empirical study is a pre-post longitudinal design in the context of the aeronautical degree from the Higher Technical School of Aerospace. The aim is to see if learners' metaphorical awareness improves with an intervention programme and if this improvement will have an impact on metaphorical competence favouring communicative competence. For this purpose, university students' metaphorical awareness and metaphorical competence in L2 that belong to two different branches, Engineering and Management, have been measured.

First of all, in the pre- post- design, three questionnaires and two tests were administered to a control group and an experimental group of aeronautical students. The questionnaires were used to collect personal information from participants about their CEFR levels, and the like. The tests were used to link the metaphorical awareness and metaphorical competence together, in an attempt to measure the students' metaphorical awareness and metaphorical competence in relation to the variables of written comprehension and production. Besides, an intervention programme was administered to the participants of the experimental group to analyse their improvement as opposed to the control group. Such an intervention included a series of metaphor exercises related to aeronautical texts and an aviation-based escape room where the students selected and interpreted metaphorical expressions.

To this end, metaphors in contemporary songs were introduced as they can act as a possible motivational resource. It has been proven that songs are a compelling stimulus for people, and more importantly for young individuals. University students spend their free time listening to music, going to concerts,

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playing songs, and this could work as a motivational engine, contributing to a linguistic approach of university students of ESP to metaphor. Therefore, metaphorical awareness and metaphorical competence could be implemented through the lyrics of contemporary songs. Thus by, a musical repertoire of contemporary songs in the classroom of ESP can be considered as an inspiring tool to introduce ESP learners to metaphors.

The main goal of this work is to see if metaphorical awareness predicts the development of metaphorical competence, and if so, to know if metaphorical awareness can be fostered with songs. Making students aware of the existence of metaphors through the lyrics of songs can prompt the comprehension of the various specific contexts in which each metaphorical expression is used so that conceptual metaphors are employed successfully in future discourses.

To investigate all the different issues raised above that will lead to answering the research questions, chapter one takes us to examine the concept of ESP and its evolution. A glimpse into the implementation of ESP from the CEFR will focus on the internationalization of university students. Likewise, a description of the practical application of ESP classes will be provided as well as the materials used, and the figure of the teacher analysed.

Chapter two focuses on the metaphor as a crucial element in the acquisition of communicative competence. The resurgence of the metaphor in 1980, a forgotten or perhaps underestimated subject since the times of Ancient Greece, will be explained. Moreover, the theories in force today which revolve around metaphor within cognitive linguistics will be scrutinised, along with the comprehension of how metaphors influence our understanding of the world.

In the third chapter, we will delve into the concepts of metaphorical awareness and metaphorical competence, defining these terms and observing the implications for the differences between L1 and L2 acquisition. Emphasis will also be placed on the implementation of metaphorical awareness and metaphorical competence, and a correlation will be made of the activities that can be carried out in class for this purpose. It will be understood how the L2 learner needs both native

exposure and motivation to assimilate the pedagogical notions of fostering metaphorical awareness before being able to master metaphorical competence.

The fourth chapter exploits musical experiences through media discourse thanks to the analysis of metaphorical expressions found in the lyrics of contemporary songs, as they are within reach of university students. In the context of ESP, metaphoricity will be studied through songs, as they promote the transmission of a cultural product through their lyrics that include figurative language, which expose users to native input to potentially develop metaphorical awareness.

In the fifth chapter, the empirical study will be described which will lead us to contrast the metaphorical awareness and metaphorical competence of two groups of participants from the Higher Technical School of Aeronautical Engineering and Space. Data will be collected and analysed. The objective is to answer the research questions about the correlation between metaphorical awareness and metaphorical competence.

Predicated on the improvement of the communicative competence that must be instructed (Littlemore & Low, 2006), the development of metaphorical awareness and metaphorical competence in the ESP classroom is promoted to achieve the effective communicative competence sought and becoming a turning point. Metaphors are being voiced as a learning strategy in the L2 classroom, and hence the ESP teachers are acknowledging the inclusion of metaphors in the ESP courses (Gutiérrez-Pérez, 2018; MacArthur, 2010).

Beltran-Palanques and Silvestre-López (2018, 2019) show how necessary it is for ESP students to develop metaphorical awareness and metaphorical competence in a multimodal way to acquire full communicative competence in L2. Different university disciplines that include aeronautics (Robisco-Martín, 2009) have conducted research on metaphors and concluded that in aeronautical communications, the human concept of the vertical axis within the aerospace is projected through metaphors. The genuine idea of this work covering an existing gap is to foster metaphorical awareness through the discourse analysis of metaphors

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in songs in order to master metaphorical competence. However, this achievement of placing metaphor as part of the ESP syllabus is marred by difficulties, although it has been noted that the inclusion of metaphors in the curricula reinforce learners' communicative competence in L2 and with it, accelerate the second language acquisition process (SLA) (Gutiérrez-Pérez, 2018; McArthur, 2010; Rivera-León, 2017).

Finally, as a future line of research, further investigation is needed to see if males and females with the same exposure to the metaphorical component of language, assimilate the dynamics in a similar expeditious process, or not.

INTRODUCCIÓN

La competencia comunicativa se refiere a la capacidad del hablante para comunicarse exitosamente utilizando el lenguaje. Es el conocimiento de las convenciones de procesamiento del discurso (Gumperz, 1984) y en la lengua materna se desarrolla “dondequiera que se produzca la interacción social” (Sauvignon, 2018). Abarca mucho más que simples reglas gramaticales, como la interrelación entre el habla y una “variedad de géneros, narración, danza, drama, canción, música instrumental y artes visuales” (Hymes, 1972, p. 65). Bachman y Palmer (1996) destacan que la competencia comunicativa consiste en competencia organizacional y pragmática que se bifurcan en competencias gramaticales y textuales, a lo largo del eje de las competencias ilocucionarias y sociolingüísticas, respectivamente.

Más recientemente, el Marco Común Europeo de Referencia para las Lenguas respalda tal afirmación y describe la competencia comunicativa como el léxico, la semántica, la gramática, la fonología, la ortografía y la ortopedia de la lengua, además de los aspectos sociolingüísticos e ilocucionarios de la vida en sociedad. En este sentido, la comprensión de términos como normas de uso de palabras y reglas, y apropiación junto con cohesión y coherencia (Canale y Swain, 1980) facilitan la adquisición del concepto. El desarrollo de la noción de competencia comunicativa impulsó la creación de estrategias sobre enfoques comunicativos para la enseñanza de una segunda lengua, ya que “la competencia comunicativa puede considerarse como el objetivo de la adquisición de una segunda lengua, un objetivo principal de la enseñanza y el aprendizaje de una segunda lengua o lengua extranjera” (Whyte, 2019, p. 1). De ahí la existencia del examen TOEFL y similares.

Sabet y Tavakoli (2016) afirman que el dominio total del lenguaje requiere que los estudiantes comprendan que las metáforas son omnipresentes en el habla cotidiana, ya que la competencia metafórica de los hablantes contribuye a su competencia comunicativa general. Lakoff y Johnson en 1980 se dieron cuenta de que la competencia metafórica era una habilidad lingüística negada y, por tanto, era necesario abordar una nueva defensa de base. Su trabajo *Metaphors We Live By*

(Lakoff y Johnson, 1980a) explica que las metáforas son omnipresentes en el lenguaje cotidiano y que la forma en que estructuramos nuestros pensamientos e ideas es metafórica. Afirmaron: “La metáfora es omnipresente en la vida cotidiana, no sólo en el lenguaje sino también en el pensamiento y la acción” (p. 3); por ejemplo, *argument is war* ejemplifica un conflicto urbano que se identifica con un dominio bien conocido, como una guerra, para expresar la fuerte emoción de ferocidad.

Esta conceptualización de la metáfora condujo al desarrollo de la Teoría de la Metáfora Conceptual basada en la naturaleza del sistema conceptual humano, que es fundamentalmente de carácter metafórico (Lakoff & Johnson, 1980b). Aunque también contiene conceptos no metafóricos, que son aquellos que surgen directamente de nuestra experiencia y se definen en términos propios, el objetivo de su trabajo son los conceptos metafóricos del lenguaje, que se entienden y estructuran en términos de otros conceptos, como *you are running out of time*, en el lenguaje coloquial pero también en ámbitos profesionales, como el de la aviación, en expresiones como *crabbing* o *belly landing*.

En términos generales, se puede decir que los humanos hablamos metafóricamente en nuestra lengua materna sin darnos cuenta, en otras palabras, sin conciencia metafórica. Expresiones como *She is the light of my life* se utilizan con frecuencia cuando se tiene una charla informal o un discurso formal, y no debe tomarse literalmente sino en sentido figurado. La conciencia metafórica es la comprensión de que ciertas expresiones son figurativas y, por lo tanto, no pueden entenderse literalmente. Esto sucede en nuestra(s) lengua(s) nativa(s) aunque a veces no seamos conscientes de ello. De manera similar, la competencia metafórica es “la capacidad de comprender y utilizar metáforas en L2” (Sabet & Tavakoli, 2016, p. 32).

En este sentido, estas definiciones conectan con la competencia comunicativa de cada estudiante de lengua extranjera, de tal manera que su competencia metafórica puede ser proclive a incrementar su competencia comunicativa. Para Danesi (1992) la competencia metafórica está estrechamente vinculada con la fluidez conceptual. Tal afirmación se basa en la contingencia de la

capacidad de un estudiante de L2 para dominar la fluidez conceptual una vez y si se logra la competencia metafórica en primer lugar. La afirmación anterior se ejemplifica con: “A es estructuración de B” (Danesi, 1992, p. 490) que representa al hablante nativo pronunciando una expresión particular, pero con el significado de otra cosa; tanto es así, que el dominio conceptual de *I’m feeling blue* se asume metafóricamente cuando se delinea que el hablante siente tristeza; esta es la muy codiciada competencia metafórica, es decir, poder interpretar un determinado dominio conceptual en el idioma aprendido.

Al mismo tiempo, la razón por la que los humanos necesitan la metáfora se basa en el hecho de que éstas nos permiten comprender pensamientos y sentimientos abstractos que no se pueden ver, oír, tocar, oler o saborear directamente. Gibbs (1996) proporciona una nueva definición de metáfora con consecuencias de largo alcance: “la metáfora no es simplemente una figura retórica, sino un mapa mental específico que influye en gran medida cómo piensan, razonan e imaginan las personas en la vida cotidiana” (pp. .309). Por este motivo, las metáforas han estado presentes en los textos literarios desde el antiguo Egipto, siglos antes de los filósofos griegos. A modo de ejemplo, las metáforas espaciales se utilizaron en la vida diaria normal como herramienta para la instrucción educativa.

La Enseñanza de Menena (The Teaching of Menena), como se conoce hoy en día, es un cuento basado en textos antiguos del Reino Medio de Egipto que abarca las dinastías XI y XII; Menena, dibujante y padre del Imperio Nuevo con Ramsés III (dinastía XX) utiliza lo que parece una frase ya hecha, para reprender a su hijo díscolo por su mal comportamiento (Tait, 2003) por sus elecciones en la vida, utilizando la siguiente línea: “¡Te has ido sin sandalias porque aún no te has pinchado!” (Di Biase-Dyson, 2013, p. 170). Y por esta capacidad de sintetizar tan bien, la metáfora es una noción comúnmente utilizada en la literatura: “Las figuras retóricas son herramientas imaginativas tanto en la literatura como en las comunicaciones ordinarias utilizadas para explicar el habla más allá de su uso habitual” (Fadaee, 2011, p.19).

Sin embargo, se han pasado por alto la conciencia y la competencia metafórica. Hay una dimensión descuidada en la enseñanza y el aprendizaje de una

segunda lengua o lengua extranjera que Danesi (1992) señala como competencia metafórica. Antes de la década de 1980, existía una imagen distorsionada en la que a la conciencia y la competencia metafóricas se les asignaba una valoración mucho menor, ya que las metáforas no eran consideradas importantes en la lengua materna o en la adquisición de una segunda lengua. Desde entonces, además de su uso común, las metáforas también se utilizan en diferentes industrias con diferentes propósitos y se entiende que la conciencia metafórica y la competencia metafórica son claves para los estudiantes de cualquier materia de ESP, como arquitectura (Caballero-Rodríguez, 2014), aviación (Anic , 2014), negocios (Köller, 2003) y literatura y poesía (Freeman, 2000; Steen, 2009) para desarrollar una fuerte competencia comunicativa.

En este sentido, en la poesía, una forma de literatura, el ser humano expresa y explora sus sentimientos y emociones, lo que tiene un impacto notable en las letras de las canciones contemporáneas. Visto de esta manera, varios estudios sobre metáforas en letras de canciones publicados en las últimas tres décadas muestran que las metáforas están presentes en todo tipo de discursos y todos los temas. Prueba de ello son los cantes flamencos en los que temas como el amor, el desamor, la sexualidad, la felicidad, la ambición, la violencia y la locura se envuelven en una narrativa poética que no sólo embellece el discurso sino que aporta una semántica tangible sobre los sentimientos y emociones de los compositores (Fonseca-Mora & Camacho-Díaz, 2021). Además, los estudios sobre letras de canciones y estilos musicales se han desarrollado desde diversos enfoques; el trabajo de Harpela (2015) examina las metáforas amorosas de Kylie Minogue en el repertorio de canciones de la cantante; otros académicos analizan las diferentes temáticas de las metáforas en las canciones de rock (Kennedy, 2013); Asimismo, se ha estudiado la ayuda médica y psicológica que aportan las metáforas en las canciones como tratamiento curativo (Lehtonen, 2005; Peltola & Saresma, 2014), donde también se explora el valor afectivo con la ayuda de metáforas invocadas con imágenes (Zyga, 2020).

En concreto, la metáfora ha sido examinada en diversos sectores económicos desde el punto de vista lingüístico para ampliar los estudios sobre la teoría conceptual de la metáfora (Llicevic, 2020) y las metáforas en diferentes campos como herramienta didáctica en el aula (Claramonte-López, 2021; Weinrauch , 2005).

Abuczki (2009) analiza cómo la industria publicitaria se presenta como “las formas en que los medios usan y manipulan el pensamiento de las personas mediante la aplicación de un tipo específico de discurso figurativo” (Abuczki, 2009, p. 18). Esta definición es cercana a las de Sócrates y Platón quienes desarrollaron la idea de persuasión por parte del orador. Así, cada vez que se ve un anuncio publicitario en televisión, las metáforas visuales y lingüísticas combinan el atractivo de la lengua y las imágenes que invocan como medio retórico para despertar emociones (Charteris-Black, 2011). Un ejemplo de cómo la industria publicitaria ha llevado a cabo algunas campañas de perfumes para hombres y mujeres representa ocasionalmente a las mujeres como objetos sexuales a través de señales metafóricas, donde el deseo sexual se ve reforzado por el hambre de los hombres cuando promocionan un perfume de mujer. La política publicitaria se afianza aún más cuando las mujeres se presentan lingüísticamente como un alimento atractivo para los hombres: deleita tus sentidos, condimenta la vida. La visión metafórica de una mujer, que es el dominio fuente y un concepto físico, se eleva a una proyección abstracta, en este caso como alimento (sexual) para los hombres.

En este sentido, el uso de una expresión metafórica refuerza una poderosa invocación en este y muchos otros campos. En arquitectura, por ejemplo, cuando los arquitectos describen un diseño específico como una superficie que se envuelve a sí misma (*a surface wraps itself*) (Caballero-Rodríguez, 2014), utilizan una expresión lingüística figurativa; y cuando construyen una estructura en forma de caballito de mar, utilizan una metáfora visual que representa la delicadeza de un caballito de mar (*as delicate as a seahorse*). Como se aprecia, hay dos significados superpuestos, incluso ligeramente confusos: uno es el significado lingüístico y el otro es la comprensión visual de la metáfora. Hasta ahora, la metáfora juega un papel crucial en el proceso de convertirse en arquitecto (Caballero-Rodríguez, 2014).

Además, otro campo interesante que entrelaza dinámicamente los dominios físico y abstracto es la industria empresarial, con una cantidad considerable de metáforas de guerra, como *Marketing es la guerra* (Köller, 2003), que están muy arraigadas. Este tipo de imágenes se utilizan para explicar el nivel de importancia de las cuestiones económicas (Martínez-Costa et al., 2021), siendo dichas cuestiones la base de nuestra sociedad. Köller (2003) explota los discursos empresariales y

económicos de revistas y periódicos para provocar en el lector la conciencia de que hablar de guerra, por un lado, y hablar metafóricamente de negocios, por el otro, es prácticamente indistinguible (Köller, 2003). En este sentido, también hay otros ejemplos que comparan una crisis económica con una enfermedad, como la crisis del euro es una enfermedad (Martínez-Costa et al., 2021).

En el ámbito de la aviación se compara un avión con un pájaro ya que la invención del avión se basó en cómo vuelan los pájaros. Potaluy y Voronko (2016) establecen un conjunto de metáforas que se encuentran en los manuales de aviación donde el TCAS (Sistema para evitar colisiones de tráfico) está diseñado para proporcionar un par de ojos electrónicos o el corazón del indicador de velocidad del aire es un diafragma sensible a los cambios de presión.

Nuestro análisis adopta un enfoque detallado para examinar la conciencia metafórica y la competencia metafórica en el aula de ESP. La necesidad de hablar más de un idioma en una formación universitaria en una sociedad globalizada se ha convertido en un trampolín para que los estudiantes de una segunda lengua logren una comunicación profesional efectiva (Arnó-Macià et al., 2020). En el contexto de ESP en la educación superior, los estudiantes universitarios buscan reforzar sus habilidades comunicativas aprendiendo nuevos insumos en su campo con el uso de escenarios de casos reales. Parte de las estrategias de enseñanza y aprendizaje dentro de la Adquisición de Segundas Lenguas (Second Language Acquisition SLA) circunscribe el léxico. Sin embargo, el componente metafórico del lenguaje parece ser un tema inexistente en el currículum.

En consecuencia, es lógico que, si las metáforas, como se indicó anteriormente, están presentes en los lenguajes industrializados, expresan ideas complejas con sólo unas pocas palabras y aparecen en todo tipo de discursos, entonces, los cursos de ESP también deberían centrarse en cómo desarrollar la conciencia y la competencia metafórica para instruir a los estudiantes a comprender más allá de la forma gramatical y el contexto semántico. El uso del lenguaje en cualquier momento tiene un propósito específico, lo que lo hace comunicativo (Widdoson, 1998). La evidencia en diferentes campos vistos anteriormente y otros como la traducción (Gutiérrez-Pérez, 2016) y la clase de ESP en la educación

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superior (MacArthur, 2010) sugiere que la conciencia y la competencia metafórica en el aula de ESP a nivel universitario son elementos ausentes, y como consecuencia, la competencia comunicativa de los estudiantes universitarios no se desarrolla de manera óptima.

El marco establecido para esta investigación relaciona la conexión entre el aula ESP de aeronáutica en la educación superior y la conciencia y competencia metafórica de los estudiantes. El análisis de las respuestas a las siguientes preguntas de investigación revelará si una mejora en la conciencia metafórica debido a la instrucción metafórica aumenta la competencia metafórica y, de ser así, este trabajo contribuirá a la presión ejercida por ésta y otras investigaciones para la inclusión de la conciencia y la competencia metafóricas como materia del programa de estudios ESP.

Preguntas de investigación:

- 1) ¿Cuáles son los niveles de conciencia metafórica en lengua extranjera (L2) de los estudiantes de aeronáutica?
- 2) ¿Aumenta su competencia metafórica al aumentar su conciencia metafórica?
- 3) ¿Fortalecen su conciencia y su competencia metafórica con la instrucción específica de un programa de intervención?

Para responder a estas preguntas, nuestro estudio empírico toma la forma de un diseño pre-post en el contexto del grado de aeronáutica de la Escuela Técnica Superior Aeroespacial. El objetivo es ver si la conciencia metafórica de los alumnos mejora con un programa de intervención y si esta mejora tendrá un impacto en la competencia metafórica, favoreciendo la competencia comunicativa. Para ello se ha medido la conciencia y la competencia metafórica en L2 de estudiantes universitarios pertenecientes a dos ramas diferentes, Ingeniería Aeronáutica y Gestión Aeronáutica.

En primer lugar, en los tests pre- y post- se administraron tres cuestionarios y dos pruebas a un grupo de control y a un grupo experimental de estudiantes de

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aeronáutica. Los cuestionarios se utilizaron para recopilar información personal de los participantes sobre su nivel del inglés según el Marco Común Europeo de Referencia (MCER) para lenguas y similares. Las pruebas se utilizaron para vincular la conciencia y la competencia metafórica, en un intento de medir la conciencia metafórica y la competencia metafórica de los estudiantes en relación con las variables de comprensión y producción escrita. Además, se administró un programa de intervención a los participantes del grupo experimental para analizar su mejora respecto al grupo de control. Dicha intervención incluyó una serie de ejercicios de metáforas relacionados con textos aeronáuticos y un Escape Room basado en un contexto sobre aviación donde los estudiantes seleccionaron e interpretaron expresiones metafóricas.

Para ello se introdujeron las metáforas en las canciones contemporáneas ya que pueden actuar como posible recurso motivacional. Se ha demostrado que las canciones son un estímulo que genera interés intrínseco en las personas y, sobre todo, en los jóvenes. Los estudiantes universitarios dedican su tiempo libre a escuchar música, ir a conciertos, tocar canciones, y esto podría funcionar como motor, contribuyendo a un acercamiento lingüístico de los estudiantes universitarios de ESP a la metáfora. Por lo tanto, la conciencia y la competencia metafórica podrían implementarse a través de las letras de canciones contemporáneas. Así, un repertorio musical de canciones contemporáneas en el aula de ESP puede considerarse como una herramienta lingüística para presentar las metáforas a los estudiantes de ESP.

El objetivo principal de este trabajo es ver si la conciencia metafórica predice el desarrollo de la competencia metafórica y, de ser así, saber si la conciencia metafórica se puede fomentar con canciones. Hacer que los estudiantes sean conscientes de la existencia de metáforas a través de las letras de las canciones puede impulsar la comprensión de los diversos contextos específicos en los que se utiliza cada expresión metafórica, de modo que las metáforas conceptuales se empleen con éxito en discursos futuros.

Para investigar todas las diferentes cuestiones planteadas anteriormente que conducirán a responder las preguntas de investigación, el capítulo uno nos lleva a examinar el concepto de inglés para fines específicos (ESP) y su evolución. Un

vistazo a la implementación del ESP desde el MCER se centrará en la internacionalización de los estudiantes universitarios. Asimismo, se proporcionará una descripción de la aplicación práctica de las clases de ESP y de los materiales utilizados, analizando también la figura del profesor.

El capítulo dos se centra en la metáfora como elemento crucial en la adquisición de la competencia comunicativa. Se explicará el resurgimiento de la metáfora en 1980, un tema olvidado o quizás subestimado desde los tiempos de la Antigua Grecia. Además, se examinarán las teorías vigentes en la actualidad que giran en torno a la metáfora dentro de la lingüística cognitiva, junto con la comprensión de cómo las metáforas influyen en nuestra comprensión del mundo.

En el tercer capítulo profundizaremos en los conceptos de conciencia y competencia metafórica, definiendo estos términos y observando las implicaciones para las diferencias entre la adquisición de la lengua materna o L1 y una segunda lengua o L2. También se hará hincapié en la implementación de la conciencia y la competencia metafórica, y se realizará una correlación de las actividades que se pueden realizar en clase con este fin. Se entenderá cómo el estudiante de L2 necesita tanto exposición nativa como motivación para asimilar las nociones pedagógicas de fomentar la conciencia metafórica antes de poder dominar la competencia metafórica.

El cuarto capítulo examina experiencias musicales a través del discurso mediático gracias al análisis de expresiones metafóricas encontradas en las letras de canciones contemporáneas, al alcance de los estudiantes universitarios. En el contexto de ESP, la metaforicidad se estudiará a través de canciones, ya que promueven la transmisión de un producto cultural a través de sus letras que incluyen lenguaje figurativo, que exponen a los usuarios a aportes nativos para desarrollar potencialmente una conciencia metafórica.

En el quinto capítulo se describirá el estudio empírico que nos llevará a contrastar la conciencia y la competencia metafórica de dos grupos de participantes de la Escuela Técnica Superior de Ingeniería Aeronáutica y del Espacio. Los datos

serán recopilados y analizados. El objetivo es responder a las preguntas de investigación sobre la correlación entre conciencia y competencia metafórica.

Con base en la mejora de la competencia comunicativa que se debe instruir (Littlemore & Low, 2006), se promueve el desarrollo de la conciencia metafórica y la competencia metafórica en el aula de ESP para alcanzar la competencia comunicativa efectiva buscada y convirtiéndose en un punto de inflexión. Las metáforas se están promoviendo como una estrategia de aprendizaje en el aula de L2 y, por lo tanto, los profesores de ESP están reconociendo la necesidad de la inclusión de metáforas en los cursos de ESP (Gutiérrez-Pérez, 2018; MacArthur, 2010).

Beltran-Palanques y Silvestre-López (2018, 2019) muestran en su investigación cuán necesario es que los estudiantes de ESP desarrollen la conciencia metafórica y la competencia metafórica de manera multimodal para adquirir una competencia comunicativa plena en L2. Diferentes disciplinas universitarias que incluyen la aeronáutica (Robisco-Martín, 2009) han realizado investigaciones sobre las metáforas concluyendo que en las comunicaciones aeronáuticas, el concepto humano del eje vertical dentro del espacio aeroespacial se proyecta a través de metáforas. La idea genuina de este trabajo que cubre una brecha existente es fomentar la conciencia metafórica a través del análisis del discurso de las metáforas en las canciones para dominar la competencia metafórica. Aunque, este logro de colocar la metáfora como parte del programa de estudios de ESP se ve empañado por dificultades, se ha observado que la inclusión de metáforas en los planes de estudio refuerza la competencia comunicativa de los estudiantes en L2 y con ello, acelera el proceso de adquisición de una segunda lengua (SLA) (Gutiérrez-Pérez, 2018; MacArthur, 2010; Rivera-León, 2017).

Finalmente, como línea futura de investigación, se necesita más investigación para ver si hombres y mujeres con la misma exposición al componente metafórico del lenguaje, asimilan la dinámica en un proceso expedito similar, o no.

THEORETICAL FRAMEWORK

CHAPTER 1: Learning English in professional university contexts

1.1 Introduction

English is nowadays the lingua franca in the university context of internationalization (Jenkins, 2019) where foreign students and professors are sought to imbue international reputation. Correspondingly, the scientific-technical world focuses on specialised terminology in English in which finding the equivalence of technical concepts from L1 to L2 is crucial to achieving the necessary expertise to expand your professional career overseas (Enesi et al., 2021). Thus, the Polytechnic Schools host scientific-technical degrees such as engineering in any field, and many others. The concerns raised in Spain thirty years ago arose when it was observed that literature studies were not sufficient stimulus to transmit technical knowledge of English language, having to shift toward applied linguistics to offer English for Specific Purposes (ESP) courses (Aguado de Cea & Curado-Fuentes, 2012). This change procured a competitive scientific-technical-English, oriented to the teaching and learning of the second or foreign language with a pragmatic didactic strategy that was included in training programmes and institutional policies in order to improve discipline-specific communication (Mancho-Barés & Arnó-Maciá, 2017). The Polytechnic University of Madrid (UPM) encompasses, among many others, the Higher Technical School of Aeronautics, on which our empirical study is based. The research establishes a correlation between the participants of the two four-year degrees offered: Aeronautical Engineering and Aviation Management, both with ESP subject comprised in the study plan.

1.2 University context of internationalisation

Internationalization in the context of Higher Education is a matter of promoting reciprocal intercultural understanding (Whitsed & Volet, 2011), although, the concept is much wider than that. Wächter (2010) derives internationalization into six clusters of activities and themes that circumscribe the utilization of the locution (Table 1.1).

Table 1.1 Wächter´s (2010) clusters of activities and themes in international mobility

1) physical mobility across the country borders
2) the recognition across the country borders of degrees and qualifications
3) study periods
4) sub-qualifications such as modules and courses
5) curricular reform with the aim of injecting an international element into the content
6) Delivery of programmes in a language other than the one of the countries where this programme is offered

The European Higher Education Area (EHEA) established two main objectives to be achieved: “1) to facilitate the mobility of students, and 2) to make Higher Education in Europe more attractive and competitive worldwide” (de Wit, 2018, p. 15). The creation of international scholarships for overachiever students who began to take advantage of university exchange programmes renewed the interest in university education to approach other cultures where students can make some inroads in learning a new language. Consequently, new cultural-input was enhanced, which triggered “to upgrade the international perspectives and skills of the students” (Altbach & Knight, 2007, p. 290).

Globalization is a positive motivation for students to take their personal and professional goals abroad in order to progress internationally. ESP is thus included in academic programmes for several reasons: the student’s sharpened-profiling improvement for future employment in which the learners are better qualified, and the international prestige sought by tertiary educational institutions, hence, promoting a rich and varied curriculum in a multidisciplinary environment. A wide range of university degrees includes either ESP, Content and Language Integrated Learning (CLIL) and/ or English as a Medium of Instruction (EMI) and all in accordance with the Common European Framework of References for Languages (CEFR).

In the context of a modern European society, teaching modern languages was taken as a crucial factor to integrate the values and idiosyncrasies of all the different European nations; thus, promoting international mobility among university students, which helps to advance knowledge and linguistic skills to bring

closer the cultural and social issues to be tackled (Trim, 2007). The learning objectives are therefore established to improve communicative competence to achieve the goals of the Council of Europe; these are mainly the “strengthening of pluralistic participatory democracy and the development of an informed, independent but socially responsible public opinion” (Trim, 2007, p. 16).

The last two decades of the twentieth century saw a growing trend towards the establishment of a set of guidelines common to all European languages. European nations were required to reach a consensus to create a valid international language assessment system (Howatt & Smith, 2014). This led to a need to redirect the methodology in the classroom whose core of instruction, until then, was focused on a traditional syntactic approach, and whose interest will advocate for a more pragmatic formula, concentrating now on the teachings in a more semantic way.

In light of these expectations, the Common European Framework of Reference (CEFR) for Languages was born within the scope of the Council of Europe. This body conducts its activities in the area of linguistic diversity, and language learning under the European Cultural Convention (Council of Europe, 2020). There are different perspectives that reflect on the different definitions of the CEFR; one of them is to identify the CEFR with:

a tool providing a transparent, coherent and comprehensive basis for the elaboration of language syllabuses and curriculum guidelines, the design of teaching and learning materials, and the assessment of foreign language proficiency.

(Athanasίου et al., 2016, p 297)

CEFR is based on the restructuring of the previous model based on cultural and social barriers. This new enlightenment engages European people in the understanding, co-operation, and mobility of the citizens to promote speaking in other European languages, in addition to their own. What is more pressing, a common categorization was reached for the evaluation of different levels of proficiency so that the same parameter would be applied in different countries, at least among European nations. Hence, the classification of levels in learning a second or foreign language, depicting several European languages is as follows:

Table 1.2. CEFR levels. Oral comprehension across languages (CEFR, 2023)

	Pre-A1	A1	A2	A2+	B1	B1+	B2	B2+	C1	C2	Above C2
English											
German											
French											
Spanish											
Italian											

These levels indicate the didactic strategies and content for students and teachers, where the descriptive schemes introduce the reader to the guidelines of expected or desired knowledge progressively attainable while continuing to learn an L2 (Hustijn et al, 2010) as shown in Table 1.3.

Table 1.3. Overall proficiency in one language (e.g. Spanish) (CEFR, 2023)

Spanish	Pre-A1	A1	A2	A2+	B1	B1+	B2	B2+	C1
Oral comprehension									
Reading comprehension									
Oral interaction									
Written interaction									
Oral production									
Written production									
Mediation									

Trim (2007) provides insights into the objectives, that are necessarily subjected to: 1) identification of target audience, 2) the analysis of their needs, 3) their motivations to being engaged into L2 learning practices, 4) the learners' characteristics, 5) the resources available with which to design specific materials and methodology, and 6) the appraisal that constitutes the evaluation of each different level.

Furthermore, all the effort and innovative approach to language learning within the CEFR branch of the Council of Europe has proven to work effectively, expanding opportunities for interaction among European learners. It is possible thanks to the mobility designed by the organization, predicated on the international exchanges that are promoted among European universities, which call for internationalization and include universities from all around the world. The encouragement of the modern concept of acquisition of a second or foreign language has finally begun to focus on real communication between European

citizens, hence the increase in communicative competence. Ultimately, the projection of an international professional career serves as a motivating feature to go beyond European borders.

Besides, as foreign students enrol in academic degrees overseas to gain international reputation and consequently, empowerment, and as they consider international exchange programmes to visit remote universities in distant countries, they do so without hesitation, since they know that English will remain a common language for communication (Wächter & Maiworm, 2008).

1.2.1. English as a lingua franca

The detailed analysis of European languages by the Council of Europe states that English is not only a modern language, but the lingua franca of modern times. English has inexorably become the target language to be taught at all levels of educational institutions in Europe: primary, secondary, and tertiary. The pedagogical methodology presented by CEFR has the propensity to encourage students to enrol in language courses inside and outside the facilities of their school or university. This background and seamlessly improvement make EFL learners, also known as learners of English as a Foreign Language, inherently seek further training.

In this regard, within the intercultural communication in all spheres, English is a universal language and has been for decades. The lingua franca of 20th and 21st centuries was determined by certain advances in the history of humanity, such as the development of business, science, and technology in English-speaking countries, mainly the US (Rahman, 2015). It is indisputable that English is the leading language both for communication and for the dissemination of knowledge (Donesch-Jezo, 2012). On that account, a high number of international students at overseas universities fathom venturing abroad by assuring themselves that they do speak English and presenting their language certificates as proof. However, the cognizance that their knowledge of the language is limited is verified shortly after arrival. Beyond its impact on miscommunication, students' hampered

comprehension of English language urges to be inexorably resolved for English speeches in academic lectures to be fully assimilated.

In view that an unnuanced understanding of the English language is not sufficient to prepare students professionally, a more pragmatic perspective deemed a more efficient communicative technique for specific career fields is ESP. ESP is the development of an English course for specific purposes, with newly designed communicative activities. ESP programmes are the basis of the mentality turnover since English was declared the *lingua franca* for communication and as such, ESP course arrangements are part of the core management of tertiary education specifically in scientific fields, such as aeronautical studies, where international aeronautical communication is carried out in English.

1.2.2. Professionalism of Polytechnic Schools

The rapprochement with competitiveness in any new technological area within science and technology that began to develop from the 1960s, urged countries around the world to improve their level of English in tertiary education with the conceptualization that the mindset of the future professional generations were prompted by involvement in innovative technological projects, so as not to fall into clichés, and thus be part of business investments and progress overall regardless of the professional worker's provenance.

The purpose of polytechnic schools is to academically prepare students for a technological exchange of projects that expand their professional expectations beyond the university years. Ergo, the motivation for internationalization, besides language acquisition, relies on commercial advantage knowledge (Altbacht & Knight, 2007).

The constant development of effective academic and professional communication (Arnó-Macià et al., 2020) is directly related to SLA courses in Higher Education. English for Specific Purposes (ESP) courses are in high demand at universities. Tinged with a tenet of self-improvement, the students' development of communicative competence is highlighted as the targeted reason that some

scholars (Munby, 1981) understand as the corner stone for which neatness is applied in the design of ESP programmes, so that non-native speakers (NNSs) of English have adequate communicative competence in any highly-skilled professional position in any country; for instance: Thai Civil Engineering students (Thepseenu, 2020), nursing students in Indonesia (Saragih, 2014), or University students of Aeronautics in Spain (Robisco-Martín, 2009).

At present, there seems to be a change of mindset in teaching practices and pedagogies in tertiary education that advocates addressing shortcomings in students' communicative abilities in the face of real case scenarios with native speakers. In this context, "The use of the language can only be understood within the social context of the speakers" (Dressen-Hammouda, 2013, p. 500). In connection with it, growing evidence such as internationalization supports the understanding that ESP courses are also delivered in non-English speaking countries. The medium used to simulate the social context of the target discursive community on account of the geographical dispersion of the learners relies on a socio-cultural strategy-oriented ESP curriculum.

While trying to apply this principle, ESP research has concentrated on improving the teaching context methodology to bring real-case dialogues and activities closer to ESP students. Epistemologically and methodologically akin ethnographic studies in second language learning (Harklau, 2005) were driven forward from the 1980s by the assumption that socio-cultural background was part of general linguistic competence. Thus, ethnographic movements seek to integrate communicative needs with sociolinguistic contexts. This is done to contemplate a vision of language teaching and learning as:

more heterogeneous, dialogic, and situated, as a mosaic of registers and genres organized around specific domains of social practice – disciplines, professions, workplaces, recreation, home, and community/public life

(Prior, 2013, p. 518)

Overall, ESP encompasses the need to practice specific topics within separate professional fields at any university where a specialised subject matter is

integrated into second language acquisition. In other words, ESP courses are the trampoline for the students to communicate a set of professional skills and to perform profession-related activities (Rahman, 2015).

1.3. The concept of ESP

Over the past 60 years, ESP has been defined around two distinct milestones. Hutchinson and Waters (1987) interpret ESP as a learning-centred-approach whose strategy brings about the students' motivation without contemplating a specific corpus of vocabulary, materials, or methodology (Figure 1.1). Dudley-Evans & St. John, (1998) related ESP to absolute and variable characteristics, whose categories can be summarized in three aspects: needs analysis, the analysis of the genres and language related to these needs, and the use of the methodology of the disciplines or professions (Dudley-Evans & St. John, 1998) On the whole, ESP became a new teaching technique in which English itself, the four language skills, discourse analysis, and appropriate genre to specific fields of work or disciplines are applied in the classroom.

To this end, social factors and institutional needs are deemed important for designing an appropriate English language course based on a very specific field (Holliday, 1995). On the other hand, a perhaps more complex way of viewing ESP, is the intertwined relationship with English for Academic Purposes (EAP), which considers an array of variables: classroom language, teaching methodology, teacher education, assessment of language, needs analysis, materials development and evaluation, discourse analysis, and many more (Hamp-Lyons, 2011).

For the purpose of this research, the inference about ESP is the teaching methodology applied in a particular classroom of English where the subject matter of a tertiary discipline, for instance aeronautics, is the focal point, and all the tasks and activities revolve around it. All four language skills are practiced and implemented: speaking, reading, listening, and writing, predicated on a specific vocabulary, in which grammar examples are extracted from technical literature,

and teachers must have excellent knowledge of the topic, to provide explanations that expand the scope of a traditional English language class.

With the provision of stating the most adequate definition of ESP, it is revealing that Munby (1981) elucidates ESP as the programme “where the syllabus and the materials are determined in all essentials by the prior analysis of the communication needs of the learner” (Munby, 1981, p. 2). It is best suited to the purpose of designing a specific ESP course for each professional discipline in Higher Education.

Nonetheless, as far as ESP is concerned, there is another differentiation, in which ESP is subdivided into English for Occupational Purposes (EOP) and English for Academic Purposes (EAP). A brief clarification on their distinction is as follows: EOP relates to the ESP course in which the learners are workers who need to learn sufficient English skills to fulfil professional duties, whether they work in civil aviation or in a hotel; that is, it prepares learners to function in a particular profession (Donesch-Jezp, 2012) where English is necessary to perform the occupational duties in part or in full. Conversely, EAP denotes the ESP learnt in tertiary education, where English learners need to acquire discipline-based knowledge in order to pursue their roles as students, in other words, to graduate with EAP as a major subject (Munby, 1981).

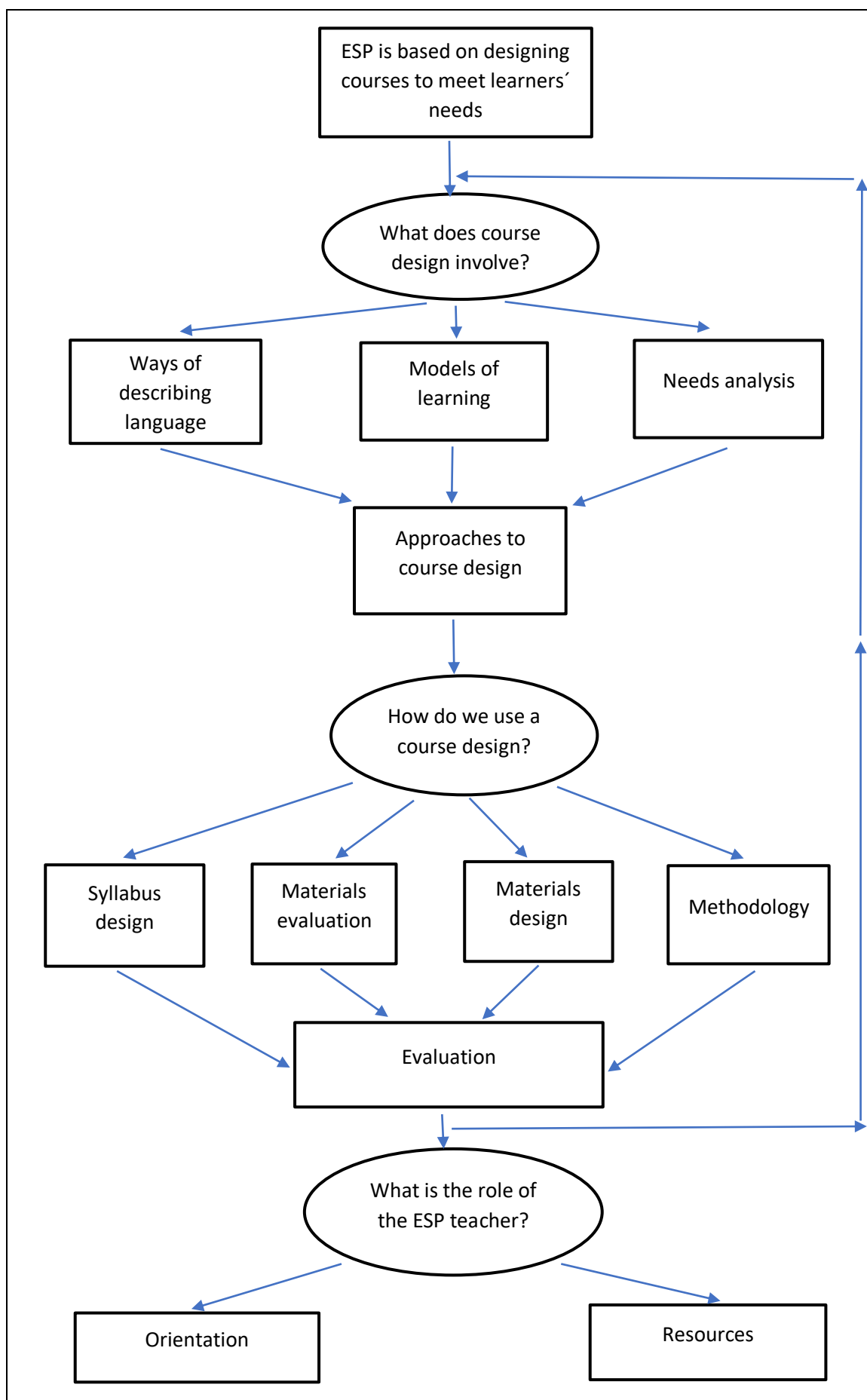


Figure 1.1 A learning-centred approach to ESP (Hutchinson & Waters, 1987)

Thus, the operation scheme of effective communicative competence can be enacted through a multimodal approach as an underlying mechanism of ESP. As research progressed over the next several decades, it was agreed that EAP and EOP were the two main branches of ESP. Robinson (1991) in her book *ESP today: A practitioner's guide*, designs a tree diagram to help in understanding the classification (Figure 1.2).

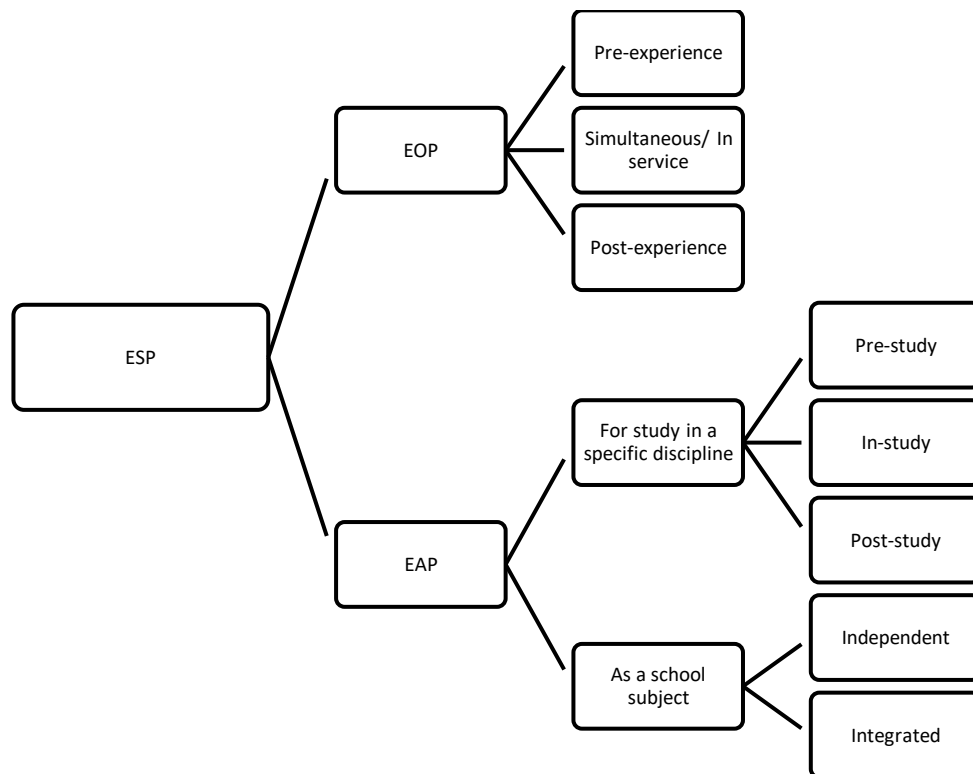


Figure 1.2 ESP classification (taken from Robinson, 1991)

Ultimately, this diagram potentially highlights the co-existence of many ESP branches. Nowadays, English courses do focus on many different and specific topics, which have been generated to encompass the professional field to which they belong. There seems to be several denominations of the varied subject-based ESP courses (Table 1.4), such as English for Science and Technology (EST), English for Medical Purposes (EMP), English for Legal Purposes (ELP), English for Business Purposes (EBP), English for Management Finance and Economics (EMFE).

Table 1.4 Denominations of ESP (taken from Rahman, 2015)

EST	English for Science and technology
EMP	English for Medical Purposes
ELP	English for Legal Purposes
EBP	English for Business Purposes
EMFE	English for Management Finance and Economics

In addition, a divergence has been established between generic and specific, with respect to the categorization made of ESP by Robinson (1991). Common-core skills and genres are valued as full, and are part of a discipline or profession, and appropriate ESP programmes focus on specific work. All in all, ESP becomes a linguistic methodology in the process of theoretical and pragmatic training. As a consequence, another body of ESP classification is found in the following explanation (Table 1.5): “English for General Academic Purposes (EGAP) separated from English for Specific Academic Purposes (ESAP), and English for General Business Purposes (EGBP) as a different branch from English for Specific Business Purposes (ESBP)” (Dudley-Evans & St. John, 1998, p. 6).

Table 1.5 Dudley-Evans and St. John’s (1998) ESP classification

EGAP	English for General Academic Purposes
ESAP	English for Specific Academic Purposes
EGBP	English for General Business Purposes
ESBP	English for Specific Business Purposes

For the purpose of clarity, an EMP course, in other words English for Medical Purposes, will focus on teaching its students vocabulary and terminology of treatments and diseases that have been researched and named in English. Remarkably, ESP courses may have contributed to the increased interest in a metaphor enriched medical English supplement course (Zhang & Mogana, 2020) that has been added to the ESP syllabus of Medical School in Chinese universities, to thoroughly prepare their future medical personnel, and expand their medical knowledge. Metaphorical competence is therefore considered an indispensable step

towards moving from English for General Purposes to English for Specific purposes to achieve a higher communicative competence within their disciplines. Surprisingly, the research project of Zhang and Mogana (2020) is one of the few that supports the acquisition of metaphorical competence in the ESP syllabus as focal knowledge to achieve communicative competence in its maximum comprehension.

Similarly, an EBP classroom will accentuate business language particularly related to international trade (Rao, 2019). English for Business Purposes has become an increasingly important, even dominant area of ESP (Dudley-Evans & St Johns, 1998) present in export/import negotiations, business deals, international alliances, and in this sense, even the mobility agreements for international exchanges of university students between universities of different nations, are done in English. So, while reading a contract or making a professional presentation in English, a business-style speech should be envisaged, so that the reputation as a private company, or a state institution remains intact and can develop and grow to have great prestige within the international community.

Today's research results seem to mirror the original idea that students can learn to communicate effectively within a current professional context. However, when this new teaching modality of ESP was introduced at the beginnings, many mishaps were observed in the classroom, such as a failed relationship between ESP and its intended communicative purpose, which was the main reason for its creation and its most important objective, improve L2 students' communicative competence. What happened was that the purposive communicative approach was not taking place; in fact, the participants' opinions on the effectiveness of this new modality of teaching and learning English were ignored (Hutchinson & Waters, 1984). Once the reality of the learning situation was analysed, such as the teachers' lack of knowledge of a particular topic, or the exercises outlined without context, and after much more research, measures were taken to resolve these issues.

Consequently, the emphasis of ESP is on practical outcomes; its main goal is to prepare undergraduates to communicate appropriately within the context of

the subject area per se; in other words, ESP has not been designed for subject-content teaching, “but to provide learners with sufficient awareness of language, rhetoric and study skills to enable them (the students) to learn the subject content (Dudley-Evans & St. John, 1998, p. 6).

Moreover, within the category of integrated English as a school subject, see figure 1.2 above, another classification could outline a clear relationship as well as a differentiation of the established notions among English for Academic Purposes (EAP) and Content and Language Integrated Learning (CLIL) and English as a Medium of Instruction (EMI) (Airey, 2016). The subtlety of the relationship lies first in debating whether EAP professionals can teach content or not, and subsequently, whether disciplinary experts can teach ESP.

1.3.1. Dichotomy between ESP and the CLIL and EMI tandem

English for specific purposes (ESP) is a term coined to differentiate different approaches of teaching English. Saragih (2014) states that “ESP is a movement based on the proposition that all language teaching should be tailored to the specific learning and language use needs for identified groups of learners” (pp. 60). What is more, international programmes seek to provide peers with an array of ESP teaching approaches. In this regard, a new debate was opened in the circle of ESP, that of *transnational education, collaborative or cross-border provision* referring mainly to new teaching concepts regarding the roles of language and content, in relation to the integration of programmes to adapt to new situations of internationalization.

In recent years, another distinction has been diverted from the concept of ESP. Whereas 30 years ago, after three decades of research, Robinson (1991) was able to draw the margins of each category within the notion of ESP, that categorization has been nuanced to give birth to the new idea of Content and Language Integrated Learning (CLIL) and English as a Medium of Instruction (EMI) that are merged “emphasising the dual integrative focus on content and language” (Arnó-Marcía & Mancho-Barés, 2015, p. 63). Thus, EMI programmes

“have developed in parallel to the implementation of CLIL approach at different educational levels“ (Castellano-Risco et al., 2023, p.79). The objective of both, EMI and CLIL, is for students’ conduct to be steered within the development of L2 in an educational context. By teaching a language the professor is also teaching the content of a particular subject. On this account, the concept of ESP still encompasses content and language integral learning (CLIL) and English as a medium of instruction (EMI).

In effect, the notion of the EMI and CLIL tandem by Brinton et al., (1989) is characterised with three prototype models (Figure 1.3) consisting of: “theme-based language instruction” , which is the content on which the teacher concentrates and which should be used for communicative purposes; “sheltered content instruction”, that is, if specific vocabulary is used to explain specific concepts that have specialized teachers to teach the special subject, together with the special “concomitant interactional adjustments to non-native speakers” as it is the case in CLIL classes using EMI in international university courses of any discipline; and finally, the third model is “adjunct language instruction”, which means, offering an integrative content and foreign language education, in other words, whether the second or foreign language is being supported at the same time as the content by content-specialised teachers, or vice versa, if the content is also taught by language teachers.

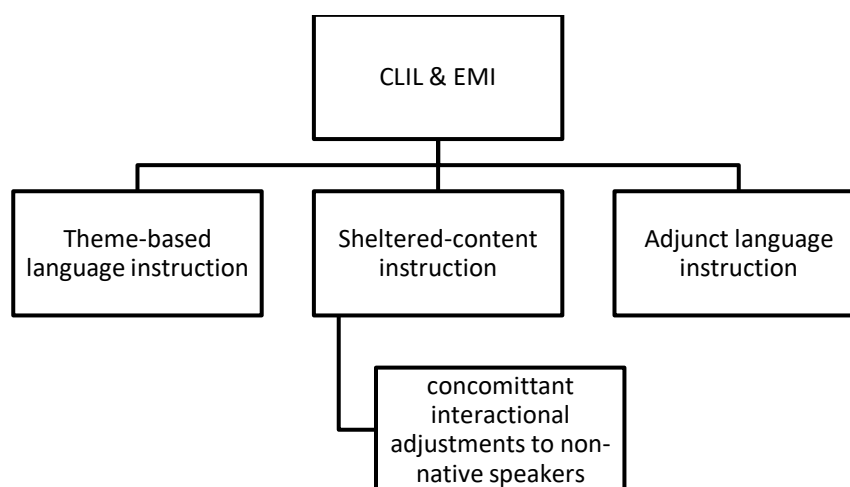


Figure 1.3 Three prototype models (taken from Brinton et al., 1989)

This contemporary perspective takes into account the attractiveness of the culture, the English language, the local language taught in specific courses, and the possibility of taking either ESP courses, based on purely linguistic aspects (Khalyapina et al., 2017), or CLIL which focuses on content-based instruction (Graham et al., 2018) found in a wide variety of subject-degrees, together with, EMI to deepen the knowledge not only of the language, but also of intercultural skills (Aguilar-Pérez, 2018) guiding students towards the development of a more complete communicative competence.

As the above argumentation shows, in order to improve the quality of teaching and learning in higher educational institutions, exchange schemes are developed every year in different universities, expanding the scope of a mere exchange of higher education students abroad, to a complete and compact experience within ESP (Kavasakalis & Gkiza, 2022). In addition, the design of an official English Proficiency Test (Jordan, 2002) gave a new vision of teaching professional English to native and non-native English speakers that was progressively adopted by universities globally.

The relevance of ESP courses is clearly supported by current approaches and methods (Richards & Rodgers, 2014) which consider the holistic approach as the most prevalent methodology for teaching and learning a second or foreign language, such as the Communicative Language Teaching, CLIL, Multiple Intelligences Approach, Competency-Based Language Teaching, Task-Based Language Teaching, Text-Based instructions, the Lexical Approach, and The Cooperative Language Learning.

All in all, ESP has found its place as an essential waypoint “in the foreign language continuum in EMI contexts” (Kirkgöz & Dikilitas, 2018, p. 1). And so, the intrinsic motivation for enrolling in ESP courses is to improve the performance of communicative competence within the area of expertise. There are different strategies to manage this achievement that will be seen in the next sections.

1.4. Characteristics of the teaching strategies in ESP in Higher Education

What stands out in the trend regarding the inclusion of ESP in the academic syllabus of Higher Education, are the professional and collegiate reasons why university schools procure themselves to be placed on the map of international institutions, capitalizing on their current practices. Against this backdrop, existing teaching pedagogies demand the recruitment of foreign academics and teachers. correspondingly, national teachers receive extensive training under the scope of specialised ESP teachers, that provides them with an opportunity to empower students. The immediate consequence is the development of innovative approaches to language teaching through the embracement of a new multilingual and multicultural identity (Bonetto et al., 2018).

Several taxonomies for activities and strategy-oriented guidelines have been developed recently stemming from the implementation of ESP. This section describes a categorization of the different strategies followed for a successful outcome. It is then expected that the communicative competence of national students in a second or foreign language will increase, due to the enactment of ESP courses that are implemented with new didactic materials based on reception (CEFR, 2023), which focus on developing the communicative language activities and strategies, that is receiving and processing input (Figure 1.4).

Tarnopolsky (2015) proposes a strategy to achieve greater communicative competence in the ESP classroom by adopting a constructivist approach based on experiential learning. Accordingly, this approach can be applied to any university degree such as aeronautics where classroom activities are focused on aviation, whose communication for oral and written assignments for the sole purpose of discussing a given topic relies on the students' English language proficiency. The repercussions of employing an experiential strategy transcend the teaching and learning of the target language into an interactive environment with a variety of materials that support the experiential learning process, such as gamification: Kahoot, Escape Room, Wooclap, and many more.

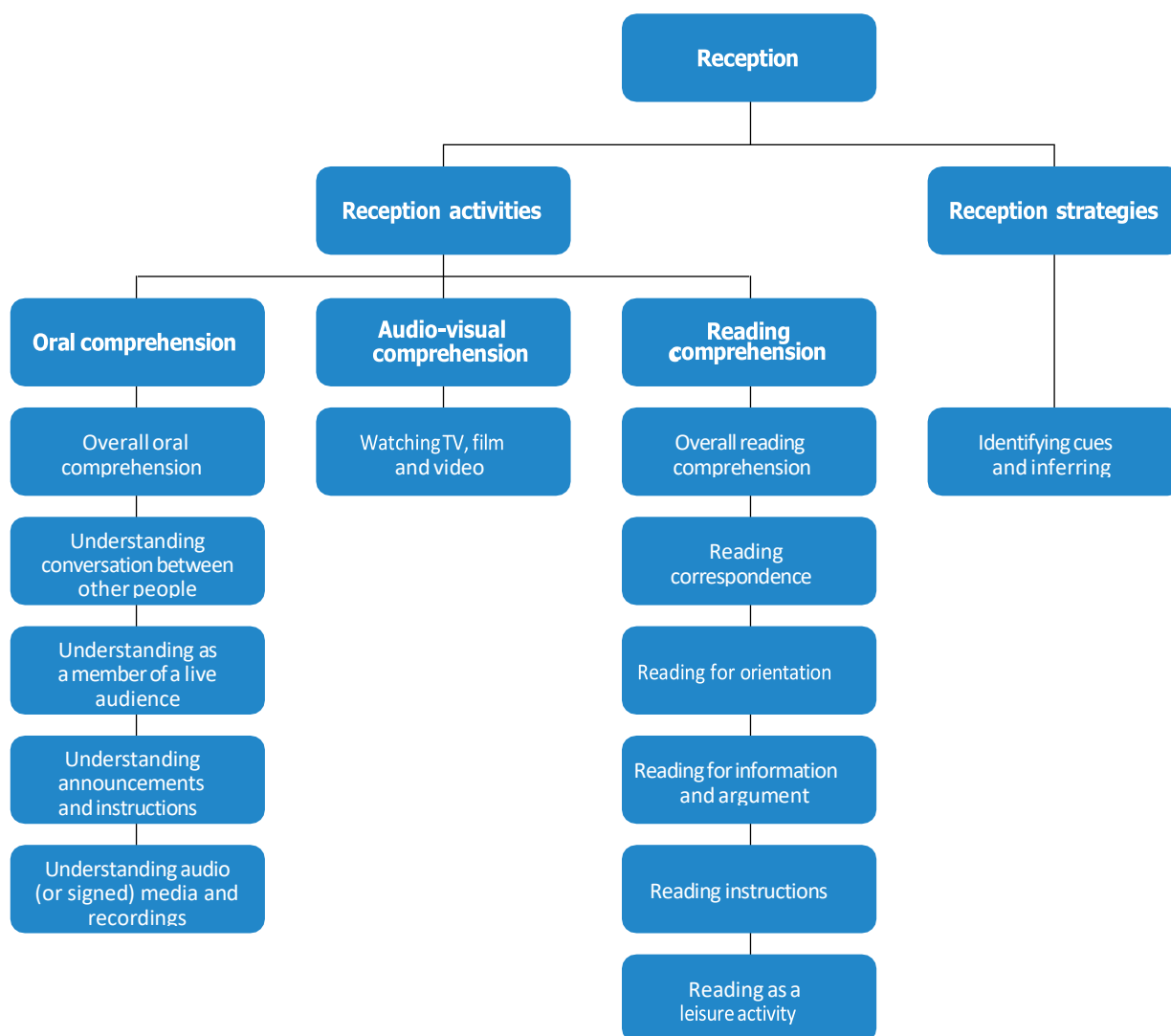


Figure 1.4. Reception activities and strategies (CEFR, 2023)

On the other hand, Kaowiwattanakul (2020) implements the use of literature circles in an attempt to reinforce communicative competence in the ESP classroom. This resource is dedicated exclusively to promoting English speaking skills by bringing together in a forum educators and learners to discuss a topic relevant to their expertise so that a debate can be established in English, and the participants' opinions are heard. This propels undergraduates to express their points of view without paying much attention to the form, that is, to possible grammatical errors since the teacher's guideline is not to interrupt the peers in order to let their inspiration flow. With this method literacy and confidence (Carrison & Ernst-Slavit, 2005) are achievable, and hence, communicative competence.

Furthermore, another strategy pointed out by several scholars (Hamp-Lyons, 2011; Jones, 1991; Robinson, 1991; West 1994) is the needs analysis for language teaching and the design of language programmes, which is predicated on the teacher's observations of the students' needs and preferences. The ESP implementation strategy has undergone an evolution since its origins, where curriculum specification is derived from "target-situation needs" (West, 1994, p. 1) involving the selection of materials, and methodology.

Instead of teaching the language in its entirety in the traditional way, focusing on syntax, vocabulary without context and exercises without purpose, the new methodology consists of managing the aspects that the undergraduates will need to learn, in a pragmatic way, observing what the target situation is, usually based on a real-case scenario. Thus, a syllabus design can be directed towards a "discourse model for the target population's communicative needs" (Jones, 1991, p. 155). And the tool to collect information on the needs of the participants is a questionnaire with a face-to-face interview in which respondents answer with a choice of four responses: often, sometimes, rarely, and never. But this is outside the scope of this investigation, so it will not be developed further.

The targeted nature of this strategy, centred around the instructor's knowledge of the subject matter (Belcher, 2006) is fundamental for the successful application of the ESP syllabus in the course. Bringing back the former example of an aeronautical degree, in any technical school the design of the curriculum for the ESP course is extracted from certain manuals edited by private publishers that follow the principles of the Civil Aviation Authorities (CAA) and the guidelines of the International Civil Aviation Organization (ICAO). The ESP teacher should be knowledgeable about the material to be taught in the full sense of the context; as this is not just a regular English class, also known as General English Purposes (GEP) but a very specific technical discipline. Likewise, professionals should know not only the many technical terms known as standard phraseology, and vocabulary, but also possess a clear understanding of all kinds of normal procedures and emergency situations, such as: the movement of airplanes on the ground within the premises of an airport, and of airborne aircrafts. The explanation for this is simple and is as follows: having a good knowledge and understanding of the English

language is not enough, since what is at stake here is the knowledge of standard phraseology and procedure in real-case scenarios so that students practice what they are going to encounter in real life:

content-knowledgeable instructor” (must be) “capable of coping with a revolving door of content areas relevant to learners’ communities (...) many language teachers may find the technical content areas of such ESP learners as chemical engineers or air traffic controllers unfamiliar, uninteresting, and even intimidating (Belcher, 2006, p. 139)

As can be observed, ESP courses are hinged on students’ needs and become an asset for national and international students at domestic universities in tertiary education.

1.4.1. Needs analysis in the ESP classroom

The needs analysis becomes a significant aspect that would imply observing the requirements to be professionally competent so as to compete with English-speaking universities in the expression and comprehension of the English language. Thereby, a programme specifically designed for the ESP curriculum can be offered to national and international students, with a dual purpose: firstly, to prepare national students in a highly professional manner for their future international careers, and secondly, to attract international students from all over the world to promote the value and high standard of domestic universities through the ESP programmes.

In recent decades, ESP curricula have been redesigned to account for the strategy-oriented protocol established to fare well in teaching specialised English in any university discipline. Nowadays, ESP courses adjust to the reality of the various fields of expertise since they follow the pattern of real case scenarios with native English dialogues for successful learning. This strategy deserves its own section since it analyses the very needs for applying a specific didactic programme to a homogenous group of students.

Needs analysis exhibit the what and how of a course (Dudley-Evans & St John, 1998) and is a pre-requisite for designing an advanced ESP teaching programme for a specific field. It consists of both what students are willing to learn, and the teachers' technical and professional skills given through training accomplished with the adequate materials for the right discipline; but also, that the community, from the state to private institutions, should support teaching and learning with an "optimum organization" (Stevens, 1980, p. 16). The aim is to train pupils for an effective communicative competence on the selected subject, entrusting teachers to obtain outstanding knowledge of the materials that stems from a learning process.

In this regard, the concerns most frequently voiced by the observers spun around students' motivation as an essential element to recognise what tasks and activities need to be worked on and how they should be implemented. This can be achieved through a wide range of analytical and data collection methods as ESP course designs are more sophisticated than ever (Hamp-Lyon, 2011). The key factor is to identify what the English learner needs to be taught and learnt, so that non-native English speakers foster communicative competence in a professional manner (Munby, 1981) (Table 1.6).

Table 1.6 Four viewpoints on needs (taken from Brown, 2016)

Needs viewpoints	Definition of Needs	Related synonyms
Democratic view	Whatever elements of the ESP majorities of all stakeholders groups want	Wants; desires; expectations; requests; motivations
Discrepancy view	The difference or discrepancy between what they should be able to do in the ESP and what they currently can do	Deficiencies; lacks; gaps; requirements
Analytic view	Whatever elements of the ESP students should learn next based on SLA theory and experience	Next step; X + 1
Diagnostic view	Whatever elements of the ESP will cause harm if they are missing	Necessities; essentials; prerequisites

Research conducted on the topic of needs analysis has highlighted different components that assess students' language needs that has prompted various approaches in language planning, development, teaching, and learning. As a result,

Rachman (2015) presents a main trichotomy: Target Situation analysis (TSA), Learning Situation Analysis (LSA), and Present Situation Analysis (PSA). It should be noted that subsequent research has concluded that there should be more components within the needs analysis, such as Means Analysis (Sari et al., 2020), Deficiency Analysis, Strategy Analysis, Pedagogic Need Analysis and Subjective Need Analysis (Saragih, 2014). However, for the purposes of this investigation, only the aforementioned trichotomy will be considered.

Firstly, the Target Situation Analysis displays a mosaic of a variety of situations in which English can be crucial for successful communication; where thematic situations are identified, and a student-oriented curriculum is created with useful materials for the design of a special ESP programme. A very good example is found in Law Enforcement where a corpus of situations is analysed, such as: traffic interventions, suspect interviewing, detentions, citizens' requests, critical incidents, and international borders (Benavent & Sánchez Reyes, 2015). The priority is to have all possible situations, their functions, forms, and frequencies monitored to ensure that objectives are still manageable and achievable (Chambers, 1980) in the ESP classroom regarding a specific topic.

In consequence, the different activities and tasks should be organized in different units so that real case scenarios are practiced with the use of special vocabulary. In addition, an ESP syllabus also revolves around the way ideas and concepts are spoken, mentioned, and expressed in a manner like that of native English speakers. Therefore, the target situation analysis should underline all the different uses for which L2 speakers will use the English language (Table 1.7).

Table 1.7 Statements based on TSA (taken from Dudley-Evans & St. John, 1998)

TSA – Learning Need

1. I have occasional meetings with British colleagues
 2. Students X needs to read more widely
 3. I have to write reports
-

Secondly, another component of needs analysis is the Learning Situation Analysis (LSA) which clarifies what and why learners want to learn. It focuses on the process-oriented needs since this analysis is useful both to identify “the effective cognitive processes (as well as) the affective factors of the learners” (Sari et al, 2020, p. 59) that influence the learning process of each student. As an example, the motivation and interests of Thai nurses are deemed as important factors for the selection of suitable language courses that lead them to a closer encounter with their foreign patients through learning specialised English in that field to achieve effective communication. In other words, intrinsic motivation is the reason why these nurses want to learn English for nursing, so that they can manage to explain the wingspan of the disease and its treatments. Thereby, the design of an ESP course that is perfectly appropriate for each career will enhance the learners’ motivations and so their learning possibilities (Gass, 2012) (Table 1.8).

Table 1.8. Statements based on LSA (taken from Dudley-Evan & St. John, 1998)

-
- LSA – Learning Need**
-
1. I need to see vocabulary written down
 2. I pick things up by listening
 3. I like problem solving
 4. I hate group work
-

The last component of the needs analysis conveys the Present Situation Analysis (PSA) which considers the learners’ strengths and weaknesses in the language skills and learning experiences. Another example is examined, that of ESP in mechanical engineering where “suitable learning materials and techniques are to be applied” (Sari et al, 2020, p. 59) generally in the form of a manual. There is a relationship among the need for learners to learn English well enough in the specialised field, the knowledge that students already have, such as skills in the four inputs: speaking, reading, listening, and writing, and the performance offered that will measure their proficiency level. A questionnaire will facilitate data

collection concerning the future mechanical engineers' motivation and English competences (Gass, 2012) (Table 1.9).

Table 1.9 Statements based on PSA (taken from Dudley-Evans & St. John, 1998)

PSA – Learning Need

1. I find it difficult to write persuasively
 2. My problem is finding the right word
-

This system of classification provides a thorough examination of all the details so that the language courses are designed according to the needs of the desired knowledge that the students should acquire. Teachers are then required to introduce the syllabus into the classroom ideally in a multimodal manner to fit their trained abilities in teaching the subject, with an implementation of communicative skills by identifying situation-and-role-specific communicative needs in particular domains (Prior, 2013).

More importantly, “if the introduction of a language programme changes the nature of language use in the institution the result is a social change” (Holliday, 1995, p. 116). When different practices are observed in a community and these constitute an established socialization into patterns of use in specific modes (Prior, 2013) either orally or in writing, these practices represent communicative acts based on the social learning of language.

Thus, the intended approach is to follow a step-by-step holistic reinforcement structured in different phases that will cover the entire discipline in the different academic years based on the needs of the students. This approach should be researched, designed, and applied by any institution seeking a multimodality approach in the ESP classroom.

1.4.2. Multimodality in ESP teaching and learning

Multimodality refers to the different modes in which communication may occur that leads to the understanding of the message (Dressman, 2019). The meaning of the message can come from one or several channels: visual, aural, textual, linguistic, and spatial (Guichon & Cohen, 2016). A wide spectrum of literacies (Kist, 2007) is becoming the norm today. Teachers are moving away from the traditional vision of teaching and new technologies are implemented to make the classroom interesting and engaging, in other words to create a meaningful learning environment.

Given that educational points of view have shifted in recent decades, a new pedagogical concept is established that considers pedagogies of engagement which encompasses academic student-teacher interaction, peer-mediation, and active learning (Smith et al. 2005). In Higher Education within an ESP context, students' skills are assigned more value in which they verbalise their opinions and contribute to class discussions helping other peers in the meantime. This is the reason why a multimodal approach is deemed as a powerful stimulus to foster learning abilities and comprehend the second or foreign language in a deeper level. The traditional linguistic mode with text and exercises are intertwined with a multimodal discourse where new technological modes enhance students' interest in natural and flexible language learning to master communicative competence in ESP.

These changes in teaching are presented in relation to the social practices of a community. A social community evolves over time, and all the theoretical notions of traditional learning are now subjugated to other modes due to the development of communication and discourse that can also be expressed through any other domain of culture, such as music, or architecture (Kress & Van Leeuwen, 2001). Thanks to this current multimodal approach, teachers can introduce new topics through music, for instance, transmitting knowledge about the metaphorical component of song lyrics in the ESP classroom. Higher Technical Schools, such as the School of Aeronautics may be targeted to tie together various phases of a multimodal assignment in the process of introducing students in the notion of metaphorical awareness. In this respect, the study of song lyrics in class serves as

a multimodal discourse analysis to teach how to interpret literacy through the analysis of texts, such as rap texts, among others (Hill, 2006).

With the help of new technologies, mediating teaching becomes the key to motivate students with specialised ESP materials in which a corpus of tasks and activities are carried out interactively, merging texts with practice that can engage the student to continue learning in a motivating environment, making the ESP class more attractive (Franca-Plastia, 2013).

1.4.3. ESP materials

In-depth knowledge of the appropriate materials needed to master English efficiently in a specific context of each university ESP programme is of utmost importance. This analysis adopts inferences about detailed study plans that point to the communicative competence required in each field for a highly successful professional career in the future. The essence of ESP is deemed part of a Triade: the materials that are taught, how they are taught, and how well prepared the professor is. Consequently, instructors should be trained in advance to achieve the standard specification in any ESP course.

Palmer (2012) stated in the 1960s that as an English teacher he relied on the Audio-Lingual-Method (ALM) to teach English to foreign students. However, ALM posed a barrier to learning Spanish as a second or foreign language, since after a year of study the scholar was unable to express himself in that language. Evidence for this failure can be gauged by its lack of real-life communicative context; thus, no communicative competence in Spanish had been achieved in a whole year of learning. After the practitioner experienced the same linguistic phenomenon in Thai for the same reasons, he understood that it was necessary to introduce new teaching methodologies for a second or foreign language.

Consequently, since the 1960s, a paradigm shift from ALM to Communicative Language Teaching (Palmer, 2012) occurred in which foreign language teaching methodologies progressively focused on contextualised and communicative classroom activities, such as short communication opportunities

where real-life situations were described. The importance of a new methodology to be applied in the L2 classroom has impacted language teachers in the recognition that these new methods are beneficial for the implementation of a new understanding of how well learners should master, for instance, the English language within an ESP environment. These ESP courses should be painstakingly designed to be delivered in the most effective-like manner. Today, language skills materials and texts are big business all over the world (Hamp-Lyon, 2011) in which the design of textbooks addresses language levels and cultural background. Any ESP course should be designed in an “approach to language teaching which aims to meet the needs of particular learners” (Hutchinson & Waters, 1987, p. 21) answering specific questions so that the appropriate materials are selected.

The most complete methodology applied to an ESP group is to have student feedback recorded from the beginning (Benavent & Peñamaría, 2011; Edwards, 2000). The existence of questionnaires is devised for the purposes of elaborating the students’ profile, seen in the previous section of needs analysis. Gathering their opinions is essential to understand the students’ needs with the aim of improving their performance, where socio-cultural origin becomes a factor to consider when the students’ provenance is located overseas (Johns & Price-Machado, 2001).

In a learner-centred approach, teachers involve students in manufacturing the content of the class, to decide whether to include or exclude topics and materials (Nunan, 1989). This approach constitutes an aid to motivate students in the learning process that produces a development in communicative competence. Thus, the teaching of the English language in a certain university degree focuses on a long list of materials, the first of which are the numerous manuals available, written in the last 30 years, that specialise in a specific subject area and whose content draws on real settings, as in the aeronautics degree taught at the UPM.

Within an ESP context, Edwards (2000) analysed the effective needs of three German bankers in order to depict a syllabus elaborated with specific materials that meet the teaching and learning needs of these ESP students in the field of business. These L2 learners showed high communicative competence in

English that included strong metaphorical competence, although metaphorical expressions were not always used appropriately. Similarly, they possessed a large corpus of vocabulary. Special individual attention was one of the key factors in motivating these highly qualified ESP students; in this respect, the needs analysis questions posed by the ESP teacher contributed effectively. The purpose of this business ESP course, otherwise named EBP, was to focus on students' spoken English used in business meetings and negotiations. Nonetheless, improving business presentations was an important secondary goal. Edwards (2000) proclaims that his long professional career in the design of ESP courses with specific ESP materials leads him to be certain that "student input is crucial to the successful design of an ESP course in any context" (Edwards, 2000, p. 292).

As a result of the needs assessment of Edwards's (2000) study, a framework of ESP materials was assembled to outline a multi-layered syllabus. A brief summary is as follows: business manuals such as *The Language of Meetings* (Goodale, 1987), *International Business English* (Jones & Alexander, 1989), and *Build your Business Vocabulary* (Flower, 1990); short business articles from *The Economist* to practice skimming for information; classroom activities such as role plays, matching words and phrases with pictures, finding opposites and synonyms, crossword puzzles, together with communicative information-gap and opinion-gap exercises; jumbled texts to show the paragraph structure and jumbled sentences to engage in *small talk*; finally, discussions based on business articles listed in *International Business English* were a supplement for the students to gain confidence and had the opportunity to learn and to use the new items learnt. This selection of ESP materials was used to develop a triad of functions, topics, and vocabulary to reinforce the learners' communicative competence in L2 within an ESP context. It should be noted that the scholar considers that "peer correction is always a very sensitive issue in any ESP context" (Edwards, 2000, p. 294) generally because students are highly competitive, and it leads to open conflict among them.

In a different study, Benavent and Peñamaría (2011) state that authentic ESP materials provide motivation and realistic context for learners, who are exposed to real language and culture. Real-case scenarios are therefore valued by the students so that an immersive-communicative classroom is possible in which

an oriented methodology is predicated on project-based learning, case-based learning, role-play, and simulation and gaming.

Returning to the topic of Aviation English in the field of Aeronautics, two manuals stand out due to the specificity of the texts: *Check your Aviation English* (Emery & Roberts, 2010) and *Flightpath* (Shawcross & Day, 2011). The books consist of the teachers' manual and the book of transcripts and answers. The manuals compile a series of real-case scenarios using standard phraseology and plain English with actual conversations between pilots, controllers, and airport and airline personnel, emergency protocol, and specialised aviation language. Regarding aeronautical articles, the source is varied. It should be stated that in order to be up to date in our rapidly changing technological global world, the source tends to be from well-known journals and magazines accessed online, such as: Flightglobal.com and Aerospace-Technology.com. The activities are diverse, and form an interwoven net with which educators guide their pupils in a learner-centred approach. An example of a range of tasks are as follows (Table 1.10).

Table 1.10 Interwoven net of activities in the ESP classroom (own creation)

Match the words in the box with the definitions
Complete the sentences with the words from the box
Listen to the recording and explain what the following terminology refers to
Match the beginnings with the endings to make phrases from the dialogue
Read the dialogue outline and decide what to say
Discuss the questions

Research has reported that one method by which academics seem to gain consensus these days is the use of the Internet in the ESP or EAP class (Safont & Esteve, 2004). It is undeniable the variety of different portals to learn or improve a second or foreign language, such as Duolingo, Mondly, Babbel, Rosetta Stone, and plenty more.

In addition, publishers in their variety and methods of approaches include eBooks, materials for interactive whiteboards, and other multimedia components (House, 2008). Likewise, there are a range of interactive games to play online that

are being used in the classroom as part of the ESP materials, in which the teacher's preparation is key for the proper development of the game. In other words, the practitioner should learn how the game works, be it a Kahoot game, or Escape Room, or Wooclap, and many more, before administering it to the students. These interactive materials can be used as a methodological strategy; for instance, Kahoot allows students to be aware of their knowledge related to the topic, Wooclap towards engagement and collaboration among peers in online teaching, and Escape room to work on issues such as inclusion in any year of education (García-Tudela et al., 2019).

Ultimately, these interactive games are excellent tools for making a linguistic approach to standard phraseology and metaphorical awareness in agronomy (Caravaca-Rodríguez, 2019) or aeronautics, for instance, where games are oriented towards specialised language. In this line of reasoning, ESP teachers should prepare the online games themselves, according to their students' needs. In this way, the questions in the games focus on a specific field, be it business, architecture, or aeronautics, to name a few. Activities launched from interactive electronic platforms, to which the visual arts are added, can be drafted by teachers in many ways, such as video editing, blogging and/ or writing texts embedded with hyperlinks (Kist, 2007) so that students' knowledge about a subject can be assessed. Also, creating surveys or polls to capture feedback from participants seems enriching, which can motivate students to participate due to the competition among them; as well as game-based learning quizzes that bring fun to the classroom.

Grammar and dictionaries are regarded as the core of specialised English materials. Hence, the *Diccionario bilingüe de metáforas y metonimias científico-técnicas: ingeniería, arquitectura, y ciencias de la actividad física. Partes I & II: español-inglés, English-Spanish* (Cuadrado-Esclápez et al., 2016) which stands for the Bilingual Dictionary of Scientific-Technical Metaphors and Metonymies, published by a group of professors belonging to different Higher Technical Schools of the Polytechnic University of Madrid; and whose teamwork and collaboration managed to create this valuable work concerning the comprehension of technical terms and expressions in relation to a variety of technical careers such as Aeronautics, Architecture, Technical Engineering, Naval Engineering,

Geology, Mining Engineering, Information Technology Engineering, Computer Science, Civil Engineering, Telecommunications Engineering and Sport Science. The dictionary provides indispensable help in fully understanding the scope of the ESP classes. Finally, language learning tasks are geared to the needs of students in a range of situations by specialised ESP teachers that also embrace music (Kist, 2007).

1.4.4. ESP teacher training

Remarkably, the result of the implementation of the new CEFR methodology in teaching and learning a second language is that language teachers, mainly in higher education, are now well-aware of the main objectives to be achieved in the foreign language classroom, which covers not only the training of the four crucial communicative skills: speaking, reading, listening, and writing, but also the understanding and production of all types of generic discourses. This achievement is attained through renewed language textbooks and teaching materials. This is an important contribution of the Council of Europe linguistic project for the inclusion of effective communication skills within the curricula.

ESP teachers' preparation covers multimodality and intercultural skills, which reinforces the students' communicative expertise. Enhancement of metaphorical awareness and metaphorical competence is one of these reinforcers, which is essential to acquire a proficiency level like the native; another augmentation is achieved thanks to the new technological aids that fall under the paradigm of Information and Communication Technology Tools, otherwise known as ICT.

Basically, a key aspect of the multimodal approach to ESP is to enhance the knowledge of the ESP instructor to prepare, discriminate and develop specialised materials for use in the classroom (Sullivan & Girginer, 2002). In consequence, a new understanding of the role of the teacher in the ESP classroom has inexorably been established in multidisciplinary curricula. New technological advancements are continually striving innovation by reshaping, for instance, reading and writing skills (Kist, 2007) and slowly the dynamics are undergoing a paradigm shift, from

reading a physical text from a book or manual to reading a screen. Seemingly, ESP videos encourage teacher-led students' debates and discussions, and even listening to music for specific purposes, which can act as a possible motivational resource to perform a discourse analysis of song lyrics, has become a natural process that blends a diverse array of literacies in a multimodal approach to teaching.

In the teaching and learning of English, the figure of the professor has experienced a progressive change that has improved the students' opportunities to master more comprehensive training. In addition, they tend to develop more professional linguistic fluency thanks to the countless examples of real-case scenarios presented through short-duration sketches and interviews of context-specific topics. As for the audience, they experience a variety of accents and speech rhythms and become familiar at an early stage with the English spoken worldwide.

All the above is carefully designed by ESP teachers whose focus in class is primarily communicative (Carbajosa-Palmero, 2003). The educators' aim should be directed in part at motivating students to contribute to the class, collaborate, and engage other peers in teamwork, through a variety of activities displayed in numerous forms of modes and literacies. Regarding the modes, the evidence supports the practice of language skills as follows: speaking has made significant progress from previous traditional English teaching criteria as oral English is a highly prioritised goal required for multiple pursuits; such as presenting a project at a meeting, for which a professional script must have hitherto been written in English; in all likelihood with the help of reading a corpus of articles, books, and book chapters in specialised English; and, after listening to a significant number of interviews and documentaries that give technical support to the subject and allow the learners to communicate professionally in a scientific-technical manner if necessary.

Deepening into the significance of the different forms of communication, the conceptualization of writing as one of the genres, Swales (1988) ascribes genres to discursive communities explaining that every community has its own way of exchanging communicative discourses among its members, is channelled through a series of writing structures that lead to the improvement of the writing skills. ESP

teachers and L2 writing instructors lecture their students to consider genre-related issues, as some structures remain stable, but others evolve over time (Ramanathan & Kaplan, 2000). Writing, also called knowledge production, is presented in many forms such as reports, magazines, reviews, journal articles and many more; hence, the necessity for an activity-based theory of genre knowledge (Berkenkotter & Huckin, 1995) where a classification of genre production is established. Genres are an evolving structure in social contexts and a very dynamic aspect of daily life embedded in communicative activities, following a rhetorical outline of form and content, reproducing social structures, and signalling discourse community norms (Berkenkotter & Huckin, 1995).

Furthermore, since an ESP class is intended to attract and guide ESP learners towards a specific topic to understand and develop in a more appropriate way, university professors should not only be familiar with multi-literacies in a multimodal approach, but also be professional users of them. Thus, teamwork is reportedly another prevalent aspect of the new learning strategy outlined, promoted, and corrected by teachers, whose mission is to integrate peer mediation into the classroom with the purpose of solving complex learning tasks. The description above sheds light on five key roles that ESP teachers fulfil (Dudley-Evans & St. John, 1998): the role of a teacher in a holistic sense consists of teaching communicative skills through didactic tools to acquire an adequate communicative competence. The achievement follows a series of didactic strategies in the design of the ESP course with selected class materials from appropriate manuals that will cover the key points of the specific discipline, and if necessary, will adapt to it. Hence, teachers are undoubtedly collaborators of the institution, committing themselves to the discipline and becoming specialists in a given subject, without forgetting the dynamics instructions of daily activities.

In this context, teachers become researchers, as constant development is carried out to pursue the ESP methodology and implement all the detailed observations that have been assessed to improve language learning; as well as evaluators of an ESP course, managing the problem-solving dichotomy in the language-context-learning process. The evaluation will settle each student's ability

to achieve positive learning outcomes in the ESP discipline by developing language skills for a specific professional job.

Ultimately, the aforementioned teaching practices are categorized under the scope of discourse analysis emphasizing the pragmatic and cognitive teaching paradigms (Carbajosa-Palmero, 2003). Pragmatic teaching is framed by the communicative competence achievable at each ESP level marked by the CEFR; and cognitive teaching refers to the learners' willingness to progress and be guided by hard work and participation in class. This approach to discourse analysis of written or verbal language will be examined in depth in the next section.

1.5. Technical discourses in the ESP classroom

The approach that teachers gave to English Language Teaching (ELT) in 1977 with the creation of EAP as "it was the first time that this name was used in a publication" (Jordan, 2002, p. 73) and the necessity to apply a specialist, theory- and research informed-branch of English-Language (Ding & Bruce, 2017) harboured an attitude of acceptance towards the need to acquire a specialised language that triggered a profound reform of the study plans that prompted a change in the perspective of educators and undergraduates.

To distance itself from the hegemonic stance in teaching and learning an additional language, the ESP classroom encourages students to implement their communicative skills, and to strengthen the social and illocutionary aspects and focusing on their field of work, whose classwork is guided by the educator who sets the guidelines in an attempt to motivate the participants. Thus, all the communicative skills that will be necessary to perform at the highest standard in a future specialised job will be reinforced; for instance, in a Business Administration setting, an editorial job, and/or aeronautical engineers who will present their technological innovation to the world of aviation, or a pilot in constant communication with the Control Tower; in general, highly qualified positions in which listening, writing, reading, and speaking skills should be scientifically-technically professional. As such, this multimodal approach readies learners for discussing queries and doubts, contributing to the daily dynamics of the class.

What is more, each ESP syllabus for specific university degrees is thoroughly planned so that the technical discourse in English is uniquely tailored to specific linguistic and communicative needs (Donesch-Jezo, 2012). It provides teachers with an opportunity to empower students to enhance their communicative skills to target real-case scenarios and to practice real-life communication whose teaching methodology focuses on communicative approach; that is, communicative language teaching and task-based language teaching (Howatt & Smith, 2014).

Viewing discourse analysis as an interdisciplinary academic field in the setting of ESP, contributes to enlarge research and debate as targeting elements since its birth a few decades ago (Gill, 2000). It consists of analysing the data collected in a corpus or body of information to extract meaning. This corpus is the bearer of interviews or transcripts of group discussions, texts, manuals, and dialogues. In this manner, two approaches are implemented to encapsulate the definition for clearer understanding; one is the study of language grammatically, which is the study of syntax, and phonology which is the study of the speech sounds of a language; and the other approach is how the language is used (Crosley, 2021).

Central to the entire discipline of discourse analysis is the concept of context-specific, another pragmatic notion very suitable for dealing with the different disciplines of ESP in a university background; thus, discourse analysis is concerned with the study of the relationship between language and the contexts in which it is used (McCarthy, 1991); in other words, this new approach is rooted in the ways in which a language in use is spoken or written, in formal or informal circumstances, in everyday conversations or professional speeches.

Ramani et al., (1988) propose an ethnographic reorientation to update the needs analysis and curricular design of ESP in tertiary education so that the English teaching methodology contemplates the learning objectives of university students, with the discipline-based materials hinging on real case scenarios. The rapprochement with how members of the English-speaking community communicate in all fields sheds light on how, for instance, aviation English is taught to English speakers in English-speaking countries. Thereafter, the procedure to follow sustains reciprocity to replicate the teaching in the field of expertise

within the ESP classroom in non-English speaking countries, using specialised manuals that include the same texts, dialogues, and activities. The motivation to achieve a consistent level of proficiency in communication expectations in the career specialisation is the source that provides authentic descriptions of specialized language in context for teaching purposes.

Moreover, discourse falls within the ethnographic approach in ESP research, also called social-use-centred since “language cannot be properly described and understood outside its context of social use” (Dressen-Hammouda, 2013, p. 501). Referring to specialised language in specific contexts, ESP courses renders complete when all communicative skills are taught in a multimodality enterprise in which language performance is governed by specialised terminology in the ESP context.

1.5.1. Specialised terminology for scientific-technical degrees like aeronautics

When peers are being instructed *Communications* in an aeronautics ESP class, for example, the ESP teacher concentrates on conveying a specialised language of communication between pilots and controllers, engineers, and aviation management, in which a specific standard phraseology is used, such as *Request pushback*, *Confirm ILS approach*, *Hold short Runway in use or Standby*. In addition, protocol and commands should be followed and complied with, at all times, and where synthesised dialogues, whether to transmit information or receive feedback, are carried out in a characteristically short and concise manner.

English is indeed the language of aviation. On the other hand, English for instruction within the aeronautical context is the bridge language in the ESP classroom. The ESP class of aeronautics at the UPM is made up of Spanish students who are studying two degrees in the field of Aeronautical discipline, and by foreign students with Erasmus scholarships whose common language is going to be English. Hence, English is used as a medium of instruction to explain the content of a specific discipline for specific purposes, where procedures and protocols must be understood with explanations given in English. What is more, the very purpose

of the class is to deepen the knowledge of scientific-technical terminology, that often appears in the form of metaphors whose meaning is obscured by the lack of instruction on fostering metaphorical awareness and developing metaphorical competence, since the metaphorical element of language is so far excluded from the syllabus.

1.5.2. Lack of metaphorical awareness and metaphorical competence in ESP

A considerable amount of literature has already been published on metaphorical awareness and metaphorical competence regarding the need to include metaphor in ESP courses in tertiary education (Gutiérrez-Pérez, 2016; MacArthur, 2010). However, in most ESP courses of Higher Education this is still a pending subject which is why academics and professors continue to denounce the lack of instruction of the metaphorical element of language to give it its place within the curriculum.

Furthermore, communicative competence could be strengthened with the knowledge and use of metaphors in the speech. For this purpose, a metaphorical discourse analysis should first be conducted to find out how students understand the metaphors they encounter and how the “metaphor can contribute to learning” (Cameron, 2003, p. 2); thereby, the first objective can be to scrutinise their metaphorical awareness. Leveraging learners of English to be aware of the presence and significance of metaphors will create the foundation for the development of their metaphorical competence to enable the construction of metaphorical expressions in order to reinforce their communicative skills.

To avoid misinterpretation, as a normal practice, students should analyse a lecture speech and identify words or clusters of words whose meaning is not clear to them. This exercise is part of the research conducted by some scholars to comprehend the extent of metaphor misunderstanding (Littlemore et al, 2011, p. 409). A conference can be the medium on which the realization of deficit in the knowledge of English language is drawn. While native speakers of English express ideas and concepts figuratively, which, on the other hand, may relate more to the

flow of the lecture than to its content (Corts & Pollio, 1999), non-native speakers will most likely end up translating metaphorical expressions into literal meaning if the expressions are unfamiliar to them. This practice will lead to misinterpretation. A likely explanation for this is a lack of exposure to real lectures, that is, the way natives offer opinions and explanations in an academic background, which most students do not have access to.

The experience of an Erasmus scholarship in which foreign students visit overseas universities in English-speaking countries whose lectures are likely to be in English can be overwhelming. The reason may be that so far in their tertiary academic life studies have been carried out in their country of origin without much exposure to direct input from native English professors or lecturers in a formal or even informal setting (between classes). Besides, many times international students do not realize that they are not grasping the full meaning of the explanation. Consequently, they will fill in the gap with a plausible reasoning according to the context. The research, carried out at a British university (Littlemore, 2010), illustrates how difficult it is for overseas students to seize the meaning of figurative expressions introduced in lectures, and not to succumb to translating them literally. Nonetheless, considering new multimodal strategies being currently executed in the SLA courses, audio-listening is now part of the daily activities in general English and English for Specific Purposes.

In the long run, collaborative agreements between the ESP professors and the university should include English metaphor-instruction specialization to convey metaphorical awareness and metaphorical competence in an academically purpose-built manner; in other words, English teachers should familiarise themselves with field-based metaphors. Therefore, the prospects for ESP learners to subsequently strengthen communicative competence are, first of all, to train ESP educators with a comprehensive and integrated knowledge of metaphors.

Nevertheless, although the inclusion of real dialogues and discussions is innovative, it is of no avail when trying to solve the problem of misunderstandings or misinterpretation of metaphorical expressions, since metaphors are rarely part of the ESP course syllabi. The ESP training courses made available to undergraduates

still do not include metaphorical awareness and metaphorical competence as part of the programme. The immediate effect of this omission is that students do not possess a sense of agency with respect to the use of metaphors in any given context, be it formal or informal, everyday language or context-specific presentations; instead, they falter, manifesting difficulties in understanding figurative language.

Metaphorical language is a significant element of aeronautical English, where *three greens* are understood to mean that the undercarriage has been lowered down correctly and secured into position in preparation for landing. Despite overtly pursuing the aim of achieving aviation English in ESP, aeronautics students are not being steered to learn metaphors. For example, an aeronautical text of an average length of three pages, with approximately two thousand words, contains dozens of metaphorical expressions. Hence, the importance of this research, which has manifold implications for the teaching and learning of metaphorical awareness and metaphorical competence in ESP course of aeronautics in tertiary education.

1.6. Conclusion

This chapter sheds light on the reasons why English has become a fundamental asset in ESP university courses to promote internationalization. Similarly, for the continuous development of strategies to implement the research findings of numerous scholars on teaching English as a foreign language (TEFL) to non-native speakers of English (Aguilar-Pérez, 2018; Arnó-Marcía & Mancho-Barés, 2015; Dudley-Evans & St John, 1998; Robinson, 1991). English is also renowned for the scope of its influence in all fields and disciplines of primary, secondary, and tertiary education.

The main objective of a tailored education targeting various approaches is twofold; firstly, the professionalization of the different ESP courses offered by universities with the purpose of fully preparing their national students for professional life beyond the university, and secondly, the internationalization of ESP university courses that explore the possibilities of attracting overseas students in which ESP is associated with successful communication.

While provisions of viewing ESP as an overarching concept are high on the academic agenda, a combination of strategies toward success is outlined as a guide for teachers and students. The indications of the ESP curricula highlight the importance of such orientation for ESP educators to conduct a multimodal class in efforts to enhance the students' needs in an ethnographic context for each discipline. With regard to ESP materials and approaches, a careful selection process is reinforced with a sequential implementation in the classroom, following a clear syllabus plan established to be followed from the beginning of the academic year to the end, collecting feedback from discourse analyses to make changes, if necessary.

Moreover, studies such as that conducted by Sullivan and Girginer (2002) have shown a ground-breaking conclusion in the aeronautical context of ESP that while "ICAO (International Civil Aviation Organization) specifies the rules of Airspeak and monitors the language, there are variations in local use" (Sullivan & Girginer, 2002, p. 403). The analysis shows that the language is open to local variations which is an indicating factor of misinterpretations and miscommunication when this provision of diverse English is ignored.

Additionally, the above statement regarding misunderstandings is directly linked to the language learner's inability to fully comprehend the meaning of an oral or written discourse despite their advanced language knowledge and abilities (Selinker et al., 1978). This impending hindrance to achieve satisfactory communicative competence within the academic classroom of ESP or within an English for Science and Technology (EST hereafter) guild in a business corporation, is associated with metaphorical awareness and metaphorical competence.

Metaphorical awareness and competence are the missing link in the chain of the process of teaching and learning a second language and/or ESP. While provision of attributing increasing importance to metaphorical awareness and competence is high on the ESP agenda, to understand expressions such as *the world is your oyster* becomes a complex endeavour, not to mention be able to use it in the correct context. It has often been dismissed for decades as a meaningless notion of

second language learning. However, today a growing number of ESP practitioners (Gutiérrez-Pérez, 2016; MacArthur, 2010; Robisco-Martín, 2009) advocate the implementation of metaphorical awareness and metaphorical competence in their innumerable works, where research points to the absolute need to include the explanation of metaphors and metaphorical expressions in class due to its ubiquity.

In conclusion, the prospects of constructing an internationally competitive future career path can be determined by the integration of the metaphor into ESP courses in tertiary education since learning English under the scope of ESP still lacks metaphorical awareness and competence. The next chapter will develop the concept of metaphor in a more elaborate manner.

CHAPTER 2: THEORETICAL APPROACHES TO THE CONCEPT OF METAPHOR

2.1 Introduction

Several definitions of metaphor have been highlighted in the history of scholarly literature. Socrates and later, Plato, both in the 5th century BC, considered metaphors as useful speech-related strong argumentative instruments to convince and persuade the audience. Aristotle, in the 4th century BC, defined metaphors in his *Ars Poetica* as “metaphor consists in giving a thing a name that belongs to something else (...) As old age (D) is to life (C), so is evening (B) to day (A)” (Aristotelous, 1909, pp. 72-73). Greek philosophers attributed a bolstering importance to metaphors over two thousand five hundred years ago, contributing with their works and treatises to the foundations of Western thought, and whose legacy was inherited by the Roman Empire, nonetheless forgotten afterwards.

Modern era brought back this linguistic tool: the metaphor, which had once acquired the characteristic of embellishing literary works with full cognizance. Inducing political debates through metaphors for rhetorical purposes became the pinnacle of the Greek and Roman world (Ortony & Fainsilber, 1987). Nowadays, metaphors are deemed inconspicuously essential to express an emotion with just a few words which minimises the lengthy explanation on the account of your feelings. An illustrative example is the following: *You're a mouse*, a figurative expression used to indicate that someone is very shy and afraid of things.

What is more, metaphors are ascribed with the power to describe objects and actions in such a way as to ensure a complete understanding of the concept by means of the metaphorical construction of an idea. When someone says *I'm the black sheep of my family* they do not mean it literally since it is the idea of nonconformity and rebellion that is intended to be transmitted. Although, native speakers recognise the expression as metaphorical, is it possible for a non-native speaker to misunderstand the statement and take the sentence literally? For the purpose of clarity, in this context, the word *rebellion* itself is also a metaphor that

conveys an image schema of social instability of a community. The concept of image schema will be explained later in this chapter.

This work is informed by the notion that metaphor is generally a contested term and a precise definition of it has proven elusive. Thereby, it can also be defined as the figure of speech that enables us to say more with less, encompassing the use of a figurative expression so that the intended meaning may go beyond the literal understanding of the sentence.

Moreover, one of the best-known examples of metaphor in literature is *Animal Farm*, first published in 1945 (George Orwell, 2021), since the entire story is a metaphor against totalitarianism: “the writer wants to convey his message of this novel in an implicit and indirect way” (Fadaee, 2011, p. 26). With the use of metaphors throughout the story, such as *Starvation seemed to stare them in the face, in the teeth of every difficulty* or *fountain of happiness*, George Orwell crafts his novel around the events that led to the Russian Revolution of 1917 and the revolts of Stalinism against socialism in the Soviet Union of 1945.

Little is known about metaphors in contemporary times prior to 1980 as the number of scholars researching the topic was scarce. Therefore, the inclusion of the subject of metaphors in any school curriculum was unsupported. In the 1970s, some academics (Barlow et al., 1977; Ortony, 1979) in the field of psychology, turn their eyes to metaphors. In 1977, Barlow, Pollio and Fine investigated the concept of figurative language within psychology in an attempt to understand the connection of the relationship between metaphors and patients’ perceptions. In addition, in 1979, Ortony speaks of metaphors in terms of metaphoricity (Glucksberg & Keysar, 1990; Littlemore & Low, 2006) and the psychological processes involved in their comprehension. Finally, in 1980 the aim of the study by Honeck & Hoffman (2018) draws attention to a new perspective on the psychology of figurative language. Nevertheless, these two scholars open the concept of metaphors to other fields such as education, linguistics, sociolinguistics, philosophy, and any field related to meaning and cognition.

In line with the above regarding the different fields where metaphors are present, the following approach by Ortony (1979) shows the necessary explicitness to delimit different concepts in terms of unfamiliar ways of conceptualising familiar things which refers to unfamiliar figurative expressions of conceptualising familiar concepts; and familiar ways of conceptualising unfamiliar things is to link familiar figurative expressions with the conceptualisation of unfamiliar concepts. The following example unravels the aforementioned theoretical yield: Internet was a new conception a few decades ago, which needed to be understood by consumers; thus, the explanations about the functioning of this new invention were extrapolated to the allocation of a common-ancient inference referred to *sailing the seas* and/or *navigate the wide physical world*. The outcome was the creation of the expression: *surf the Internet* or *surf the net* and the acronym *WWW* which stands for *World Wide Web*.

Predictably, it works inversely as well, in which the use of an unusual figurative expression such as *I stepped into the twilight zone*, from the Bon Jovi song entitled *One Wild Night*, is used to describe a mental state between reality and fantasy. The song lyrics mean *I'm in limbo*, which is itself another metaphorical expression. This is a good illustration of what Ortony and Fainsilber (1987) report in connection with the use of metaphors that humans make to describe the quality of an emotional state which is strongly related to the bodily experiences that give meaning to lyrics. Hence, metaphorical expressions have a great influence on song lyrics that are materialised through image schemas and various patterns of emotional experience (Johnson, 1997).

Over the past forty years, a number of studies on metaphors have directly addressed how the term embodies a new understanding of metaphor and how they are utilised in our daily communications with others. It is now understood that metaphors commensurate with our daily routine. The modern definition of metaphor began with *Metaphors We Live By* (Lakoff and Johnson, 1980), whose focus is primarily on Western society, and which clearly establishes that figurative expressions are ubiquitous in everyday life.

According to their classification of metaphors, in orientational metaphors

where *Happy is up* in Western culture, there are expressions such as *I'm feeling up today* in the English-speaking countries because everything that is up is positive. Correspondingly, *Sad is down* so everything that is down has the propensity to be negative. An example in Spanish language is presented: *Hoy me siento baja de moral* which means *Today, I'm feeling down* that can be interpreted with another metaphor such as *today I've got the blues*. To sum up, although English and Spanish are two different languages, they are both European languages and therefore have a Western root in which English has a Germanic origin, and Spanish comes from Latin. The interpretation reveals that cultures are intertwined by our common historical past that integrated new expressions in the common discourse to introduce new inventions, and/or concepts. These new invented expressions derived over time into figurative expressions that served to explain abstract ideas in order to understand all significant reasoning with a single or few words.

As a result of the last 40 years of research, the concept of metaphor has undergone a restructuring of direction prompting a revaluation of the importance of metaphorical expressions. Today the following definition of metaphor is accepted with some consensus: "The essence of metaphor is understanding and experiencing one kind of thing in terms of another" (Lakoff & Johnson, 1980, p. 5). In this manner, "the metaphor is not a mere decorative element of language, but a fundamental scheme by which people conceptualize the world and their own activities" (Gibbs, 2008, p. 3). Grassroots advocacy of the metaphor was the starting point for the implementation of the metaphorical classification made in the book *Metaphors We Live By* (Lakoff & Johnson, 1980), and the appreciation of metaphors voiced by other linguists to deepen the subject. Thus, in a longitudinal study of metaphors, new theories on expressions such as *your claims are indefensible* or *time is money* were created, and numerous investigations were initiated and published upon verifying that we do speak metaphorically; hence, its significance.

Furthermore, new theories, non-existent prior to the publication of the aforementioned piece of work, such as Conceptual Metaphor Theory (CMT), Conceptual Fluency (CF), Cognitive Linguistics (CL), and Concept/ Content-Based Instruction (CBI), targeted new pedagogical approaches in the teaching and

learning of a second or foreign language. Hence, *Metaphors We Live By* (Lakoff & Johnson, 1980) became climacteric in the research on metaphorical awareness and metaphorical competence in second language acquisition:

Conceptual Fluency (CF) and the related notion of metaphorical competence (MC) emerged in the mid-1980s as a pedagogical response to the research findings and insights that were crystallizing in the fledgling field at the time of cognitive linguistics, and specifically, of conceptual metaphor theory. Since then, a considerable amount of work has been conducted on these notions investigating their main premises, researching their efficacy as teaching-learning tools, and exploring their pedagogical implications.

(Danesi, 2016)

Ultimately, the purpose to dig into the theoretical approaches to the concept of metaphor is to stimulate a wider debate on the need for greater support and resources for the inclusion of the development of metaphorical competence in the ESP classroom in tertiary education by embracing pedagogical strategies that foster the emergence of metaphorical awareness.

2.2 Conceptual Metaphor Theory

The recognition in the academic environment of the critical role played by the cognitive linguists Lakoff and Johnson who popularized the term ‘metaphor’ in the modern era to delineate the features of the conceptual metaphor theory, prompted a myriad of research on the subject. In this conceptual sense, the locution *metaphor* refers “to comprehend one aspect of a concept in terms of another” (Lakoff & Johnson, 1980, p. 10); in other words, by using a common figurative expression, a new concept can be explained, and by utilising a common concept, a new figurative expression can be created (Lakoff & Johnson, 1980; Ortony, 1979).

This principle that predicates on accommodating new terminology to explain a new meaning has manifold implications for mastering communicative competence. The construction of meaning in conjunction with the knowledge representation steer language for communicative purposes. Bringing meaning and thought together contributes to emerging studies investigating aspects of the mind, otherwise known in linguistics as cognitive semantics, giving rise to linguistic trends such as the Conceptual Metaphor Theory (Lakoff & Johnson, 1980), and the

Conceptual Blending Theory (Evans, 2012).

Against this conceptual backdrop, novel metaphors are also explored. The ratio of frozen or dead, versus novel metaphors is eight to one (Ortony & Fainsilber, 1987). To rephrase, in lieu of creating a constant stream of novel metaphorical expressions, as people talk metaphorically on a daily basis, conceptual metaphors prevail. Thereby, the proportion of metaphorical expressions that use conceptual metaphors instead of creating new ones is much higher, at least in 1987, when Ortony and Fainsilber's survey was conducted. It should be noted that, without diminishing the significance of novel metaphors, these take time to be generated and gradually become commonly used expressions which, in turn, will eventually be assumed as conceptual metaphors.

Furthermore, a distinction between dead and conceptual metaphor is exemplified with *Amanda was overcome by grief* in which the concept of metaphor follows the explanations of Radden and Dirven (2007, p. 15) where the word *overcome* is understood metaphorically speaking, as *overwhelmed emotionally*. Nevertheless, literally speaking, it belongs to the domain of *fight* acquainted with the meaning of *fight a battle and climb up to the top of a pile of dead warriors and proclaim your victory*. This is a good illustration of dead metaphors. As the literal meaning is long gone, all that remains is the metaphorical component of the expression which is so emotionally powerful that the feeling lives on; consequently *Amanda was overcome by grief* falls into the category of conceptual metaphor.

Research has reported that the existence of conceptual metaphors lies in the mapping of common concepts in our minds, using expressions generally learnt from childhood and the way in which one mental domain is conceptualised in terms of another (Lakoff, 1993). Linguistic mapping is an operation that associates "two represented situations in which common relational structure is aligned" (Gentner & Bowdle, 2008, p. 109) connecting metaphors with the so-called structure-mappings between two different domains: the source domain and the target domain, such as in *Love is a journey*. Thus, the definition of metaphor was broadened to mean a cross-domain mapping in the conceptual system (Lakoff, 1993), where love is conceptualized as a journey. On a similar account, in *Our relationship has hit a*

dead-end street, the intended meaning is the end of the relationship. This effectiveness of metaphors in conveying a message that would otherwise be complex to adhere to literal semantics, is exemplified in *Metaphors We Live By* (Lakoff & Johnson, 1980) with a long list of domains where the meanings of different conceptual metaphors are studied. Some examples are shown in table 2.1:

Table 2.1 Categorization of metaphors (data taken from Lakoff & Johnson's *Metaphors We Live By*, 1980)

CATEGORIZATION OF METAPHORS	Examples
Ideas are objects	I gave you that idea
Container metaphors	The ship is coming into view
The part for the whole	Get your butt over here
Theories and arguments are buildings	Is that the foundation for your theory?
Ideas are food	What he said left a bad taste in my mouth
Understanding is seeing	I see what you're saying
Wealth is a hidden object	He's seeking his fortune

In truth, categorization of groups of words or expressions to allocate them in a fraction of a second when shaping a speech in our heads is essential to attain optimal communicative competence. What is more, there is a word or expression for each concept stored in our mind that needs to be accentuated to provide full meaning to our discourse. However, in terms of figurative expressions, the difficulties are exacerbated when clusters of words are arranged into concepts, since a shift in meaning has occurred. As an example, the word *brain* is defined in the Cambridge English Dictionary as “the organ inside the head that controls thought, memory, feelings, and activity”, but in the sentence *The company is hiring new brains*, the word is used in other senses (Radden & Dirven, 2007, p. 12). This is called *mapping*, that is mental or cognitive maps, which are images build in our minds as tools to understand the elucidation (Portugali, 1996). In the previous example, the meaning of the word *brain* cannot be taken literally but figuratively, acquiring a greater significance, that of intelligent person. It is also necessary to clarify the exact meaning of the example since it falls into the category of metonymy. In this case, both domains brain and intelligent person are associated with human properties.

Kövecses (2010), whose studies focus on English language, extrapolates his research to other languages as well, explaining why native speakers of English talk about life as if life were a journey. Briefly illustrated with some examples (Table 2.2) *He is without direction in life*”, *She’s gone through a lot in life*, and *I’m where I want to be in life*, they show willingness to talk about life with the aid of a concrete concept such as the domain of journey, since when physically on a journey, there is movement to get from one place to another, facing crossroads. As opposed, an abstract concept such as the domain of life, is not palpable but intangible and full of emotions. The evidence that conceptual metaphor is the pillar of Kövecses’ understanding of the different components on which the Conceptual Metaphor Theory is based, is demonstrated by the following line “Conceptual domain A is Conceptual domain B” (Kövecses, 2010, p. 4), in which the definition of metaphor is expanded by clearly distinguishing in his narrative the opposition between conceptual metaphor versus metaphorical linguistic expressions.

In this line, table 2.2 reveals that the conceptual metaphor falls within the scope of the source and target domains, exemplified with the aforementioned sentence *life is a journey*.

Table 2.2 Conceptual Metaphor (taken from Kövecses, 2010)

Conceptual Metaphor	Example
Life is a journey	He is without direction in life
	She’s gone through a lot in life
	I’m where I want to be in life

On a different account, metaphorical linguistic expressions, which are also predicated on their relationship between abstract and concrete concepts, were developed by extensive research conducted by the Pragglejaz Group (2007). In an attempt to identify such metaphorical linguistic expressions and distinguish them from true conceptual metaphors (true according to these scholars), the group profiled the method named “Metaphor Identification Procedure” (MIP) (Kovecses, 2010, p. 5) (Table 2.3). The elite members of the Pragglejaz Group are certainly well-known scholars such as: Raymond Gibbs (University of California, Santa Cruz, US), Graham Low (University of York, UK), Elena Semino (Lancaster

University, UK), Zoltan Kövecses (Eötvös Loránd University, Budapest, Hungary), among others. MIP consists of the following aspects.

Table 2.3 Metaphor Identification Procedure (MIP) (taken from The Pragglejaz Group, 2007)

	MIP
1	<i>Read the entire text-discourse to establish a general understanding of the meaning</i>
2	<i>Determine the lexical units in the text:</i>
3	<i>(a) For each lexical unit in the text, establish its meaning in context, that is, how it applies to an entity, relation, or attribute in the situation evoked by the text (contextual meaning). Take into account what comes before and after the lexical unit.</i> <i>(b) For each lexical unit, determine if it has a more basic contemporary meaning in other contexts than the one in the given context. For our purposes, basic meanings tend to be:</i> • <i>More concrete (what they evoke is easier to imagine, see, hear, feel, smell, and taste.</i> • <i>Related to bodily action</i> • <i>More precise (as opposed to vague)</i> • <i>Historically older</i> <i>Basic meanings are not necessarily the most frequent meanings of the lexical units.</i> <i>(c) If the lexical unit has a more basic current-contemporary meaning in other contexts than the given context, decide whether the contextual meaning contrasts with the basic meaning but can be understood in comparison with it.</i>
4	<i>If yes, mark the lexical unit as metaphorical</i>

Moreover, abstract realms are part of the Conceptual Metaphor Theory (Lakoff & Johnson, 1980). They are difficult to grasp, but with the help of conceptual metaphors, abstract notions can be described in a specific visual depiction portraying an image schema, for instance: *el estallido de la burbuja inmobiliaria* which means *the bursting of the housing bubble* (Martínez-Costa et al., 2021). Consciously or not, an image is outlined in our heads, that of a real bubble bursting. Image schemas highlight the importance of metaphorical expressions.

Finally, what can be clearly seen is that the topic of metaphors has become

one of the most researched areas in linguistics since 1980. Several Linguists (Gibbs, 2011; Glucksberg & Keysar, 1993; Goatly, 1997; Kövecses, 2010) began to hypothesise about a variety of theories related to metaphors, conceptual metaphor, cognitive science, and many more, resulting in a strong trend. The number of linguists and research have increased with the development of the field, such as when faced with an English Language Teaching (ELT) context. It is noted that metaphors are widely used to describe abstract concepts (MacArthur, 2010; Martínez-Costa et al., 2021), as seen above. To display another example, a line from a non-native English speaker's description of the war in Irak in 2003 is examined; the narrator used the expression *it takes one to tango*, turning the figurative conceptual expression *it takes two to tango* into a novel metaphor, that is to say that this war was provoked by a single party, the United States, instead of the usual understanding that in any kind of conflict, normally two or more parties are equally responsible (MacArthur, 2010).

Thus far, the Conceptual Metaphor Theory has proven to be very effective for second language learners. Task-based activities draw attention to the metaphorization processes that take place when metaphors are created, and therefore, the students learn the origin of figurative expressions, facilitating the comprehension, retention, and use of metaphors in similar contexts thanks to metaphorical reasoning (Hoang, 2014). This process helps students to master fluency in a second or foreign language, hence the term gaining conceptual fluency.

2.3 Conceptual Fluency

On the question of Conceptual Fluency (CF), there seems to be a connection with Metaphorical Competence (MC) (Danesi, 2016) since both navigate within the same spheres. Given this context, our speech echoes our knowledge of the language we speak. In this light, an increasingly nuanced understanding of a lingua reveals a greater rapprochement with linguistic competence. On the whole, research has reported that our conversations contain metaphors (Gibbs, 1999; Kövecses, 2010; Lakoff & Johnson, 1980), specific conceptual metaphors learnt from childhood and inherited from our social environment, whereby metaphorical competence will be mastered throughout our lives.

As previously highlighted, any speaker of a given language should be cognisant of the common social metaphors that designate common concepts in a particular context, otherwise known as conceptual metaphors, such as *I can't face the future* (Lakoff & Johnson, 1980). The use of this type of figurative expressions is a linguistic resource that represents, in this respect, conceptual fluency. Although, eventually these conceptual metaphors render obsolete turning into frozen or dead metaphors, as society evolves and so does the language, while they are active they depict powerful states of mind. Short and concise they are linguistic tools of heightened importance. Thus, the works and studies carried out from the 1980s reached the following conclusion:

that figurative expressions in discourse were hardly exceptional or idiomatic; they were systematic and thus revelatory of the conceptual-semantic system guiding linguistic choices in ordinary forms of communication
(Danesi, 2016)

Accordingly, if this principle is extrapolated to a second language, the conclusion drawn is that the same proficiency level in a second or foreign language will be required to acquire metaphorical competence. The concerns raised here are whether metaphorical awareness is discerned. Only if there is recognition of the existence of metaphors on a day-to-day basis, will the process to achieve metaphorical competence in a second or foreign language be endorsed. Ultimately, what arises naturally and spontaneously in our mother tongue has to be painstakingly processed and practiced in SLA in order to achieve fluency and with it an optimum level of communicative competence.

Furthermore, there are several definitions with regard to Conceptual Fluency that are useful in SLA. First and foremost, conceptual fluency is defined as “close-to-native use and comprehension of concepts of the target language” (Kiefer, 1996, p. 146). This statement represents the need for the L2 learner to reach a high level of language proficiency in order to begin to acquire native-like knowledge, such as metaphorical expressions of the kind of *This fiction novel is not my cup of tea*, to develop conceptual fluency. Once conceptual fluency is achieved, the repercussions are positive insofar as they allow non-native speakers (NNSs) to not only employ a repertoire of conceptual metaphors in the correct

context, but also to create novel metaphors to account for “a linguistically-and-culturally-grounded” (Kiefer, 1996, p. 146) meaning perfectly understood in L2. Thus, when a second language learner displays conceptual fluency, that is, the confidence to correctly interpret a situation linguistically and semantically as that of a native speaker, the ability “to transmit a mental representation” (Kecskes, 2000, p. 147) or image schema (Johnson, 2005) is obtained, hence accomplishing metaphorical competence and communicative competence.

On the other hand, Danesi (1993) posits the lack of conceptual fluency when second language (SL) learners avail themselves of words from the target language making use of the source language structure. The next example is very illustrative and is as follows: when a native Spanish speaker tries to translate into English the idiom *buscarle los tres pies al gato* with the expression *to look for three legs of a cat*, a lack of understanding occurs. Native-English speakers will not acknowledge the expression because it has been translated word for word. Instead, with the phrase *If it ain't broke don't fix it*, native speakers (NSs) will show full comprehension to someone trying to prove something impossible, usually with tricks and deceit. Yet, as opposed to the above miscomprehension, reverse ability also occurs, that is, possessing conceptual fluency when a student employs target language words and expressions with the target language's grammatical structure, including metaphorical structuring. Therefore, another definition of conceptual fluency states: “the ability to navigate source domains in the L2 during discourse programming” (Danesi, 2016, p. 490).

Additionally, despite some reservations, L2 learners can show conceptual fluency in the foreign language by creating novel metaphors in their discourse. However, these metaphors can sound awkward to a native-speaker's ear for various reasons. As MacArthur (2010) points out, an animated subject (a person) cannot be used to construct a figurative expression that involves an inanimate object, as in the example examined by the scholar: *time went by very quickly and I saw my greatest opportunity when I bumped into a poster announcing the arrival of Erasmus grants*. Here, fluency fails, because the inference from that expression is to literally be hit over the head with the sign. To solve this problem, “visual illustration and physical enactment may thus be used regularly in the classroom to support the verbal

explanations of how concrete scenarios may motivate metaphorical uses of words and phrases” (MacArthur, 2010, p. 166).

Throughout this continuum, conceptual fluency is an added sequence to the L2 learning process. Therefore, only when those manifested difficulties in navigating communicative situations with respect to metaphorical competence are assimilated by the learner, new concepts, skills, and knowledge become part of communicative competence (Gong, 2020). In other words, conceptual fluency is achieved when the L2 learner starts to speak like a native, using metaphors in appropriate contexts and utilising idioms to explain concepts and emotions without sounding strange.

Nevertheless, there are studies that explain that the pragmatic skills displayed by highly proficient L2 learners may not reflect conceptual fluency due to certain variables, such as strong L1-culture transfer, false generalization, and personal choice (Kecskes, 2000), known as situation-bound utterances (SBU hereafter). This selection and use of pragmatic units containing conceptual metaphors, otherwise known as formulaic expressions, will be covered in the section following a brief clarification on the distinction between metaphors or idioms.

2.3.1. Metaphors or idioms?

Before proceeding with this investigation, it is necessary to address the distinction, if any, between metaphors and idioms. Ortega y Gasset in 1948 described metaphor as “(...) probably the most fertile power possessed by man” (Tayjasanant, 2012, p. 129). Metaphor derives from the Greek root *Meta* plus the suffix *pherein* which means Transfer + to bear (Glucksberg & McGlone, 2001). This is the general understanding of metaphor and what a metaphor means. The Greek expression literally means “carrying a transfer” of what is understood “from one thing to another”, such as from a literal to a non-literal meaning with the pass of time, and the evolution of language in expressions like *I’m under the weather*.

It is not easy to define what a metaphor is or what it means. Many different scholars (Kövecses, 2010; Lakoff, 1994; Lakoff & Johnson, 1980; Ortony, 1978, and many more) have tried to render their own definitions, that do not necessarily meet the current understanding of the metaphor compiled in editorials in the form of dictionaries. Allusion to idiom, on the other hand, prior to any deep investigation, seems to mean the same thing as a metaphor: “An idiom is an expression whose meaning cannot always be readily derived from the usual meaning of its constituent elements” (Cooper, 1999, p. 233). As shown in table 2.4, when English idioms are understood on their own, without the need to be part of a sentence, they are also called proverbs.

Table 2.4. English Idioms (data collected from EF: Resources for learning English)

Idiom	Meaning	Usage
Better late than never	Better to arrive late than not to come at all	By itself
Bite the bullet	To get something over with because it is inevitable	As part of a sentence
Break a leg	Good luck	By itself
Call it a day	Stop working on something	As part of a sentence
A bird in the hand is worth two in the bush	What you have is worth more than what you might have later	By itself

In conclusion, separating metaphors from idioms and idioms from proverbs is not an easy task, mainly because in conceptual terms they comply with the same notions. The following proverb *people who live in glass houses should not throw stones* (Cacciari & Tabosi, 1993) immediately awakens metaphorical awareness in native speakers who understand that the idiom could be taken literally, but it is not. The idiomatic meaning is not just about houses and stones, but “about the vulnerability of people criticizing others for faults that they themselves have” (Glucksberg, 1993, p. 3) where the glass house is a metaphor for vulnerability.

2.3.2. Situation-Bound Utterances (SBU) formed with metaphors

Kecskes (2000) defines SBU as expressions formed with conceptual metaphors, also known as formulaic expressions. In this regard, the chosen use of certain pragmatic units can drift from a completely understandable figurative expression when used in a common context that inflicts a normalized meaning, to sound weird when the situation is modified. As can be observed, the social norm establishes that when meeting another individual, a question should be asked inquiring for the well-being of that person, such as *How are you doing?*, the other person should correspond to good manners with a response like *Fine, thanks* (Kecskes et al., 2018).

In efforts to identify hindrances and possibilities of SBU, an example of a short dialogue is transcribed in which two people, one native-speaker (NS) and one non-native speaker (NNS), are involved in a conversation within a university setting. The NNS asks the NS to sign a student petition but when the NS requests a clarification, the formula *Come again?* is used, to which the NNS replies *Why should I come again when I'm here now?* (Kecskes et al., 2018). These hurdles to conceptual fluency have been particularly noticeable among SBUs because they are highly situation driven and are automatically evoked by certain speech situations (Kiefer, 1996). Besides, in SBUs the speaker will tend to employ a standardised formula for a standardised situation to fulfil the communicative purposes that will lead to communicative competence.

The interplay of these dynamics in an SLA background may result in a communication breakdown due to lack of conceptual fluency and therefore metaphorical competence. If the intended SBU is inappropriate for a specific context, then misunderstandings and misinterpretations will occur. In addition, extra-linguistic factors such as strong L1-culture transfer, false generalization, and individual choice (Kecskes, 2000)) are deemed highly important. In this sense, when L2 learners perceive their knowledge of the L2 greater than it actually is, they may venture into unique situational meanings for which their linguistic competence is insufficient.

Moreover, allusion to L1 socio-cultural influence is discussed below. One of the three factors that affect SBU is culture, which is most dependent on the speaker's knowledge of L2 (Chemezov & Gural, 2015). Deep expertise in L2 culture is key for NNSs to wield correct formulaic expressions natively, without undergoing strong L1-culture transfer. Misuse of SBUs due to this phenomenon implies, indeed, the use of conceptual expressions in the target language with the intended meaning of a culturally-semantic L1 concept.

Thereby, the SBU relies on the socio-cultural interpretation of the hearer which has a polarising effect: as long as the utterance is spoken by NSs, EFL learners may misinterpret the message due to lack of L2 cultural knowledge; however, providing the expression is used by NNSs, communication may break down as the situation-related expression, also called SBU, may not be suitable for the specific culturally-bound context, and native speakers simply will not understand.

Previously stated false generalization and individual choice are also prone to being sensitive factors, as they depend on personal interpretations of the acquired knowledge of the L2 language with all its implications: linguistically and semantically. The generalization of concepts can fall into a fallacy when the same rule does not necessarily apply to similar cases, leading to erroneous conclusions and incorrect usage of the expression. Finally, the individual choice is such a personal element that only a good knowledge of the language will prompt the speaker to make the right choice, reasoning in turn about the inadequacy of any other possible option.

2.4 Cognitive Linguistic Paradigm

The study of language is extraordinarily complicated (Fauconnier, 1999). This is the premise from which the community of scholars, made up of cognitive neuroscientists, linguists, and psychologists, started. A consensus was reached in the last decades of the 20th century and the first decade of the 21st century, about accepting cognitive linguistics as the most important perspective on the nature of

language, the mind and the socio-physical (embodied) experience (Evans, 2012). Thus, cognitive linguistics is classified as a movement or enterprise that studies language and is constituted by a set of guiding principles and assumptions, such as that language reflects patterns of thought, and perspectives that lead to various theories that describe the systematicity of language, its structure, and functions (Evans & Green, 2006).

The origins of the demarcation of what exactly is the structure of language and its organization resulting in cognitive linguistics has never been easy to define. In this light, some theories and methodologies regarding the nature of language were developed. A key aspect of heightened importance about Cognitive Linguistics is Cognitive Grammar (Langacker, 1987) which was the term coined to explain the inseparable connection between syntax and semantics, as a linguistic structure. However, this indissoluble association presented problems at a time when the language was separated into branches as follows: syntax referred to grammar, and semantics referred to meaning. As a consequence, the awareness of delineating different conceptual frameworks that include figurative language such as metaphors arose.

In addition, the constructionist approach devised by other scholars such as Goldberg (2013), which is the union of grammatical construction, surface structure, network construction, cross-linguistic variability and generalization, and usage-based, tends to distance itself from Generative Grammar (Chomsky, 1988; Halle, 1962) which consisted of “a collection of statements, rules or axioms, which describe, define or generate all well-formed utterances in a language and only those” (Halle, 1962, p. 34).

Despite these controversies, the speakers’ discourses capture their thought-centred essence that encompasses their personal social experiences and values. Besides, to order all reasoned thought, grammatical rules should be applied. Thus, viewing as a great achievement turning a moderate comprehensive speech into a powerful grammatically correct message, gives rise to the concept of language as an exercise of cognitive faculties.

Langacker (1999) asserted the recognition of cognitive linguistics as belonging to the functionalist tradition. In this manner, he points out that “cognitive and functional linguists believe that language is shaped and constrained by the functions it serves and by a variety of related factors: environmental, biological, psychological, developmental, historical, sociocultural” (Langacker, 1999, p. 14). The functional categorization then, is manifested through these factors and induces the linguistic structure that makes cognitive linguistics a language model. In this sense, the structure of language is the result of use, based on general cognitive abilities (Glynn, 2010).

What is more, cognitive linguistics is the linguistic representation of conceptual structure, and its approach addresses the patterns and processes of how conceptual content is organised in language (Talmy, 2011). The enterprise of cognitive linguistics, through the in-depth study and modelling of the cognition behind the language, conveys theory and methodology. The second, the methodology, becomes increasingly empirical to achieve rigour (Fischer, 2010) in order to reflect the use and organization of language (Fauconnier, 1999). The linguistic structuring of basic conceptual, ideational affective categories attributed to cognitive agents, such as attention and perspective, volition and intention, and expectation and affect (Talmy, 2011), focusing on different fields such as semantics, morphology, lexicon, and syntax, join forces to disentangle the cognitive experience.

Seemingly, the conceptual structure exploits cognitive resources, including metaphorical mapping, which befalls in the brain and is influenced by our personal experiences, knowledge, and culture, to produce language, thanks to the coordination of large arrays of information. Cognitive linguistics thus adopts an experiential perspective on concepts and meaning (Lemmens, 2016). Likewise, socio-cognitive skills are interrelated in this paradigm that supports the notion that language is embedded in an inherently significant syntactic and morphological pattern which together with the lexicon form a continuous sequence and that “semantics is inherently encyclopaedic in scope” (Taylor, 2010, p. 566), covering a wide range of knowledge.

On the other hand, as stated in the introduction to this work, and in accordance with the previous statements, poetry and language are in tune. For poetry to be understood, linguistic motivation is mandatory to set up the framework portrayed by the poet in order to grasp the meaning, e.g. *All the World's a Stage* from *As You Like It* by William Shakespeare. The cognitive and linguistic skills that enable the poet to write expressions like the above contain cultural references and refer to the culture of entertainment, as the target industry, dating back to 16th century England.

In terms of metaphors, treating metaphors in poetry as so meaningful also facilitates the idea of enduring. While writing poetry requires much more elaboration than everyday talk, it nevertheless requires the same language skills needed to make any speech by any human mind (Gibbs, 1994). Although the daily expressions used by ordinary people to speak may not be as elaborate as a poem stanza, or song lyrics, the construction is nonetheless a process of the mind that needs linguistic abilities. These abilities are expressed and articulated in the form of metaphors that ease reasoning and communication about many concepts (MacArthur, 2010) both in our mother tongue and in SLA.

The indications of language as an integrative faculty of the human being (Geeraerts, 2016) highlights the interconnection with thought, imagination, memory, will and sensation in efforts to enhance various mental phenomena like perception, pain experience, belief, desire, intention, and emotion. These are called bodily experiences that determine our thoughts as our minds are embodied, attributing the very nature of our thoughts to the very nature of our bodies. Also, most thought is unconscious, and abstract concepts are mostly metaphorical. And almost all our unconscious metaphors are predicated on common bodily experiences (Lakoff & Johnson, 1999).

Thus far, a number of factors rooted in our minds linked to the configuration of mental phenomena schema contribute to bringing together all our cognitive abilities, our knowledge of the world, our culture, and our bodily experiences. The purpose is to convert all our perceptions into our thoughts transmissible through language which is metaphorical in nature, and whose metaphors reflect the abstract

concepts of the mind. The human faculty of language and its biological foundations (Everaert et al., 2015) grant a cognitive system the acquisition and use of languages (Pietroski, 2012).

Opposing the old theory from the 1970s and 1980s that describes language as a separate entity with little connection to other cognitive faculties and encompassed in the Generative Grammar and Formal Semantics approaches, a counter argument hints little resistance from the contemporary approach to language, language learning, and conceptual structure (Evans, 2012). Categorised in the field of cognitive grammar, otherwise known as cognitive linguistics, the human ability to use abstract concepts to refer to different notions and emotions in life rests within the scope of the cognitive linguistics paradigm.

In this regard, human language should be considered as a social semiotics, in other words, as an intersubjective, historically, and socially variable tool (Geeraerts, 2016), not detached from other cognitive faculties of human existence, but interrelated due to its social and cultural aspects. As a result, language is part of the cognitive sciences (Radden & Dirven, 2007). Figure 2.1. is visually explanatory as follows: for a hearer to understand a situation linguistically and conceptually structured by a speaker, a cognitive process must occur in both minds: first, the speaker's ability to express thoughts through language in the form of sentences is necessary, and second, the hearer's ability to interpret the meaning.

Although controversy still exists, there seems to be agreement that cognitive linguistics is now being reviewed in terms of the basic principles for understanding metaphors. Similarly, it is associated with the source and target domains (Gibbs, 1996), discovering in the process new features to describe metaphors, that of unidirectionality (Shen, 1993) and/or trans-modal mapping and metaphor (Ox & Van der Elst, 2011).

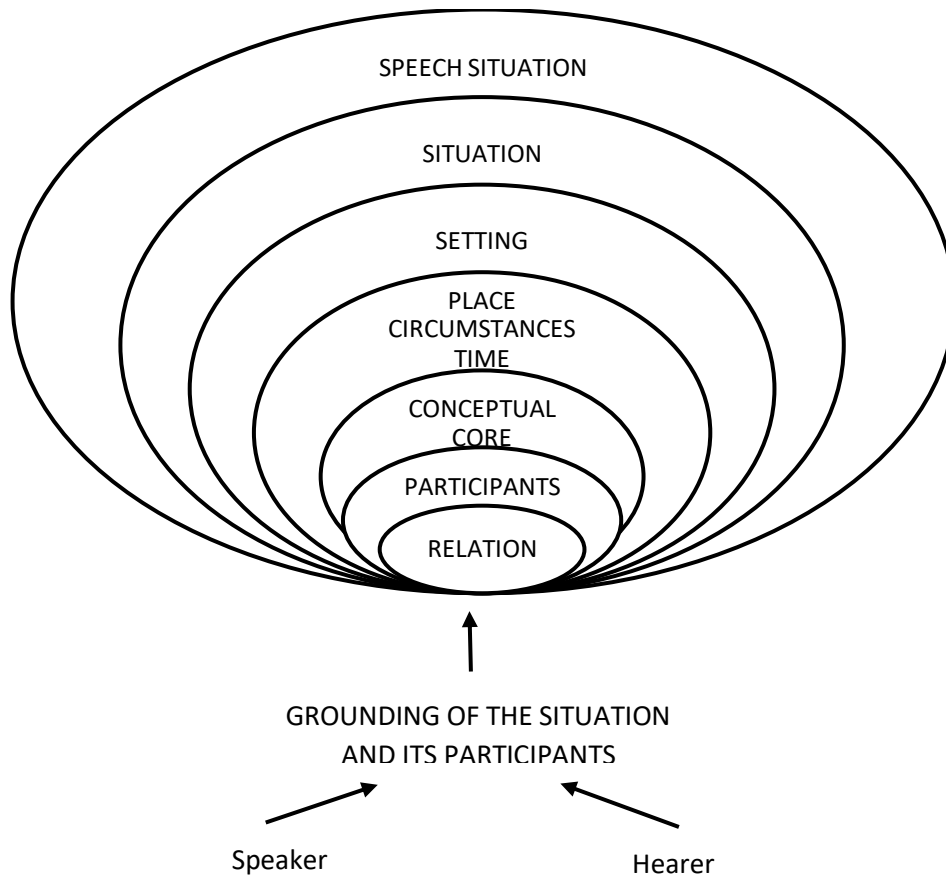


Figure 2.1. Structure of a situation (taken from Radden & Dirven, 2007)

In connection with unidirectionality, the evolution of human metaphoricity lies in its directionality, which reflects mappings from one conceptual domain to another (Gil & Shen, 2021). Per se, time is conceptualised in the matter of space in the sentence “electric propulsion for large commercial aircraft remains a very distant prospect” which is understood with reference to time. Shen (1993) expounds this paradigm as the only common direction from the source domain to the target domain, and not inversely, where the source domain (space) is clearly stated as *a distant prospect*, unlike the target domain (time) whose definition remains vague. In this regard, the relation fringes from the concrete to the abstract, from the salient to the less salient (Porat & Shen, 2017).

Mapping is the process that occurred in the example above that involves the transfer of properties from the source domain, usually a well-defined idea or concept, to the target domain. In *Tom is like a tortoise* (Shen, 1993) the use of a

figurative expression serves to identify a human being (target domain) with a very slow-moving typically herbivorous terrestrial reptile (source domain), to convey the slow-moving qualities of the animal to the human.

In respect of the second concept, that of trans-modal mapping related to metaphor, it consists of a process of analogy. In *the hydrogen atom is like our solar system* (Ox & Van der Elst, 2011) the relational structure of the analogical mapping connects the mapping source domain of *the electron revolving around the nucleus* and a mapping target domain *the planets of the Milky Way revolving around the sun* (Gentner et al., 1983). Thus, this “model approach enables new ways of learning and knowledge building” (Ox & Van der Elst, 2011, p. 88) that brings a visual image to mind.

Moreover, diverse studies draw on aspects of the mind to explore further afield: “knowledge representation and meaning constructions, employing language (...) is sometimes referred to as cognitive semantics” (Evan, 2012, p. 130). While provision of language is high on the cognitive linguistics agenda, specific social characteristics present a crucial signature for understanding the very nature of language, which is communication itself (Sinha & Jensen de López, 2000).

The end result of the cognitive linguistics span is a series of works concerning significant strands found at other levels of analysis, in tune with variations. These variations transpire within the same linguistic community and between languages and cultures. At this stage, metaphors are reconnected as key players in the field of cognitive linguistics, reaching a core ability status (Littlemore & Low, 2006) for second-language learners, that enables them to use metaphors.

Expanding on the scope of variations, Boers and Lindstromberg (2006) focus on linguistic motivation as the ability to understand metaphorical expressions, which in turn help students to achieve better retention, and therefore, better use of the most frequent metaphors. Linguistic motivation is characterised by explanations of polysemy, iconicity, and alliteration. It is worth a brief explanation of this new terminology covered by the aforementioned scholars and presented in the next sections.

Appertained to the sphere of polysemy is the coexistence of many possible meanings for a word or phrase such as the word *bright* which has a double meaning: “shining” and “intelligent”. Iconicity represents the correspondence between form and meaning, as in a structure built in the shape of a seahorse, which means delicate (Caballero-Rodríguez, 2014). And alliteration is explained as the occurrence of the same letter or sound at the beginning of adjacent or closely connected words, for example *sweet birds sang*. Thus, to enhance the understanding and retention of new metaphorical expressions, SL learners should be cognisant of the background of a metaphor present in a text, so that they capture the reason and intention of its creation that builds an image schema. This image schema constitutes a propelling force to extrapolate the meaning of the original expression, to the figurative expression in current use.

All in all, in Cognitive Linguistics meaning is defined as a conceptualization (Lemmens, 2016) derived from concepts or conceptual structures that gave rise to theories previously seen as the Conceptual Metaphor Theory. Therefore, cognitive semantics, predicated on meaning, sheds light on the meaning of the units that build words and knowledge structures.

2.4.1. Cognitive semantics

Cognitive semantics is twofold. It interlocks the concept of meaning for the human being (Lakoff, 1988) and the semantics of grammar as the key to conceptual structuring in language (Talmy, 2007), that is, the constructions of meaning in language (Fauconnier, 1999). These are the premises incorporated into a cognitive approach to language, in which meaning is the central point of grammar, and where cognitive semantics is associated with conceptualization, adopting an encyclopaedic view (Lemmens, 2016). Accordingly, all structured knowledge is provided from basic units of meaning.

As far as dimensions of linguistic information is concerned, where different levels of grammar are intertwined for the formation of sentences, phrases and clauses from words, as parts of speech, there is an interaction among syntax,

morphology, lexicon and semantics (Kastovsky, 1977). This interaction interconnects lexical semantics and syntactic constructions in which all linguistic units are meaningful. As for the brain, this is an overly complex organ that needs stimuli to function, called experiential factors (Lakoff, 2019). In this regard, the skills and abilities required to convey a coherent discourse interpenetrates the sensory motor skills, that bequeath our senses the endeavour to absorb worldly information attaining a body's response, with emotional and social experiences and cognitive abilities that influence motivation. For these reasons, our conversation is unique because our thoughts derive directly from our personal experiences.

Language has oftentimes been reported as a socio-cognitive phenomenon (Glyn, 2010). Cognitive processes will display the necessary motivation given through semantic, pragmatic, and functional aspects to build structured-conceptual expressions with specific form and meaning (Lakoff, 1988) whereby "cognitive semantics (...) identifies meanings of expressions with mental entities" (Gärdenfors, 1999, p. 20). In effect, language provides support for the conceptual structuring of the world, alongside the perspective of semantics seen as a mapping from the linguistic expression to cognitive structures.

Beyond its impact on cognitive linguistics, the balance between semantic motivation influenced by external factors such as global knowledge and social variation, and discourse structure, that includes syntax, morphology, and lexicon, should be bolstered. Thereby, in cognitive semantics an encyclopaedic approach should prevail that supports all language production as the combination of linguistics, semantics, and pragmatics, based on bodily experiences and semiosis, that is, the process of meaning in language (Glynn, 2010).

Turning now to the relationship between concepts and meaning, the semantic motivation is exploited by its context. In this sense, a wide range of approaches and methodologies are entrenched in the process of cognitive organization. As they navigate the conceptualization of the world around us, they cover experientialism with human bodily experiences, categorization with a symbolic distinction between difference and similarity (Glynn, 2010), and the metaphor where abstract domains are expressed in terms of concrete domains.

Along this continuum, the word “concepts” is intended to name clusters of essentially similar things. Lakoff and Johnson (1980) couched a series of categorizations drawn on metaphors. By way of illustration, ontological metaphors that rest on the speakers’ own experiences link expressions like *the ugly side of his personality comes out under pressure* and *she saw getting married as the solution to her problems*, because they belong to one’s own experiential background.

What is more, some of the notions that encompass the concept of cognitive semantics today show empirical rigour, connecting this discipline with usage-based approaches to language (Fischer, 2010), such as Idealised Cognitive Models, image schemas and metaphor (Lemmens, 2016) among others. Advocates of the same postulates manifest that our thoughts draw image-schemas in our mind, which are patterns of knowledge grounded by bodily experiences, called experientialist cognition (Lakoff, 1988), which facilitates the understanding of conceptual domains. However, “not all conceptual domains are embodied; yet even non-experiential domains often receive such embodied structure via metaphorical mappings” (Lemmens, 2016, p. 4). Based on the previous assertion, a differentiation between primary or conceptual domains, and secondary or abstract domains is pertinent. This single binomial embodies human experience and social or mental states or processes due to our innate ability to have basic sensory-motor, emotional, social and other earthling perceptions. On that account, linguistic expressions whose meaning cannot be predicted from their literal elucidation are metaphors and fall within the scope of metaphorical competence. As such, conceptual metaphors underlie conceptual mappings, indicating that there is some correspondence in meaning between the words used and the intended message.

As formerly mentioned, cognitive semantics as a discipline is shifting to an empirical approach to gain rigour. The transition from being a theoretical science to an empirical one includes the redefinition of protocols and techniques in terms of a set of operations to adapt concepts regarding linguistic meaning (Stefanowitsch, 2010). Thusly, operationalization is then a change in the nature of the concepts with the help of procedures. In this manner, when the concept is tangible, then all the operations will be physical. Returning to the erstwhile concept of distance, the measurement is in physical terms, in other words, to measure a

physical distance from point A to point B, all that is needed is to place a tape measure in one location and run it all the way. Nonetheless, this notion of operationalization is exacerbated when the physical domain becomes an abstract domain. The study of abstract concepts in language focus on the metaphor and its metaphorically structured abstract domain (Boers & Demecheleer, 1998), with its procedures predicated on the “subjective experience of an emotion that seem to derive from the perception of various kinds of bodily activity” (Laird, 1974, p. 486) These procedures become the source domains for systematic mappings onto abstract domains (Johnson, 1992). Hence, cognitive semantics provide empirical understanding of abstract concepts with the fundamental visual-mental aid of the image schemas.

2.4.1.1. Image Schemas

Image Schema has a pivotal role in cognitive semantics and there are multiple definitions of it. An image schema, also classified as recurring basic conceptual structures (Clausner & Croft, 1999), is a paramount semantic structure in cognitive semantics, primarily because it facilitates our understanding of “how our intrinsically embodied mind can (...) be capable of abstract thought” (Johnson, 2005, p. 15). Image schemas are “imaginative and non-propositional in nature and operate as organizing structures of experience at the level of bodily perception and movement (...) (Image schemas) are at once visual, auditory, kinaesthetic, and tactile” (Gibbs & Colston, 2006, p. 241). Another definition is the following: “a condensed redescription of perceptual experience for the purpose of mapping spatial structure onto conceptual structure” (Oakley, 2007, p. 214). Or simply, an image schema is a “sensory experience of metaphors by seeing, hearing, tasting, smelling, and touching with the imagination” (Pugh et al, 1997, p. 1).

This shows the complexity of defining the notion of image schema because different aspects of human function interact in our brain, including abstract perception. Our individual experiences determine much of our reasoning and knowledge of the world. So, when uttering a speech, image-schemas are drawn within the mental process that occurs inside our head, which are complex processes of the mind. Every time humans think, image schemas intervene. As explained

above, our perception of the world, our experiences, and our knowledge are intertwined in this cognitive process that allows humans to present a clear sequence of ideas, in many cases, metaphorical, that will help us comprehend abstract concepts and experiential structures. Besides, the use of language involves human experiences, both spatial and temporal experiences, and metaphors are powerful carriers of meaning (Allwood & Gärdenfors, 1999).

Furthermore, a theory that explains the ideas exposed above is the Idealised Cognitive Models, which are “unified frameworks of knowledge, or coherence schematization of experience” (Filmore, 1985, p. 223). These models denote different common everyday societal functions according to certain rules, which allow us to become familiar with concepts. Thanks to our bodily experiences and the analysis of the theoretical resources that collects them, our ideas and will can be expressed in a particular manner, using specific vocabulary acquired through our corporeal events, which in turn evokes certain image schemas, that can be classed as frames. Thus, any common routine, like going to the supermarket, gathers knowledge frames, such as walking or driving to the store, picking up a cart, filling it with chosen items, packing, paying at the cashiers, and going home. The organization of all the expressions used in terms of language will be related to the topic of the supermarket and is culture specific. What is more, in the case of the supermarket issue, being culturally specific refers to the subtle differences of shopping in a large urban area versus a small town, but within an industrialised country. However, purchasing food in remote areas of developing countries will probably undertake a variety of other challenges, albeit spanning frames. The understanding of these frames, according to our culture, is called encyclopaedic meaning, since it has been extracted from our general knowledge of the world (Lemmens, 2016).

In this context, the existing body of research on abstract cognitive models, such as schematization, metaphor, metonymy, and categorization, suggests that these models belong to the theory of experientialist cognition (Lakoff, 1988). Experientialist cognition is based on an imaginative projection or imaginative processes occurring in our brains that are grounded in our individual and social structured experience mainly due to our innate human sensory-motor capacities.

Against this backdrop, the shift from structured bodily experience to abstract concepts takes place when the association of symbols is attached to abstract ideas and non-physical external objects. All the imaginative projections and schematization of any thought or physical act that we, humans, conduct in our daily routine, form an image schema that gives us the guidance to perform the act, or to utter a word, a sentence, or a complete.

It is Johnson (2005) who explains that image-schemas are useful to conceptualize abstract thinking carried out in bodily experiences within the environment. The scholar engages in the comprehension that we, humans, experience our bodies as containers, and/or as things in containers, setting inner and outer boundaries. The logic of this metaphorical construal is that everything (us or objects) is either inside or outside the container, e.g. *He is in love* which in this case, love is the container in which he is. Lakoff (1988) posited that “a container schema is inherently meaningful to people by virtue of their bodily experience” (Lakoff, 1988, pp. 141). He argues that cognitive functions such as superimposition and focusing embed logic in the schema (Figure 2.2).

Another example could be drawn with a path schema, which is an image schema with a focus at the end point of the path (Lakoff, 1988) so as to yield a plan to go somewhere, such as to spend a day at the beach. By imagining the whole process in your mind, beach items are prepared first, such as the towel, the bikini, the hat, the parasol, and a bottle of water; then, with the path-schema visualization of getting in the car and driving to the beach occurs. Conversely, the perspective changes when you are, instead, planning a speech for your employees or students in a college class. A presentation in a meeting or explanations in a classroom involve language, and as explained many times before, language is metaphorical in nature. Consequently, a twofold panorama must be differentiated here: on the one hand, the images, which are representations of concrete, embodied experiences; and on the other hand, image schemas, which are abstract images (Clausner & Croft, 1999).

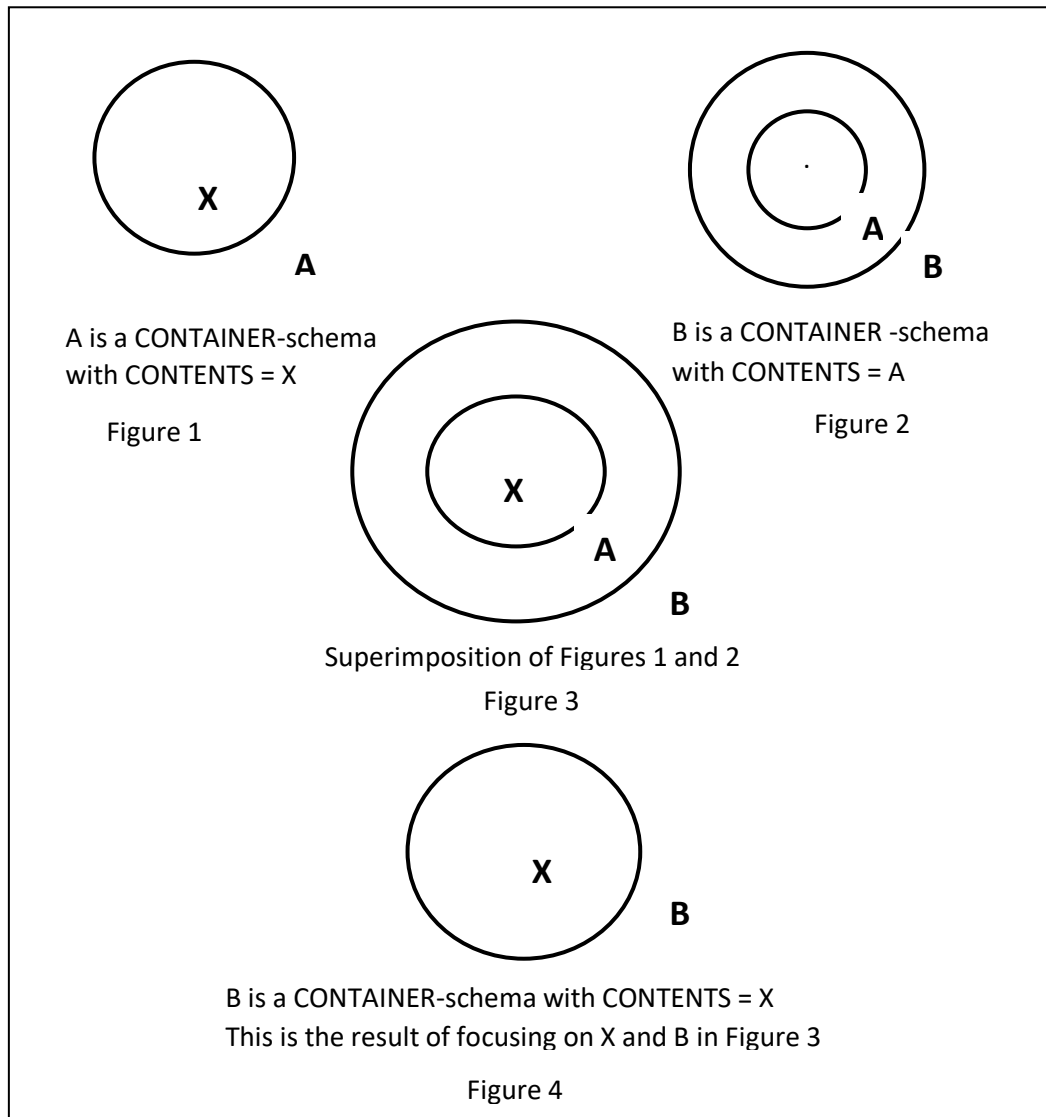


Figure 2.2 Image-schema exemplified with the container-schema (Lakoff, 1988)

Therefore, consciously, or subconsciously, when utilizing language to explain concepts, metaphors will be the carriers of meaning. As such, when in an aeronautical context, the speaker says: *electric batteries will be the barrier*, the meaning is non-physical but metaphorical. Nevertheless, the image schema that is imagined in our mind is a true physical barrier that represents *problems* and can be interpreted as an icon. Hence, iconicity will be expounded in the next section as the theoretical approach to explain such mental images.

2.4.1.2. *Iconicity*

For the purpose of clarity, iconicity and its relationship with language is envisaged as follows. Iconicity is a fundamental linguistic factor with different approaches traced in language that explore the relationship of a mental image with the image of the real object. Iconicity is presented as a factor in the process of understanding language, its structure, how language is formed and how it evolves (Dingemansse et al, 2020). Historically and affirmed by Ferdinand de Saussure in 1916, it was widely accepted by most linguists that each lexeme in the language was denominated in an arbitrary process. Today, contrary to that thought, language is understood as a process of iconicity; in other words, that there is a motivated and reasoned process to endow an object with a particular lexeme that carries a specific meaning that will pursue a complementary role in the nature of language.

Moreover, form can enact meaning in language (Fischer, 1997). Therefore, readers search for the meaning of an utterance from the cognitive contents and associations of individual forms and from the linguistic arrangements of these forms. Besides, iconicity has regained importance in the spectrum of cognitive linguistics, and as such, newly created iconic structures, also known as iconic innovations, become conventionalized and thus part of everyday language. After all, “iconicity is a semiotic concept” (Nöth, 2001, p. 1) and semiotics explores how meaning is created and communicated. In addition, semiotics pursues research of how signs (visual) and symbols (linguistic) create meaning.

Beyond its impact on language, iconicity refers to the image that reflects a situation, concept, or object in the real world (Fischer, 1997). Likewise, there are differences that have been distinguished through different studies, so the concept of iconicity has given rise to a cascade of types of iconicity, due to its ubiquity in language (Nöth, 2001), which are not relevant to this study except that ultimately, they reflect metaphors.

Known as semantic iconicity, a metaphor establishes the relationship between a word, for instance, *foot*, which reflects an image, specifically a body

part, and a figurative meaning in a particular context, that of the lowest part of a mountain (Figure 2.3).

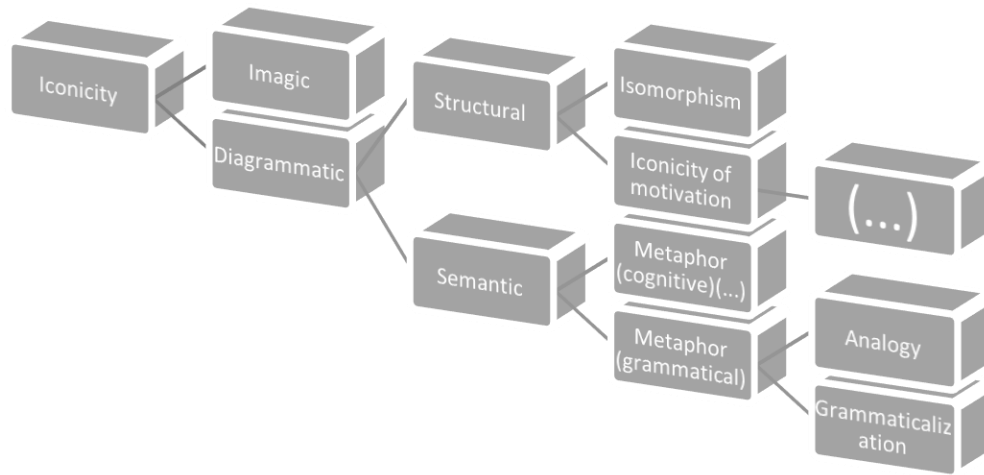


Figure 2.3 Types of iconicity (taken from Fischer, 1997)

In parallel, stemming from the question of how metaphors are processed, the term analogy comes true. Analogy is used in unison with similarity to produce the theory of structure-mapping (Gentner & Bowdle, 2008), otherwise known as metaphorical mapping. In expressions such as *Love is a journey*, the processing of this conceptual metaphor is seen as an extension between domains, from the source domain of the journey to the target domain of love, that is between the concrete or physical domain to an abstract domain forming a metaphorical mapping.

2.4.1.3. Metaphorical Mapping

Metaphorical mapping, also called structure-mapping, can broadly be defined as an analogy between two domains. It encompasses a relation between two situations represented in two different realms. Analysing the previous example, *Love is a journey* (Lakoff & Johnson, 1980), an alignment is established that positions the abstract projection of the feeling of love, which is an abstract realm, as an analogy in a physical situation, projection, and likewise realm.

As previously a distinction was made between primary or conceptual domains, which receive embodied experiences, and secondary or abstract domains, which receive social or mental states or processes (Lemmens, 2016), it is important to highlight that sometimes the distinction is not easy. Such difficulties are exposed by domains of space and time, among others since space is more related to physical experience and time is more abstract. Nevertheless, metaphorical mappings from space to time are common (Sweetser, 1987), exemplified by the following sentence: *electric batteries are still a distant prospect*, in which the spatio-temporal relationship is used that means that in a period of time electric batteries will be a reality. In such regard, systematicity is another factor to be deemed. The pairings between domains, from the abstract to the concrete, are not made randomly (Sweetser, 1987) but with correlations in a procedure called alignment (Gentner & Bowdle, 2008) (Table 2.5).

Table 2.5 Metaphor as structure-mapping (taken from Gentner & Bowdle, 2008)

-
- metaphor comprehension begins with a symmetric (nondirectional) alignment process
 - If an alignment is found, then further inferences are directionally projected from base to target
 - Thus, directionality in metaphor comprehension arises after the initial stage of processing
-

In the alignment, the analogical inferences complete the reasoning process to designate an expression with certain meaning between the projections and represented situations (Figure 2.4). Thus, metaphorical mappings are employed, among other uses, to express our emotional states of mind. For that purpose, speech-act verbs are used, which are verbs that express an action that conveys an intention, also known as a performative utterance. This utterance is derived from a sense denoted from physical motion or location, such as “When I figure out this problem I can go back to the issues I really care about” (Sweetser, 1987, p. 449).

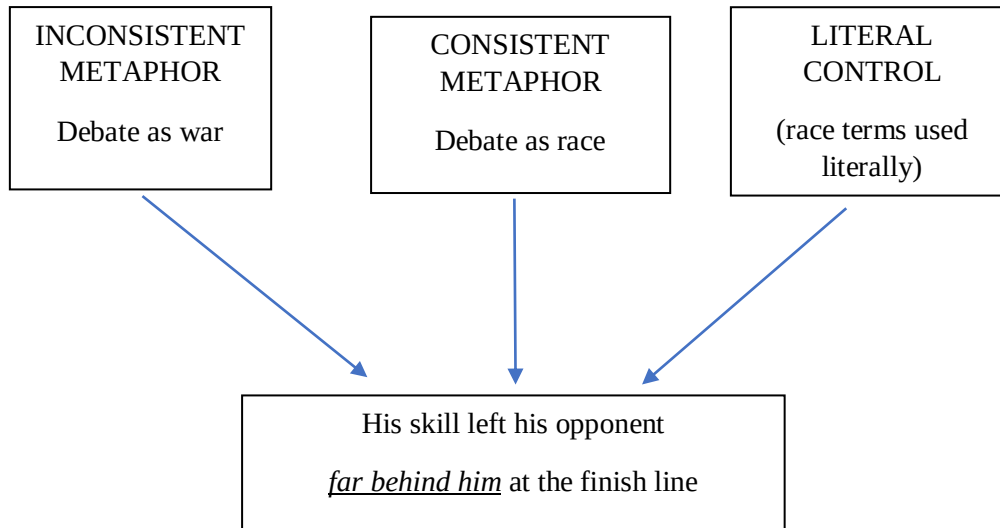


Figure 2.4 Design of the domain mapping study (Genter & Bowdle, 2008)

Additionally, there are phonological analogies (Benczes, 2013), whose purpose is to seek a sound effect or an effect on expressivity. As such, figures of speech such as alliteration and rhyme, are categorised as part of the human language faculty. They refer to the occurrence of the same letter or sound at the beginning of adjacent or closely connected words; for example: *street spam* for alliteration, which stands for “any disgusting looking thing on the ground that has an unknown or vague origin”; and *snail mail* for rhyme, which means “the ordinary postal service as opposed to email”. Both are based on conceptual metaphors and metonymies.

Metaphorical mapping has occurred throughout the history of a language within a certain culture, as in the case of English. Expressions that adopted different meanings at different stages in different periods through the process of metaphorical mapping, have reached contemporary times as polysemous words. With more than one meaning they are used depending on the context; in other words, metaphorically motivated transfers of meaning in the past are reflected in the current meanings of words, acquiring meaning shifts. This is called synchronic polysemy of a lively metaphor (Sweetser, 1987).

2.4.1.4. *Polysemy*

Cognitive semantics addresses the notion of polysemy of lexemes and constructions. The implication of this assertion is double: first, that a word and therefore the lexeme has got more than one sense, and second, that the different senses of one word or lexeme are related (Gries, 2006). This concept of polysemy explains how the figurative meaning of a word expands from its spatial sense through conceptual metaphors (Boers & Demecheleer, 1998) to capture the understanding of the expression. Moreover, the transition from the spatial to the temporal sense is one of the most recurrent in the abstract understanding of conceptual metaphors, seen in the previous section.

The following definition of polysemy is modelled on a single linguistic form associated with several related but distinct meanings. The research of word meanings, also known as cognitive lexical semantics, is studied with the Principled Polysemy Model (Tyler & Evans, 2001) for lexical concepts and the basis for this theory relies on the image schema theory, hitherto seen. A word is proposed for study, such as *time*, associated with eight lexical concepts or senses (Evans, 2005). That means that a cognitive linguistic framework, with eight lexical concepts, is applied in a systematic and principled way to one single word, *time*, which constitutes “a motivated semantic network organized around an abstract, primary meaning component” (Tyler & Evans, 2001, p. 724); hence, the understanding of the aforementioned metaphorical mapping of synchronic polysemy of a living metaphor is elucidated with the example of *time*. (Table 2.6).

With this table, Evans (2005) tried to advocate that the lexicon is not formed with unrelated words. The distinction of the different senses of a word is a matter of degree and the motivation of each sense can only be discussed once the distinctness of senses has been established (Gries, 2006). What is more, there is a high degree of systematicity, productivity, but also redundancy. In addition, semantic structures reflect conceptual structures or metaphors, and this indicates embodiment. Thus, when polysemous words are addressed, the difficulty in drawing mental representations increases.

Table 2.6 Principled Polysemy Model (taken from Evans, 2005)

Concept	Meaning	Example
TIME	Expressing duration	Time seemed to stand still
Concept	Meaning Extension	Examples
TIME	The Moment Sense	The time for a decision has arrived
TIME	The Instance Sense	This time, it was a bit more serious because I got a registered letter
TIME	The Event Sense	The young woman's time approached
TIME	The Matrix Sense	Time has no end / Time goes on forever
TIME	The Agentive Sense	Time has aged me
TIME	The Measurement-System Sense	Eastern Standard Time is five hours behind Greenwich Mean Time
TIME	The Commodity Sense	Time is money

Similarly, it must be understood that a word or lexeme does not multiply its meanings in a short time, but diachronically. Also, that a multitude of bodily or historical experiences should be accounted for in the period of time in which a word is mutating to mean something else other than its original meaning. The interplay of these dynamics results in language being changeable in nature. With the creation of new words, or meanings, as is the case of polysemy maintaining the original lexeme necessary to anticipate new lexical concepts, a new mental representation different from the original is obtained; this is called meaning extension, seen in table 2.5 (Evans, 2005).

Predictably, there is a complexity regarding the meaning and conceptual structuring of certain expressions when approaching the teaching and learning of a second or foreign language (Kövesces & Zsabó, 1996). This assertiveness refers to the interference of L1 in second language acquisition (SLA) with regard to the polysemy of certain words where prepositions play an important role. In different languages the abstract concepts are arranged under the understanding of certain prepositions, which do not correlate with other languages. Furthermore, prepositions are excellent aids to understanding the value of abstraction in

comprehending the meaning of metaphorical structuring of abstract domains of experience. Thus, examples such as *her behaviour goes beyond my understanding* are interpreted in the abstract projection of space. Hence, “figurative senses of a preposition are extended from its spatial ones through conceptual metaphors” (Boers & Demecheleer, 1998, p. 198) undergoing metaphorization processes. As it is stated, “the illusion of polysemy arises when we judge a word to have a meaning over and above its general meaning, by mistaking what we infer from the context for meaning that is inherent in that particular word” (Lindstromberg, 1996, p. 226).

2.5 Concept/Content-Based Theory

Drawing upon the different theories which address metaphorical awareness and metaphorical competence in the teaching and learning of a second or foreign language, highlighted earlier in the introduction of this chapter, this section attempts to explore the latter of them. In 1988, Low drew attention to the importance of teaching metaphors in the language classroom. This conclusion was reached after the understanding that members of industrialized societies speak metaphorically was produced. Metaphorical expressions were reviewed above with conceptual metaphors, such as *time is money*, dead metaphor like *a heart of gold*, and metonymy *the ham sandwich is waiting for his check* (Lakoff & Johnson, 1980). Thereby, as our discourse is full of metaphors of all kinds, it would be useful to design instructional programmes in the form of multi-test exercises (Low, 1988). These didactic programmes are designed to teach, learn, or simply reinforce the communicative skills for learning certain content in ESP courses (Caballero-Rodríguez, 2003; Wesche, 2010) with the invaluable linguistic tools of metaphors.

In the last two decades, a number of operation schemes have been deemed important for introducing metaphors into the ESP or LSP (Language for Specific Purposes) classroom. Research has reported that some academic programmes focus on encouraging students to employ cognitive strategies, including imagery, inferring, deduction, and grouping (Robisco-Martín & Cuadrado-Esclápez, 2013). The purpose is a rapprochement with the meaning of figurative expressions found in technical texts, such as *This is caused by a combination of plasticity in the skin*

(of an aircraft) and a reduction of effective shear stiffness due to buckling whose meaning refers to the fuselage of an aircraft and its behaviour in flight.

Robisco-Martín and Cuadrado-Eslápez (2013) conducted a series of studies to improve the process of learning English for the aeronautical discipline which consist of the exposure of Aviation Accident Case Studies from the NTSB (National Transportation Safety Board), where metaphors play a key role. Correspondingly, metaphors are revealed as crucial to understand and adequately respond to the issues posed by certain potential hazards in aviation. These scholars conclude their work by stating that while conceptual metaphors help to revamp deductive reasoning and inferring, image metaphors are commonplace for vocabulary acquisition. These functions are generally called content-based approach to language learning in an ESP classroom.

Tinged with a tenet of self-improvement, students will achieve word retention through a body of numbered tasks, such as reading the texts, and then breaking down the meaning of figurative expressions to gain metaphorical awareness and a real understanding of the context (Boers, 2000a). This exercise will prompt an enhancement in the language processing performance of any discipline in a content-based English as a second language (ESL) course, as the discipline-based material is delivered in a meaningful and contextualised manner (Kasper, 1997).

Furthermore, MacArthur (2010) focuses on the comprehension and retention of metaphors in the target language, usually English, and also on the formulation and creation of new metaphors by EFL learners, developing a programme of metaphors to include as a subject area in the university curriculum in order to foster metaphorical competence. In her experiment with university undergraduates, MacArthur (2010) collects data extracted from three types of exercises: first, a writing task from which the written production is analysed; second, discussion and feedback from the written production; and third, individual conversations. She asserts that non-native speakers (NNSs) production of metaphors is beyond the scope of the guidelines used by native-speakers (NSs) when creating new figurative expressions. These new metaphors are generally

classified as novel, but also as idiosyncratic, since they are produced by speakers of different linguistic and cultural backgrounds. In consequence, these new linguistic products require attention.

Gutiérrez-Pérez (2018) studies new strategies to implement metaphor-related activities in the classroom in the Translation and Interpreting degree. This implementation will target professional learning, overtly figurative expressions, and critical thinking in accordance with existing teaching practices and pedagogies on the role of metaphors (Lynch & Fisher-Ari, 2017) along with how to create novel constructs. These stances present a methodology based on skills training, introducing students to the field of “the use of metaphors as a pedagogical engagement” (Lynch & Fisher-Ari, 2017, p. 197) through different tasks with the basic assumption of crafting metaphors that elucidates ideas, beliefs and emotions. Subsequently, the construction of metaphors is examined, in order to expand the possibilities of making novel metaphors from the structures of conceptual ones. And yet contesting the boundedness of metaphor construction, as novel metaphors in L2 created from the same metaphor in L1 could be misleading (MacArthur, 2010).

Shifts in understanding expose peers to explanations about the correspondences between figurative meaning and its relationship to literal meaning. Based on examples taken from *Metaphors We Live by* (Lakoff & Johnson, 1980), Gutiérrez Pérez discerns the comparison between the abstract realm of *Argument is war* and its literal meaning of war. In this respect, the metaphorical alignment of *Argument is war* as an expression of a feeling of concern, is reflected when talking about health in phrases like *treating illness is fighting a war*. Remarkably, matching emotions with metaphors is one of the key exercises that challenges reinforcing the abstract ideas of metaphors in a foreign language. And when trying “to find the equivalent in the native tongue” (Gutiérrez Pérez, 2018, p. 4), that is, to translate it (Velasco-Sacristán, 2009), it outlines dispositions to absorb the full understanding of a given metaphor.

The translation approach for teaching metaphors in the language for specific purposes (LSP) classroom proposed by Velasco-Sacristán (2009) is predicated on

learner-centred cognitive translation activities. Modelled after a Business English course, a curriculum was designed to include translation as “a valuable pedagogical and communicative means to teach metaphorical concepts and expressions to L2 learners of professional discourses” (Velasco-Sacristán, 2009, p. 83). The structure that illustrates this action-oriented model established a combination of task-based language instruction and a content-based syllabus, in other words, a series of exercises consisting of translating figurative expressions from the foreign language to the mother tongue for specific topics, such as business. However, the teaching methodology suggested by the former academic is very difficult to comply with, since the teacher should excel in the metaphorical systems of the L1 and L2 languages in order to have sufficient communicative competence to instruct students in the different techniques.

Inferences about the translation of metaphors should follow the appropriate translation method in each case, such as the jigsaw technique. *Inflation is a robbery* is the example established where the use of business papers in English was interrelated with Spanish business papers to find the correlated conceptual metaphors. Analysing which translations were literal and why literal renderings exacerbate the result was a second step in this technique. Although challenging, this activity proved to be of interest to the students. Nevertheless, as explained earlier, educators should be almost professional translators to teach language for specific purposes (LSP) courses.

Thus far, the metaphor-related tests described by Littlemore (2010) have revealed affordances, such as the assessment of the metaphorical competence of a controlled group of participants. The method followed, to which modern technology using computers was applied to evaluate the meaning of metaphors, is based on the test carried out by Katz et al. in 1988, in which students were shown 25 L1 metaphors with the same number of metaphors in L2 in a second stage. The peers should decide whether the two elements of the sentences share a relationship, for instance: *a toddler and a rosebud*, since both are at an early stage of development. Participants were assessed on their metaphoric processing skills, and the metaphors displayed had being previously measured on a scale of up to 10 metaphor-related variables. The scope of these variables extends from:

“comprehensibility, degree of metaphoricity, ease of interpretation, metaphor goodness, metaphor imagery, participant imagery, predicate imagery, felt familiarity, semantic relatedness, and number of alternative interpretation” (Littlemore, 2010, p. 299). By analysing the data, each student manifested abilities or difficulties to identify an expression as significantly metaphorical, shuffling the speed of its execution.

On the question of the span of SLA, past experience on the subject indicates an inconsequential way in learning new vocabulary framed in a non-contextual list of words or expressions and whose outcome evinces fruitless. Peers need to make sense of the conceptualization of locutions, if the phrases are to be used at the right time and in the right context, whether they are just verbs, nouns, adjectives, or metaphors, since context shapes metaphor use and understanding (Gibbs, 2008a). Similarly, it should be essential for language teachers to unravel the linguistic motivation behind metaphors, as their hidden meaning, which needs to be brought to light, will require more time to assimilate. With full cognizance, visual aids are very illustrative when someone says *I’m the punching bag of my group* which is extrapolated to “a person is used by everybody to dampen their problems”. By employing this methodology, the teacher should awaken the students’ imagination, so that a boxing gym is portrayed as an image schema in their minds. The concordance is that a punching bag for gym users is exploited to play sports and to free themselves from stress. As a consequence of images like this, motivation is a force that influences the mental representation of your thoughts (Figure 2.5).

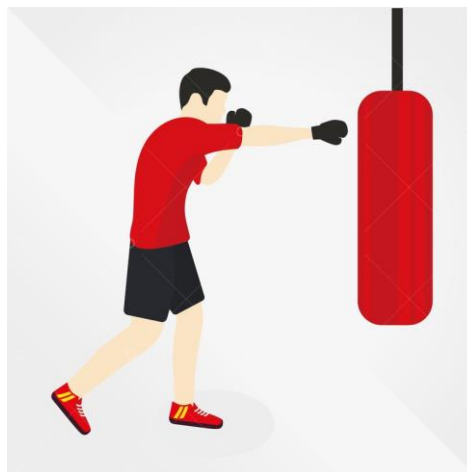


Figure 2.5 Mental representation of motivation (own creation)

Ultimately, emphasising the significance of metaphorical instruction, and striving to assess metaphorical awareness and metaphorical competence, the notion of concept/ content-based instruction is further expanded with the support of new language teaching approaches (Liu & Hsieh, 2020) in which Mandarin Chinese as L2 is taken as the language of instruction for foreign students in SLA courses, mainly promoting internationalization based on the aforementioned content and language integrated learning (CLIL) with the convergence content and language together (Arnó-Marcía & Mancho-Barés, 2015).

2.6 Conclusion

Evidence from the number of theories currently predicated on metaphor, metaphorical competence and communicative competence suggests that interest in the subject has increased exponentially since the publication of the book *Metaphors We Live By* (Lakoff & Johnson, 1980). This work was a turning point in the consideration of the metaphorical competence as a fundamental element in the development of communicative competence. The Conceptual Metaphor Theory presented in the book is deemed foundational from which many other theories, such as Cognitive Linguistics and Cognitive Semantics, evolved. Allusion to new theories developed from those studies determined that the mind produces image schemas (Clausner & Croft, 1999) as a cognitive tool to evoke a mental representation through an utterance that will help the listener to understand the intended meaning.

In efforts to identify hindrances and possibilities, the mind is pictured as a very complex set of faculties that produces language. Scholars (Allwood & Gärdenfoors, 1999; Evans & Green, 2006; Lemmens, 2016; Sweeter, 1987; Talmy, 2000) have devoted time in recent decades to the study of cognitive linguistics (Croft & Cruse, 2004; Evans, 2012), and to examine the connection between language, mind, and bodily experiences. Additionally, within the earlier field of cognitive linguistics, cognitive semantics, which is the human ability to construct expressions that reflect a specific meaning that represents our ideas and experiences, was researched. The so-called bodily experiences (Boers, 1999;

Evans, 2012; Kövecses, 2010) are individual and non-transferable; thereby, our speech is a product of our unique personal circumstances.

This chapter has also reported that there are many optimally integrated factors that influence our speech. First and foremost, the societal and country-related background will contribute with a socio-cultural context. Thus, the situation-bound utterance (SBU) (Kecskes, 2000) has been attributed characteristics that favour the provision of those factors associated with our discourse. In this sense, the customised SBU stands out for being comprised of conceptual metaphors (Lakoff & Johnson, 1980) that are engaged in specific contexts within cultures. What is more, the indications that these metaphors will implement metaphorical competence prevail in the construction of conceptual fluency (Danesi, 1986, 2016) which, ultimately, will enhance the speaker's communicative competence.

Furthermore, viewing other research, such as the metaphorical mapping theory (Gentner & Bowdle, 2001), as extensions of SLA rooted in the cognitive linguistics approach, is an important collaborative agreement in the governance of metaphorical competence. This theory consists of an analogy between the source domain, generally a concrete and tangible concept, and the target domain, usually an abstract idea or emotion. In this manner, meaning transfers are established, regarded as metaphorical mappings of a figurative expression from L1 to L2. Moreover, many derivations of linguistic research from the aforementioned theories have been proposed, such as the open-class or lexical, and closed-class or grammatical structures meaning-bearing forms (Talmy, 2018), examined within cognitive semantics, also called the semantics of grammar. Nevertheless, they have been discarded from this doctoral thesis because they are outside the scope of metaphorical competence in SLA.

The next chapter delves into a literature review on metaphorical awareness and metaphorical competence for the general language learner and also on second language learning. It exhibits the different studies and investigations that have matured through a great variety of approaches and theories.

CHAPTER 3: METAPHORICAL AWARENESS AND COMPETENCE

3.1 Introduction

Metaphorical awareness (MA) and Metaphorical competence (MC) are interconnected as conceptual metaphor awareness-raising activities help to retain, remember, and produce new vocabulary, which pressures EFL learners to develop metaphorical competence (Nemati et al., 2021). MA and MC are doubly framed under the assimilation of new vocabulary through native speakers' (NSs) innate way of acquiring metaphorical competence which is contrasted with the indispensable didactic techniques applied in SLA.

The concerns raised here regarding how to increase metaphorical awareness as a prelude to developing metaphorical competence will be useful in mapping out the scope of the metaphorical component of language. Metaphorical awareness is the realization that certain expressions are figurative and therefore cannot be understood literally, and metaphorical competence is the ability to comprehend and use metaphors. The socio-cultural and historical background in the mother tongue or L1 becomes a source for the creation of new vocabulary, including metaphors and metaphorical expressions, thus strengthening metaphorical competence in how metaphorical expressions are understood, interpreted, and used.

What is more, new metaphorical expressions are invented to give name and meaning to new ideas and concepts, that is, the construction of meaning, interpretation, motivation and understanding of idioms (Kovaliuk, 2022). New idioms progress seamlessly by word of mouth and spread among the speakers of a language within a country. For native speakers, metaphorical competence is achieved effortlessly and with full cognizance. By simply copying and repeating previously heard expressions, such as *If you're barking at the wrong tree, you're in the wrong forest*, native speakers bolster metaphorical competence while displaying metaphorical awareness.

In addition, the socio-cultural context is informed by the notion that younger generations avoid obsolete expressions in pursuit of new ones. Two examples are given, one in English and one in Spanish: *Don't beat a dead horse* that stands for do not waste time and effort trying to do something impossible, or *Se fue por los cerros de Úbeda* which means “he/she is going through the hills of Úbeda”, whose meaning can be expressed with the English equivalent “beat around the bush”. These are metaphors heard for generations, and even the youngest, despite not using them, understand their figurative meaning, which is most likely based on a literal meaning in the past.

Nevertheless, research among native speakers (NSs) carried out in the 1980s demonstrate their difficulties when encountering certain metaphorical expressions for which the intended meaning had to be identified. Thus, NSs had to display their deep socio-cultural knowledge of their language from birth to discriminate different expressions as literal or non-literal, for instance, *Some jobs are jails* (Glucksberg et al, 1982). For NSs, the meaning is ascribed to the context. The participants of the study tended to consider the literal meaning first, and only once that possibility was discarded, the metaphorical meaning was deemed key. On that account, neuroimaging studies (Bambini et al., 2011) shed light on the neural processing of metaphors showing increased activation of certain regions of the brain that link the left and right hemisphere.

In contrast, for L2 learners, metaphorical awareness is complex to grasp and metaphorical competence more difficult to develop. This is due to the fact that non-native speakers (NNSs) are generally not exposed to metaphorical expressions drawn from the socio-cultural context of the L2 language, from which a large amount of vocabulary, metaphorical and non-metaphorical, would be heard and learnt. NNSs do not have such an ingrained understanding of a foreign or second language, leading to deprivation of cultural immersion (Chen & Lai, 2013), that is, no access to native conversations, dialogues, and discourses, whether formal and/or informal. In turn, this makes explicit a lack of knowledge and understanding of L2 expressions, which in many cases are metaphorical.

The end result is that, in most cases, second language learners do not possess metaphorical awareness or metaphorical competence in L2. Therefore, they cannot be commensurate with the comprehension that a particular expression is to be taken non-literally, until academic instruction in metaphors is conducted. Ultimately, in accordance with the current ESP syllabus design, only after students inquire about certain misunderstood utterances, can teachers clarify their doubts regarding metaphorical awareness, hence boosting metaphorical competence. However, only when teachers have a deep insight into the metaphors, can a satisfactory explanation be provided.

Finally, it seems appropriate to introduce the term multifaceted approach to study metaphors or idioms (Kovaliuk, 2022) within the paradigm of cognitive linguistics, to outline the motivation behind the need to acquire metaphorical awareness. Hence, two parameters are considered: motivation and cultural immersion.

3.2. Metaphorical Awareness

Since 1980, with the publication of *Metaphors We Live By* (Lakoff & Johnson, 1980), the topic of metaphors has been branched out into several ramifications. The number of studies related to metaphors has increased exponentially. Different academics (Herrera & White, 2000; Ortony et al. 1978; Pourdana et al, 2014) have tried to reveal possible answers to all the questions interpellated regarding the use and learning of metaphors. To understand in the L2 classroom what a metaphor is and try to locate metaphors in a written text or in an oral discourse, any student should be fully aware of what metaphorical expressions constitute, hence the need to achieve metaphorical awareness.

The rapprochement with metaphorical awareness commences from the premise of being conscientious of the metaphorical expressions that native speakers use on a daily basis, which, unless pointed out, goes unnoticed. Against this backdrop, the challenge of interpretation involves "what the speaker meant (utterance meaning) from what he said (sentence meaning), given that the context

makes it clear that the two are different” (Ortony et al, 1978, p. 466). Capitalising on their current practices, when the British say *it’s not my cup of tea, it’s my bread and butter*, and/ or *it’s raining cats and dogs*, they hardly realize they are using metaphorical expressions; however, the underlying subconscious mechanism is highlighted to provide a non-literal understanding.

The consequential way in the second language classroom should span to an implementation of metaphorical awareness to curtail L2 learners’ misunderstandings of those utterances whose meaning is not literal, which is ultimately the reason for adopting a multifaceted approach in an SLA environment. Nonetheless, by suppressing all the cultural background and without a situational understanding (Pourdana et al., 2014) predicated on the context, a considerable disadvantage is generated that constraints the L2 learners’ ability to discriminate a literal meaning from a figurative one, and vice versa. Therefore, exposure to the context of socio-cultural immersion is key to acquire metaphorical awareness.

As a result of the aforementioned inclusive or multifaceted approach, the teaching and learning of metaphors in a second or foreign language classroom is coupled with the illustration of examples. In order to identify instances of figurative expressions, the working progress on a metaphorical text or discourse can lead to metaphorical awareness, helping students to become familiar with the cultural background of the L2. This, in turn, will allow them to discover “the salient features that relate the source and target domains of the metaphor” (Herrera & White, 2000, p. 56). An exemplar is the following line: *his words cut deeper than a knife*. On the whole, only when the full understanding is reached that this expression is to be taken figuratively, since there is no physical knife that is going to cut anything, will the peers realize what a metaphorical utterance means. Assertion comes in the form of recognition by the pupils of metaphorical expressions in the mother tongue. This is the representation of a didactic strategy to enhance metaphorical competence in a second or foreign language.

Furthermore, some researchers propose activities to promote metaphorical awareness in L2 by innovative ways of leaning metaphors through vocabulary acquisition (Boers, 2000b), thus strengthening communicative competence in L2.

These tasks are specifically based on organizing metaphorical expressions into themes or categorizations (Lakoff & Johnson, 1980a) so that retention is more effective, achieving educational attainments. Various experiments (Gao & Meng, 2010) have been carried out in which a consistent methodology predicated on L2 English learners with intermediate and higher English proficiency, is centred on establishing different categories for a topic that stimulates students' minds. In this context, conscious stimulation triggers vocabulary acquisition, whereby "the metaphor-awareness enhanced teaching model showed no edge against the traditional vocabulary teaching mode (Gao & Meng, 2010, p. 122). In the sentence *I was boiling with anger* the idea focuses on the theme of "Anger is a hot fluid in a container".

Several factors are known to be associated with the former metaphors in table 3.1. The first example is a personification metaphor in which a human characteristic is attributed to "life" to represent an abstract quality in human form. The second is a metonymy where the active actor, in this case a man, is replaced by the inert object "the ham sandwich" that he is eating. The next metaphor is considered a proverb because it can be used on its own, telling a short, well-known, and concise truth in the form that "time" is a moving object. The ontological metaphor represents "inflation" as an entity that makes things happen on purpose, as if it were an organization. Finally, the container metaphor constitutes that the subject "she" is within a romantic or sexual containment that is "love" represented as a physical container.

Table 3.1 Themes and /or categorizations (Lakoff & Johnson, 1980)

Personification metaphors	Life has cheated me
Metonymy	The ham sandwich is waiting for his check
Proverb	Time flies
Ontological metaphor	Inflation is lowering our standard of living
Container metaphor	She is in love

Contrary to the traditional method of defining a figurative expression, such as describing anger as a process in *His anger is smouldering*, a new approach has been implemented (Kalyuga & Kalyuga, 2008). It consists of the perspective that “patterns of language are usually perceived, learnt and used as meaningful chunks that are processed as a whole, resulting in a reduced learning burden and increased fluency” (Kalyuga & Kalyuga, 2008, p. 249). The process continues with the reinforcement of that pattern associated with other new expressions, for which the peer establishes a mental pairing facilitating learning.

These initiatives enable ESP lectures to employ metaphorical awareness as a pedagogical instrument to improve certain skills, such as the acquisition and retention of vocabulary and reading comprehension (Robisco-Martín & Cuadrado-Escáñez, 2013). Reading comprehension is precisely deemed as a powerful cognitive-semantic tool to enhance metaphorical awareness through retrospection of the literal sense or origin of an unfamiliar metaphor (Boers, 2000b).

The grassroots advocacy that “metaphorical awareness can impact learners’ expressive ability in their second language” (MacArthur, 2010, p. 157) will be reversed in a metaphor-based curriculum. In addition, only after students become conscientious of their metaphor-rich discourses in L1, can they move towards metaphorical awareness in L2, following a mental process that leads to the development of metaphorical competence. However, such a metaphor-based curriculum is hardly part of school curricula yet. It is still a pending subject.

In conclusion, stances have been drawn through empirical studies on the teachability of metaphors (MacArthur, 2010) and metaphorical awareness (Gong, 2020). Targeted professional learning that focuses on instructional aides to reinforce the concept of metaphor among peers, strengthen knowledge of idioms. One of those elements is a virtual platform (Gutiérrez-Pérez, 2018) that encourages students towards excellence in L2 by instilling motivation through cognitive-oriented methods.

3.2.1. Motivation in the acquisition of metaphors

Cognitive-oriented methods (Chen & Lai, 2013) within the cognitive linguistic paradigm aim to increase metaphorical awareness as the most efficient academic instruction method to teach metaphors, and thus to strengthen L2 metaphorical competence. It is, accordingly, a multifaceted approach, as conceptual metaphors are explained socio-culturally and historically to facilitate understanding of hard-to-grasp concepts behind specific metaphors. Below is an example that requires explanation; the sentence, *you can't herd cats*, draws a metaphoric mapping that portrays an image-schema of the ancient tradition of villagers making a living herding cows, sheep and the like. A foreign student, probably from an industrialised city, cannot comprehend the idea that cats cannot be herded until an explanation is provided, such as that cats are free-spirited animals that do not allow humans to tame them, and are, therefore, unherdable.

The invoked schemata seem to be linked to the provided context, on which the motivation to learn metaphors depend. The motivation lies in discovering the speaker's intended meaning in any given discourse so that communication is effective, which can be attained by raising metaphorical awareness. In addition, the ability to use the appropriate schemata to interpret the target (Ortony et al, 1978) favours the elucidation of the meaning of specific expressions by the L2 learner, aiding retention of the new expressions studied. Predictably, the conceptual metaphorical knowledge previously learnt and stored in our brain will trigger metaphorical awareness, essential to hypothetically develop metaphorical competence whose main objective is seamless communication. This overt result is produced as a consistent way of applying innovative teaching techniques as opposed to memorising conceptual metaphors without extracting meaning from idioms, due to the underdevelopment of metaphorical awareness (Samani & Hashemian, 2012).

This motivation-generated method lays the groundwork for EFL learners to grow two positive rapports: understanding conceptual metaphors found in written texts or spoken discourse and thriving creativity in constructing their own metaphors. In spite of that, as seen in previous chapters, some new forms of

metaphorical expressions will sound strange. In this context, a trial-and-error phase will see students master the principles and reasoning necessary to create novel native-like metaphors that will eventually make sense to native speakers.

All in all, viewing idiom comprehension (Cooper, 1999) as a heuristic approach in which metaphorical mapping or schemata are deemed important is key to fostering metaphorical competence in an SLA environment, prompting communicative competence in L2. The learning process of language acquisition is an ongoing undertaking in both the mother tongue and the second or foreign language, what Nippold (1991) called a never-ending challenge. On the other hand, another precursor mentioned above that is very useful in fostering metaphorical awareness is cultural immersion.

3.2.2. Cultural immersion

Language is a social endeavour (Baron, 1992). Birth allocates cultural exposure to newborn babies. Since then, implicit stimuli promote an active and innate undertaking to process L1 input. The heuristic linguistic approach encompasses words as well as abstract and physical concepts seen, felt, touched, and perceived by infants through nurturing years, boosting language development along with metaphorical competence skills in young children (Littlemore, 2010). In this context, from a very early age, the human being learns to properly execute language, learning to discriminate among varied contexts and to differentiate a literal meaning from a figurative one (Gartner et al, 1975). The ultimate consequence of this linguistic exposure is an emphasised discourse based on the cultural environment, incorporating the same words, expressions, accent, and metaphors of the inner circle.

Implicit and explicit instruction drive L1 speakers to comprehend an utterance intended to be assimilated literally from those whose aim is to evoke metaphorical meaning (Horvat et al, 2021). As explained above, a symbiosis occurs from birth, causing native speakers to absorb the socio-cultural background that surrounds them. It technically consists of cognitive mechanisms that process

figurative and literal meanings, establishing a differentiation accelerated by the context provided, including language conventions with its semantic and pragmatic idiosyncrasies. This in turn supports the “activation of the figurative sense of a metaphorical ground, the activation of the literal sense of that ground, and the activation of the general semantic field of that ground. All three types of contexts led to immediate and automatic metaphor comprehension” (Gildea & Glucksberg, 1983, p. 577). Additionally, expressions of metaphorical cognitive mechanisms exploit conceptual metaphors to expand their conventional meaning into new metaphorical creations, hinged on a deeply embedded understanding of the singularities of figurative expressions.

Turning now to second language acquisition (SLA) regarding metaphors, non-native speakers’ (NNSs) prospects for cultural immersion when travelling abroad are aggravated by a “seemingly infinite mass of the language that is beyond their grasp” (Sokkett, 2005, p.25). The process of mental assimilation of deep-rooted cultural expressions is hard, stressful, and frustrating. Be that as it may, once the cultural shock caused by the idiosyncrasies of the L2 language has been overcome, exposure to a foreign culture is prone to enhance the tailored L2 education received in their homeland, targeting local native expressions to expand vocabulary, and thus, communicative competence in which metaphorical awareness and metaphorical competence are integrated.

In efforts to identify hindrances and possibilities, misinterpretation of idioms is rooted in the false belief that L2 students possessing a high level of L2 proficiency can engage in unravelling metaphorical expressions successfully without prior knowledge of metaphors. This undesired situation is compounded by a cultural gap encountered when the L1 culture is totally dissimilar from the L2 culture. Thereby, unfamiliar metaphorical expressions in written or spoken discourse can lead to a lack of understanding of the intended meaning of the figurative expression. In such cases, connections are made available between L2 and other content areas (Pugh et al, 1997) in an attempt to make figurative comprehension a multifaceted approach, transpiring multiculturalism, imagination in reading and writing, critical thinking, and expanded language experiences.

Moreover, it should be noted that thinking power, as Dong (2004) calls it, is another cognitive-oriented method to master metaphorical competence. This method will drive image schemas derived from deep thought to grasp the meaning of an expression that represents something not heard in the innate cultural environment of L2 learners, such as in the sentence *the honeymoon is over*, which means “the fun and games are over” (Dong, 2004), also understood as “holidays are finished” and “leisure has ended”.

While provisions of finding metaphors to express abstract concepts (Lakoff & Johnson, 1980a) is high in the industrialized world, cultural barriers need to be addressed. Word-for-word translation of metaphorical expressions from L1 to L2 is counterproductive as the final product will most likely lack a coherent meaning. Hence, SLA learners will need to delve into L2 culture and language to find an akin expression and significance for their intended message.

In turn, this becomes an extremely complex endeavour for which L2 learners are not prepared, due to the exclusion of metaphorical awareness and competence in their language teaching programme. Consequently, a cultural immersion experience with the inclusion of the metaphorical element of language is required when learning a second or foreign language, if the pretence is professional development, because learning a new language is learning its culture, in which metaphors are ingrained.

3.3. Metaphorical Competence

One of the greatest challenges for L2 learners is developing metaphorical competence. The procedure of attaining metaphorical competence (MC) has made some inroads in improving the understanding of figurative expressions present in all kinds of discourses in written and spoken forms: in conversations, lectures, movies, radio broadcasts, TV programmes, newspapers, magazines, books (Cooper, 1999). The indications of native speakers’ (NSs) speech delivery highlight the importance of metaphorical competence attributed to cultural background. Discursive analyses show that metaphors prevail in the construction of formal or

informal speeches. In this sense, although NSs may try to build a complete discourse with literal sentences, the undertaking is hampered by the omnipresence of metaphorical expressions.

Metaphorical competence has been the object of study for many decades. Danesi (1986, 1992, 1993, 2016), Low (1988, 2008), Azuma (2004), Littlemore and Low (2006), extend the scope of metaphor to language research and pedagogical context, generating different definitions and understanding of what metaphorical competence consists of. Thus far, these studies point to one main determinant, that metaphorical competence appears to be positively related to conceptual fluency, which can be interpreted as cognition of all the metaphors that speakers will use in their speech.

As such, metaphors have been present in human speech for thousands of years as any kind of elaborate language. An underlined example is presented with *The teaching of Amenemope*, written 26 centuries BC, which according to Chantrain and Di Biase-Dyson (2017) is a production of ancient Egyptian literature between rhetorical innovations and tradition. This artwork seems to focus on creativity, as a key factor for cultivating people's minds using innovative thinking ability (Yuan, 2020) as a means of instruction in life; thus, reinforcing the knowledge of metaphors, and hence, developing metaphorical competence. Innovative thinking ability influences both the speaker, who shows the extraordinary capacity to be creative in their own language or L1, and the message receiver who needs to decipher the metaphorical message.

Unsurprisingly, L2 learners' lack of exposure to L2 metaphorical expressions leads to an abridgement of L2 metaphorical competence. Relegated to uncultivated and unguided minds towards L2 figurative expressions, L2 learners' cultural immersion has yet to take place (Sokkett, 2005). Ultimately, L2 students' possibilities of correctly interpreting the intended message of an inherently metaphorical lecture are seriously jeopardised, resulting in communication problems, misunderstandings, and misinterpretations. In general, the use of the most common conceptual metaphors will pose a semantic and pragmatic challenge

(Horvat et al, 2021) for proficient L2 learners without the knowledge or awareness of metaphorical competence.

Today, in this globalized world, immersed in competitiveness to become one of the most prominent contributors in our field, attention is required. Diverse forms of communication have long been important tools for different guilds, such as journalists or publicists. Although visual or gestural communication has not been considered in this dissertation, lecturers, professors, scientists, and the like, feed on written and spoken formats to bolster their discourses through vivid illustrations predicated on image schemata as a metaphorically motivating engine, rendering interesting for an attentive audience (Herrera & White, 2000). That being the case, strong metaphorical competence is crucial and decisive in both L1 and L2.

Averting vulnerability to potential deception to successfully discriminate between literal and figurative contexts depends on the L2 learners' ability to determine their willingness to surpass conservativeness and risk-taking, albeit subsidiarily, since lack of metaphorical competence in the second or foreign language reflects poor communicate competence. For that reason, metaphorical competence is one of the contributory factors to the enhancement of communicative competence, affecting all stages of learning. In a visual sense, it could be pictured as a pyramid structure where metaphorical competence is at the top and cascading down are all the other different competencies: grammatical competence, sociolinguistic competence, illocutionary competence, textual competence, and strategic competence; finishing off the pyramid in its foundations with communicative competence, as indicated by Bachman (1990) (Figure 3.1).

Furthermore, other scholars (Littlemore & Low, 2006) expand Bachman's (1990) definitions of the components of metaphorical competence to try to make sense of the full meaning of teaching and learning figurative expressions. The prospects lie in the idea that a second language should be taught with the perspective of using it and should be learnt with the intention of speaking it properly. For this purpose, the retention of metaphorical expressions is needed.

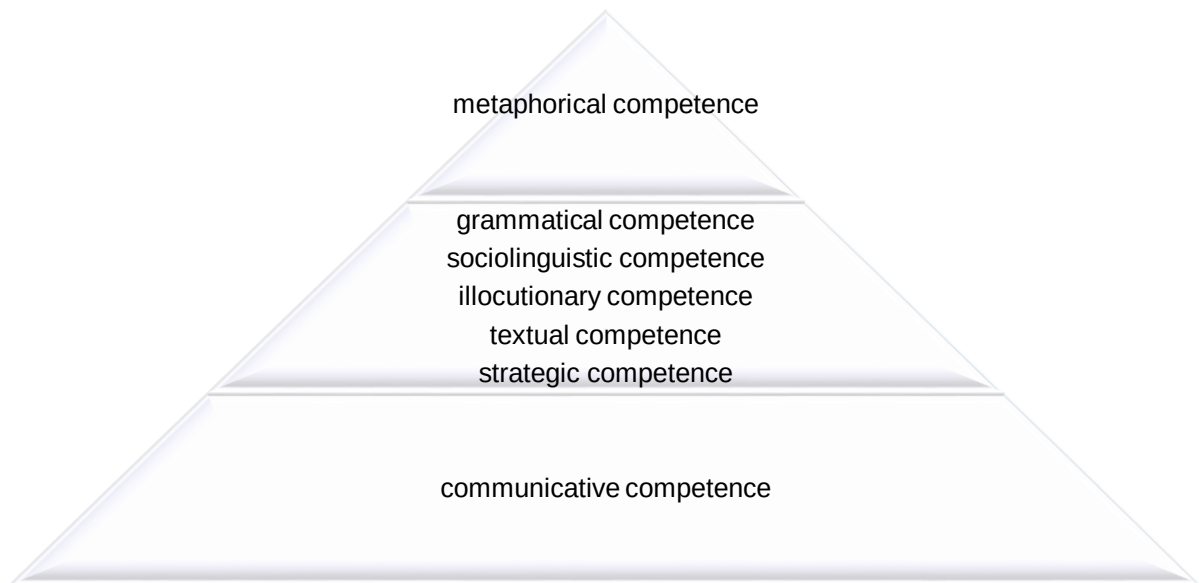


Figure 3.1 Bachman's (1990) visual interpretation of metaphorical competence

The explanations about the different competences outlined by Bachman (1990) are offered by Littlemore and Low (2006) regarding the processes that should occur in a student's mind to acquire metaphorical competence. On this basis, sociolinguistic competence is the social connection between L1 and L2 when interpreting a metaphorical expression and sometimes leads to misinterpretation. Illocutionary competence is aimed at understanding the message conveyed through metaphors. Textual competence is defined as the ability to prepare a text in an academic manner, showing the different parts into which, it is divided, such as the introduction, the body, and the conclusion, that is, establishing, maintaining, and ending conversations. Grammatical competence is the knowledge of the syntax, morphology, phonology and semantics of the target language in SLA. And strategic competence is achieved when your mind can process the thought of a metaphorical expression and the way in which a response should be given, converging ideas put into words in a grammatical and orderly manner.

3.3.1. Communicative competence enhancement

Central to the entire discipline of metaphorical competence is the concept of communicative competence, mentioned above. Native speakers (NSs) do

possess communicative competence to a greater or lesser degree, due to their cultural and linguistic background which makes them speak grammatically and conceptually correctly. NSs can almost always distinguish those figurative expressions that sound inappropriate for the context in question, so they also have metaphorical competence, even without realizing it. However, students of a second language are prone to present more difficulties in differentiating metaphorical expressions from literal ones; hence the linguistic aid of metaphor dictionaries is essential, such as the *Macmillan English Dictionary for Advanced Learners* (Yang & Wei, 2015), to discern the metaphor from the non-metaphorical expression. Besides, for L2 learners, there is a certain corpus of expressions that may be grammatically correct but conceptually inappropriate (Gong, 2020).

In an attempt to overcome impediments and embrace positive perspectives, there may or may not be a distinction of metaphorical expressions between L1 and L2, which may imply similarities between cultures. If cultures are similar, then metaphors will be analogous, because their conceptual systems are corresponding, as is the case between Spanish and English. The results of the correlational analysis are shown with the following examples: *I am feeling a bit down* which means *Estoy un poco bajo de moral* (Beltrán-Palanques & Silvestre-López, 2018); also, *No es oro todo lo que reluce* which stands for *All that glitters isn't gold*. However, when cultures are structurally different, then the linguistic systems are metaphorically dissimilar. As a result, there is no such coincidence between their figurative expressions, due to domain-specific concepts embedded in that language reflecting the values of a culture, such as animal metaphors in Chinese: *monkey-rush* which stands for “very impatient” (Liu & Hsieh, 2020).

Interestingly, the outcome leads to the execution of utterances using L2 syntax with the intended meaning of L1, producing expressions that will sound awkward. In light of this assertion, the following example is explained in Spanish as *buscarle los tres pies al gato* which means “trying to prove something impossible”, translated into English, as L2 language, as “to seek the three legs of the cat”, instead of using the equivalent expression that already exists in English-speaking countries, *if it ain't broke, don't fix it*. The above peculiarity is somewhat intuitive since it is logical to think that the same expressions that are used in your

language and culture are used in other countries. Despite that, this statement is completely inaccurate. The semantic anomaly in the example shown is the result of a lack of conceptual fluency in the second or foreign language, which means that metaphorical competence is not well developed.

Moving now to text analysis, it can be seen, that metaphorical competence is tested by means of metaphorical density, which consists of the total number of sentences divided by the total number of metaphorical clauses found in a written essay. If students have metaphorical awareness in L2, due to an instructional approach based on purpose-built activities, then, metaphorical competence can be achieved to its fullest extent, that is, in their speaking, reading, listening, and writing skills, with the addition of the visual spectrum in some fields (Caballero-Rodríguez, 2014).

Finally, metaphors can be a powerful cognitive tool for bridging understanding between the known and the unknown. Metaphors can facilitate communication by using familiar concepts to describe the abstract and complex concepts in different fields, including medicine, “explaining conditions of illness” (Zhang & Mogana, 2020, p. 115). Hence, by including metaphors in the ESP or EFL classroom, students will have a linguistic tool with which to interpret vocabulary, and improve reading fluency (Zhao & Yang, 2014). This reading fluency will frame any text in relation to any professional field, and consequently communicative competence will be developed (Cortés de los Ríos & Sánchez-Pérez, 2017) whose aim is to be multimodal. If reading fluency were achieved, students would be one step closer to developing their speaking and writing skills (Zhang, 2019) within a metaphorical realm. On the whole, this achievement would prevent awkward speech that occurs when an EFL learner uses the syntax of L2 with the intended semantic meaning of L1, aforementioned.

In summary, such is the importance of applying a communicative methodological approach in learning metaphorical language in the ESP programme, that its acquisition contributes to the comprehensive development of communicative competence (Gutiérrez-Pérez, 2018). At this stage, it is necessary to define the word “comprehensive” which in this context means full knowledge of

the use of each metaphor, including the context in which it can be used and all its variants, to avoid awkwardness. Thereby, the development of conceptual metaphors in L2 indicates a greater communicate competence (Kelso, 2018).

3.3.2 Pedagogical notions to acquire metaphorical competence

Pedagogical notions to acquire metaphorical competence encompass a specific teaching and learning method noted for its effectiveness, that of purpose-built activities or concept-based instruction (CBI) (Liu & Hsieh, 2020) in aeronautics or any other field. It incorporates theories that reflect that metaphor construction is delineated by complex psychological processes in the mind within a profound cognitive-linguistic paradigm. These theories are the sociocultural theory (SCT), the systemic theoretical instruction (STI), the orienting basis of an action (OBA) and the schema for orienting basis of an action (SCOBA).

Linguistic notions based on purpose-built experiments shed light on the effectiveness of practical teaching of the metaphorical component of language in which students are required to comprehend and produce metaphors according to their level of knowledge. The results show that they use the learnt metaphors in their speech, perhaps because they are the most common or perhaps the most similar to their L1; inevitable, the greater the exposure to a foreign language (FL), the more advanced in L2. Therefore, there is, a “correlation between MC and Proficiency Level” (Aleshtar & Dowlatabadi, 2014, p. 1902). Likewise, with a pragmatic didactic programme, L2 learners practice conceptual metaphors in different contexts, acquiring conceptual fluency and thus, metaphorical competence (Shirazi & Talebinezhad, 2013).

Similarly, the teaching and learning methods to acquire metaphorical competence ascribed to how well EFL students intake metaphors, will proceed to examine whether the person is equally likely to exhibit conceptual metaphors and create new ones in L2. Following the criteria of some academics (Danesi, 1993; Littlemore & Low, 2006), an immersion context is proposed that includes metaphors in the teaching and learning of a second language, which becomes a multifaceted strategy in the search for the acquisition of metaphorical competence.

If successful, stronger communicative competence in L2 will be fostered. Nonetheless, the quest to find an appropriate multifaceted approach goes beyond the level of L2 proficiency, whether in an EFL classroom or CLIL classroom (Doiz & Elizari, 2013).

It stands to reason that the way L2 learner's intake a second language is completely different (Littlemore & Low, 2006) from that of the L1, as already explained. As far as second language acquisition is concerned, previous studies have pointed out the ineffectiveness of explaining how to acquire an optimal level of communicative competence in a second language. According to Bachman (1990) and his pyramid, communicative competence in any language must be established as the foundation on which communication takes place. Nevertheless, second language learners have great difficulty grasping the meaning of L2 metaphors, hence communication is impaired.

In this regard, the question that has arisen in recent years is how to transmit the essence of a language to SL learners by combining theoretical knowledge and skills development (Awier, 2021). This statement relates to the attainment of metaphorical competence in L2 using a multimodal metaphor strategy. Awier (2021) advocates the integration of metaphors in English language teaching (ELT) through metaphor-based visual, written, and auditory exercises which encourage students' analytical and critical thinking while expanding their communicative ability by improving metaphorical competence. Nevertheless, this is another pilot study along with that of other scholars' (Gutiérrez-Pérez, 2016; MacArthur, 2010) who, although, they overtly pursue the goal of achieving metaphorical competence in the university environment, this issue is still under scrutiny in SLA programmes. In this enclosure, developing metaphorical competence in L2 would be an unexpected accomplishment.

The repercussions of not fostering practical exercises on metaphors in L2 causes a lack of metaphorical competence which implies that much of the linguistic discourse is beyond comprehension, as metaphors prevail in formal and informal speeches. This gloss is also a very plausible reason for L2 learners' inability to understand jokes, as jokes have deep-rooted meanings, often relying on metaphors,

and playing with words and meaning, where socio-affective and aesthetic dimensions of language use (Vaid et al, 2015) interact in the process of making sense of the intended message. That being the case, L2 students should be exposed to metaphors in the classroom and outside of it:

Metaphor produces a magical power that creates new realities by affecting our perceptions, thoughts and ideas about the world. Metaphor is a multifaceted tool of explaining, describing and evaluating ideas to better understand and communicate abstract entities in our everyday activities

(Pourdana et al, 2014. 214)

Furthermore, Littlemore's (2010) approach analyses metaphor interpretation skills to measure metaphorical competence in L2. This case study appraises the transmission of cognitive skills regarding metaphors from the mother tongue to the foreign language. Diverse components are proposed that encapsulate the concept of metaphorical competence: "1) tendency to find meaning in metaphor; 2) speed in finding meaning in metaphor; 3) ability to identify multiple interpretations for a given metaphor; and 4) novel metaphor production" (Littlemore, 2010, p. 296).

The reasoning behind these principles is predicated on testing the natural tendency of students to understand how a metaphor works and comprehend its semantic fields (Littlemore & Low, 2006). The semantic field is implicit in every metaphorical expression that exists in each language, responsible for producing novel metaphors in L1, and characteristically a semantic quarry for poets and songwriters. A well-known example of a metaphorical expression embedded in everyday language is found in the line *the world is your oyster*. This quote is used quite widely in informal spoken-English situations. It comes from *the world's mine oyster, which I with sword will open* from William Shakespeare's *The Merry Wives of Windsor*, a theatre play published in 1602. The audience, native speakers and EFL learners already understand that the expression is not literally about oysters. Thus, attention is diverted to what is really the subject of discussion, developing a mental process to understand the background of the expression, called the semantic field.

Thus, semantic field (Littlemore & Low, 2006) is the term used to carry out an explanation of the source domain and the target domain with respect to metaphors. There is a reliance between an abstract concept of an expression with its meaning. *The world is your oyster* means that you can achieve anything you want in life or go anywhere because you have the opportunity or ability to do so¹. Consequently, in this context of conceptual darkness, socio-cultural and historical background weighs in to elucidate the meaning of the utterance. The audience then should connect the source domain, which is the abstract concept, with the target domain, which is the intended meaning, to link the meaning to the expression. In other words, the reason this salt-water bivalve mollusc, is used to mean “achieving anything you wish in life” lies in the fact that pearls are sometimes found inside oysters, and pearls can provide wealth to achieve any goal.

In addition, and following the guidelines of the above, it is worth commenting on another pedagogical discovery, that of blending. Blending comprises unconsciously modifying the source and target domain of conceptual metaphors, as in the following statement in which “Violet compares her opinionated speech to a chipped saucer and her father’s rules to a silent teacup” (Kelso, 2018, p. 53). When an L2 learner mixes conceptual metaphors with what appears to be a novel metaphor, in a creative process, it is a sign of developing conceptual fluency, and a reinforcement of metaphorical competence.

Thus, novel metaphors gain importance in second language acquisition when considering that by uttering new metaphorical sentences, a person reflects conceptual fluency in L2. This means that by consciously crafting their own metaphoric blend, that is, by combining conceptual metaphors with new metaphorical expressions designed to fit the appropriate context, non-native speakers (NNSs) show a mastery of metaphorical competence, which at the same time demonstrates an effective development of communicative competence.

In assessing whether and how novel metaphors are produced and received, the Pragglejaz Metaphor Identification Procedure, discussed in earlier chapters, is

¹ “The world is your oyster” definition extracted from www.collinsdictionary.com (2023)

invaluable as it attempts to ascertain the metaphoricity of a diverse array of utterances (Steen, 2007). Nonetheless, it is very difficult for researchers to conclude, with irrefutable truth, that a non-typical or non-conceptual clause is metaphorical. The idea of creativity is especially noteworthy in certain fields where original creations are an essential part of being an architect.

Caballero-Rodríguez (2014) affirms that metaphor is critical in architecture because the language used is very metaphorical, employing not only linguistic metaphors but also visual ones, in the form of images. The drawing of a building can delineate a croissant, and be accompanied by technical language using linguistic metaphors to describe it, *the surface wraps itself* (Miralles & Prats, 1991) guiding the reader towards the full unfolding of the construction (Figure 3.2).

Expressed in a specialised metaphorical language of *concrete wave* and *rising up to address the site*, Caballeo-Rodríguez (2014) builds on the idea of exuberance with image schemas to highlight the outstanding design of the building. A multimodal and holistic experience brings together properties that result in an innovative project, and consequently, a jargon is necessary to express the full extent of the intended meaning. In this regard, “cross-domain knowledge is at the very core of creativity in both metaphor and architectural design” (Caballero-Rodríguez, 2014, p. 158).

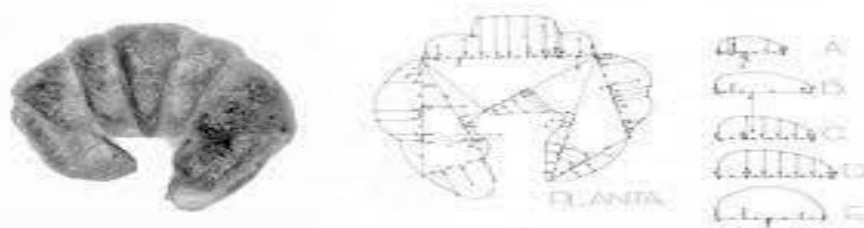


Figure 3.2 Visual metaphors that support linguistic metaphors (sketch taken from Miralles & Prats (1991))

In this respect, the cognitive-linguistic pedagogical technique is another key element that integrates the L2 language, cognition, and communication to teach and learn conceptual metaphors in the context of professional communication (Andryukhina & Kochkina, 2018). Once the students are aware of the nature of metaphors and a consistent corpus of metaphorical expressions has been generated, the next step is to build metaphorical discourses to improve discursive competence. Thus, the field of architecture provides a very rich metaphorical corpus, since “abstract concepts need a mapping of conceptual knowledge to provide them with ontological status and structure” (Caballero-Rodríguez, 2014, p. 160). It involves relating how these concepts exist, for instance: *a tightly-knit neighbourhood* where the source domain seems to invoke a perfectly woven woollen garment to represent an ordered sequence of buildings.

In conclusion, it is now more widely accepted that metaphors represent a powerful source of L2 knowledge. While the introduction and implementation of metaphorical awareness and metaphorical competence in the EFL context is an ongoing process, the ESP classroom in tertiary education should be oriented towards the full inclusion of metaphors, so that students are fully aware of the importance of metaphorical competence for their professional future.

3.4. Metaphorical awareness and competence in the ESP classroom

As this research delves into the spheres of metaphorical awareness and metaphorical competence in the ESP classroom in Higher Education, it reveals a variety of information collected from different empirical studies to harbour an accepting attitude towards metaphorical awareness and competence. Each work revolves around several aspects such as metaphor and L2 learning and conceptual versus novel metaphors to answer crucial questions regarding the implications of conceptual metaphor theory, seen in chapter two, and which explains the natural speech and thought of humans as part of the knowledge of the world, or experimentalism (Sabet & Tavakoli, 2016), that is, part of our conceptual system and culture, and purpose-built activities. The interplay of these concepts establish the prevailing stances of the development of metaphorical competence in the ESP

curriculum; and whether a multimodal L2 educational approach is adopted in an ESP context that will reinforce students' communicative competence. Likewise, the assorted research tries to determine to what extent metaphorical awareness and competence have permeated the ESP university classroom for L2 learners.

The profile of the literature focuses on different design perspectives, ranging from didactic proposals (Cortés de los Ríos & Sánchez-Pérez, 2017; Gutiérrez-Pérez, 2016, 2018; Zhang & Mogana, 2020) where the exercises are detailed, to the development of effective L2 learning techniques (Andriukhina & Kochkina, 2018; Beltrán-Palenques & Silvestre-López, 2018; Beynen, 2020) from a series of approaches. The studies covered in this section also measure creativity (Birdsell, 2018) to generate new figurative expressions, and analyse metaphorical competence through the production of conceptual or novel metaphors (Fattahi & Nushi, 2021; Kelso, 2018; O'Reilly & Marsden, 2021a; Samburskiy, 2020; Zhang, 2019; Zhang & Mogana, 2020; Zhao & Yang, 2014).

The theoretical paradigm is mostly based on the Conceptual Metaphor Theory (Lakoff & Johnson, 1980), although it is sometimes called differently, or even registered as a derivation of the original theory developed by Lakoff and Johnson in 1980. It should be noted that conceptual metaphor theory is one of the best-known linguistic tools for assessing metaphoricity. Thus, when non-native speakers' (NNSs) oral and written production sounds strange and clumsy despite being grammatically correct, it is due to lack of conceptual fluency (Zhang, 2019) and hence of communicative competence due to the misconception or misinterpretation of words or expressions (Sabet & Tavakoli, 2016). The reason is that the conceptual metaphor theory provides a systematic tool to identify the concepts behind linguistic metaphors, since they focus on personal experiences, which "we use to explain various concepts" (Zhang & Mogana, 2020, p.112).

With the provision that metaphorical competence requires in-depth semantic, cultural, and social knowledge, an elaborate mental process occurs in a millisecond in the head of the speaker. In an L2 context, this mental process merges recognition, understanding and conversion of a conceptual metaphor from L1 language to L2. Therefore, conceptual fluency must exist, as part of the cognitive

linguistic paradigm, so that a non-native speaker (NNS) can understand an expression as metaphorical to be able to infer the correct meaning, and to extrapolate all the social, cultural, and semantic elements to create an idiomatic expression in L2. The benefit of this approach is to strengthen metaphorical knowledge with purpose-built-activities to prevent speech strangeness from non-native speakers from occurring:

Life is stir-fried vegetables. >> Stir-fried vegetables basically are not decided for you, but you have to choose the ones to cook with and also the spices you use. Everyone also cuts up the vegetables differently. So if ten people made stir-fried vegetables, you are likely to get ten different kinds of stir-fried vegetables. This is the same as life

(Birdsell, 2018, p. 46)

Only if metaphorical competence is mastered within communicative competence, the creation of novel metaphors by non-native speakers (NNSs) can achieve linguistic and semantic acceptance by native speakers (NSs). This achievement could be attained with exposure to, and time spent in an English-speaking country, or with the aid of purpose-built-activities in the L2 classroom as part of the metaphor instruction within the SLA curriculum.

The avoidance of inaccuracy can be overcome by introducing the teaching of metaphors into the L2 syllabus, in organized and well-planned classes within school curricula (Boers & Demecheleer, 1998; Boers & Lindstromberg, 2006; McCarthy, 1991). Boers & Demecheleer (1998), Lindstromberg (2006) and McCarthy (1991) emphasize that L2 learning is impaired without the inclusion of metaphors. Collectively, these studies describe a critical role for the teaching and learning of metaphors in the quest to acquire metaphorical awareness and metaphorical competence in ESP. Recent methodologies have been developed among scholars (Gutiérrez-Pérez, 2016; O'Reilly & Marsden, 2021a; Sabet & Tavakoli, 2016) to implement the role of figurative language in the possible inclusion of metaphorical awareness and competence in the tertiary education curriculum.

Moreover, the objects of study extracted from the empirical research are learners of English for Specific Purposes (ESP), learners of English as a Foreign Language (EFL), also learners of English for Academic Purposes (EAP), learners of Second Language (L2), English Language Learners (ELL), and learners of English as a Second Language (ESL). Additionally, the chosen works analyse any of the following four factors as inclusion criteria to determine the appropriateness of the study with respect to metaphorical awareness and metaphorical competence in the ESP classroom in tertiary education. These inclusion criteria are as follows:

- 1) Empirical qualitative and quantitative studies on metaphorical awareness and competence.
- 2) Acquisition of English language as a second or foreign language in Higher Education.
- 3) Studies related to linguistic metaphor and not prosodic, paralinguistic, gestural, visual, and/ or kinaesthetic metaphor.
- 4) Purpose-built activities for metaphor retention, vocabulary acquisition and production of metaphorical expressions.

The use of metaphor in university lectures causes problems for overseas students (Littlemore, 2001b). Native speakers should be aware of this hurdle when giving a talk in a formal university context where foreign students have been observed to make particularly egregious mistakes leading to serious misunderstandings and spiralling them into having “misinterpreted the lecturer’s stance” (Littlemore, 2001b, p. 333). This is due to the fact that “our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature” (Lakoff & Johnson, 1980, p. 3). In this context, there is a very high likelihood that parts of speech will be filled with expressions containing metaphors that have oftentimes been reported to exacerbate the foreign audience’s understanding. Hence, figurative expressions will cause perplexity among all those L2 learners who will present gaps in their comprehension.

The literature on metaphorical competence has highlighted the scarce instruction of metaphors in tertiary education worldwide. For that reason, research

(MacArthur & Caballero-Rodríguez, 2011) reports that international students should implement metaphorical competence in L2, specifically in English, since it is the lingua franca for international communication. Let us recall that to foster metaphorical awareness and develop metaphorical competence in SLA, exposure to metaphors is necessary. On that account, an efficient methodological approach circumscribes metaphor-based activities.

Furthermore, an L2 learner with full cognizance of the origin of a metaphorical expression will be prone to learn and retain metaphors with ease, manifesting the ability to exploit them appropriately in the right context. In other words, non-native speakers (NNSs) should be informed of the notion of metaphorical awareness in order to develop metaphorical competence in an SLA context. The fact that students become familiar with the origin of metaphors tends to create a connection with the visual image that is formed in the head, an image schema that results in retention for the future, thus by, metaphorical awareness has been fostered.

On the other hand, the research of different scholars (Azuma, 2004; Boers, 2000a, 2000b; Cooper, 1999; Littlemore & Low, 2006) are deemed important for different reasons. Azuma (2014) corroborates that the correlations of the subjects' vocabulary ability and polysemy to metaphorical competence are strong; Boers (2000) study indicates that lexical organization of metaphoric themes or source domains can facilitate retention of unfamiliar figurative expressions; Cooper's (1999) strategy establishes the participants' engagement in a heuristic approach to idiom comprehension, with a variety of strategies through trial and error. In basic terms, the results provided are based on the interaction of the first and second language systems (conceptual and linguistic) to see how students will develop metaphoricity in the classroom to produce idiomatic expressions.

In this sense, metaphor-based ESP courses are gaining popularity among academics from multi-disciplinary backgrounds (Hoang, 2014), who teach metaphors as a fundamental tool to achieve excellence in communication in their fields, such as economics, architecture, medicine, and many more; in consequence, a stronger communicative competence can be achieved. An example is the analysis

of metaphorical competence by Cortés de los Ríos and Sánchez-Pérez's (2017), who emphasize that metaphorical language is completely integrated into economic jargon. In an attempt to clarify the facts, the economic press was reviewed. The updated press headlines are as follows (information compiled from the Financial Times between Sept 2nd and 8th, 2022) (Table 3.2). It was surprising to see how powerful the metaphorical component of the journalistic narrative is. In it, metaphors are used to correlate the information in the form of an image schema, such as *Companies are in good health* (Cortés de los Ríos and Sánchez-Pérez, 2017, pp. 119-120) in which the field of economics is adopting an expression used in medical terms.

Table 3.2 Metaphorical headlines within the field of Economics
(Info taken from the Financial Times)

8-Sept-22	Pound slides as markets shudder at scale of challenge facing Truss
7-Sept-22	Truss assumes office with vow to steer Britain out of energy storm
4-Sept-22	Brainard adds to chorus of Fed hawks urging inflation vigilance
3-Sept-22	German factories halt output after Russia's "alarming" squeeze on gas
2-Sept-22	Trump vows to heal Republican rift as battle with Clinton looms

Overall, students can enhance their knowledge of metaphors through classroom activities, and thus acquire new vocabulary. In different studies and experiments, various academics (MacArthur, 2010; Littlemore et al. 2011), understand that metaphor-based classroom activities are more effective because there is a metaphor-awareness context, instead of learning metaphors outside of it, helping to visualise the metaphorical nature of language. Hence, purpose-built activities in the ESP classroom are very efficient for L2 learning by making peers understand the logic of metaphorical expressions and pointing to the rationale behind the creation of such metaphors, as well as the implication of commitment of second language learners whose engagement, motivation, and productivity are crucial. Thus, the improvement of metaphorical awareness and competence is enhanced.

3.4.1. Purpose-built activities in the ESP Classroom

As regards to the development of metaphorical awareness and competence, different systematic approaches to the design and delivery of instruction have been proposed by scholars and academics (Bachman, 1990; Danesi, 1992, 2008; Littlemore & Low, 2006) in the last decades to implement vocabulary learning through the teaching of figurative language that helps to develop communicative competence, where purpose-built activities are the focal point. This activity approach is also known as concept-based instruction (CBI) (Liu & Hisieh, 2020) whose objective is to guide students in the dynamics of construction of metaphorical expressions, so that non-native speakers (NNSs) can reproduce and build new utterances in L2, named special-purpose language (Sultanova & Aristova, 2017).

One of the special-purpose languages is English. English is adopted in many industries, such as aviation, as the language through which communication is collaborative among different nations. This means that English is a requirement for the development of professional communicative competence among university students within and out of their professional fields. Turning back to the example of the Aviation Industry, learning aeronautical technical texts in their maximum comprehension implies understanding the metaphorical ideas exposed, and thus acquiring metaphorical awareness and metaphorical competence. What is more, it stands to reason that the more L2 learners navigate through the challenges of metaphor instruction, the better their cognizance of the metaphorical lexicon will be.

Traditionally, new L2 vocabulary was learnt in the second or foreign language classroom by boringly copying endless lists of words (MacArthur, 2010) with their L1 meaning written next to them. Anyhow, that is a proven failure as words without context have no meaning; hence retention is not possible. The downside of this approach centres on demotivation, when students' frustration at their inability to express their own thoughts adequately (Doiz & Elizari, 2013) causes them to slow down the pace of acquiring new words, perhaps simply out of boredom due to the methodology, consequently abandoning the path of improving

their level of L2 since without vocabulary there is no language.

In the context of ESP, data from different empirical studies report that there are several strategies and metaphor techniques available for students to improve their cognitive-linguistic and discursive competences (Andryukhina & Kochkina, 2018). Thus, enhanced communicative competence gives students a sense of agency gained by raising metaphorical awareness and increasing metaphorical competence. These two prevailing stances are reached through metaphor-based activities such as: sentence completion, fill in the blanks, multiple choice questions, matching and answering the written questions communicatively (Gutiérrez-Pérez, 2016) and many more.

Various studies (Doiz & Elizari, 2013; Littlemore, 2010; MacArthur, 2010) have discerned their criteria for the mastery of metaphorical awareness and competence on approaches based on the use of metaphorical expressions and words. These studies are pioneers of the latest renewal of interest in teaching and learning an L2 in order to include metaphors in the syllabus of the second or foreign language classroom, be it English as a Foreign Language (EFL), Content and Language Integrated Learning (CLIL), and/or English for Specific Purposes (ESP). Prevailing stances found in the literature seem to measure the success of the implementation of metaphors. These projects have been carried out on the contribution of metaphorical vocabulary and the context in which specific expressions are used. Vocabulary and context are understood as indivisible to master a level of competence in a foreign language, thus increasing metaphorical awareness and competence.

MacArthur (2010) emphasizes the importance of enhancing metaphorical competence in learners of English as a Foreign Language. The experiment is aimed at English learners of levels B2 for Independent Users, and C1 and C2 for Proficient Users, (data collected from CEFR, 2001), and will focus on the written work of the students with a special attention to the development of the figurative expressions known by them. The better the understanding of the vocabulary that appears in the texts, the better the understanding of the metaphors, hence metaphorical awareness.

And since metaphors are ubiquitous, the greater the use of metaphors by students, the greater the metaphorical competence. The study also demonstrates how metaphor-related-activities should be introduced and implemented in the classroom. It is nonetheless highlighted how complex this issue becomes, as the assessment on how well EFL students will assimilate metaphors learnt in class and perform metaphorically out of school is complex. At the same time, it is necessary to evaluate how strong retention is throughout the next academic year, since the process of learning an L2 takes time to uptake and depends on the socio-affective factors of the learners in addition to their cognitive state (MacArthur, 2010).

On the other hand, the semantic and figurative meanings of metaphors will shed light on how to express emotions, thoughts, and everyday notions, improving students' vocabulary and thereby increasing their success in adequate communication in L2 at a high level of proficiency. Allusion to focal expressions within the vocabulary will be promoted by participants pursuing metaphorical awareness and competence, to master communicative competence as native speakers do. Only when non-native speakers (NNSs) narrating an event correctly introduce metaphors into their speech to describe a particular action or emotion can they be hailed for displaying metaphorical competence.

Another issue is whether the metaphors are conceptual, otherwise known as common metaphors, or novel, also called newly created metaphors. Both types will ensure mastery of the NNS in the target language. Additionally, MacArthur (2010) states that the use of a novel metaphor will demonstrate their proficiency in the semantic construction of a new expression with which to express exactly how they feel about a topic. This encompasses a profound knowledge and understanding of how language works.

According to these empirical analyses, abundant material is examined to proceed with the construction of activities that educators will evaluate as appropriate or not to prepare students to be metaphorically competent in their fields in the ESP classroom. On the whole, reading materials for the development of metaphors (Zhao & Yang, 2014) in which students must provide the meaning of the metaphors encountered (Beynen, 2018, Zhang & Mogana, 2021) are excellent

tools to raise metaphorical awareness and to attain metaphorical competence. The implementation of this activity leads the tutee to provide deep reasoning on the account of dispensing a valid meaning to each metaphorical expression in the given context, where the source domain is mirrored in the target domain. At this point, it is imperative to say that the above is implemented through the teaching of visual knowledge (Caballero-Rodríguez, 2014; Samburskiy, 2020) where the invocation of an image schema ensures retention and understanding.

What is more, retention has proven successful (Boers, 2000b) when exercises are performed in which a metaphorical expression is explained along with its source domain and intended target meaning. This is due to the emergence of metaphorical awareness, and the enactment of metaphorical competence so that a highly level of communicative competence can be achieved.

Similarly, following an instructional approach as one of the different existing techniques such as the deductive-inductive approach (Beltrán-Palanques & Silvestre-López, 2018), used for the teaching and retention of conceptual metaphors, also called conventional metaphors in the study, associates two different domains of experience, in relation with our sociocultural and linguistic knowledge (Birdsell, 2018). In such a way, the teaching of conceptual metaphors, whether they are single metaphors or whole expressions, fosters long-term vocabulary retention, increases students' motivation to learn and the perseverance to continue learning, and also accelerates the rate of learning. As a positive result, this will lead to the potentially key factor of channelling this newly acquired knowledge into a written production (Beltrán-Palanques & Silvestre-López, 2018). Written tasks are a good exercise for that purpose (Beynen, 2018). At the same time, with the written essays the metaphorical density can also be measured, so that an analysis of the type of metaphors used can be drawn, whether they are novel or conceptual metaphors (Zhang, 2019). To this end, metaphorical blends are part of metaphorical production. As noted, productive instructional strategies are a good technique for creating the metaphorical blend that results in novel metaphors (Kelso, 2018).

In this manner, the purpose of the experiment conducted by Beltrán-Palanques and Silvestre-López (2018) is to apply the deductive-inductive approach to make connections between ideas and expressions. In other words, each metaphor conveys an idea, and L2 learners should establish the relationship between the metaphor used and its meaning, even if the origin of such a metaphor is still disguised by the modern use of the metaphorical expression. This strategy shows that ESP students learn not only the rules covered in the inductive approach, but also receive a full explanation of the topic at hand, unique to a deductive approach. This type of pedagogical technique within the ESP classroom should awaken metaphorical awareness to improve cognitive-linguistic and discourse competences (Andryukhina & Kochkina, 2018). Despite the above, from the perspective of discourse analysis, understanding a metaphor is not enough (Fattahi & Nushi, 2021).

In addition, since a metaphor is a very powerful linguistic tool, its instruction in the L2 classroom becomes very productive for all second or foreign languages, such as Mandarin Chinese as L2. The investigation of which can be placed under the framework of concept-based instruction (CBI) and the Systemic Theoretical Instruction (STI) to instruct, in this case, animal metaphors. In Chinese culture, there is a strong connection between animals and the embodied abstract concepts that form idioms (Liu and Hsieh, 2020). In this context, each metaphor is analysed following the schema for orienting basis of action (SCOBA) procedure, which consists of first establishing the origin of the metaphors, and then generating analogical figures, drawings and diagrams to explain the figurative meaning (Table 3.3).

Table 3.3 Chinese animal metaphors (taken from Liu & Hsieh, 2020)

	Chinese animal metaphor	Meaning
1	Monkey-hands/ monkey-feet	Being careless and reckless in handling things
2	Fell-water-dog	A bad guy who lost power, who has been defeated
3	Tiger-general	A person who is very capable and brave

The results show the effectiveness of the Systemic Theoretical Instruction (STI), improving metaphorical competence and conceptual fluency, noting also, correlation between some figurative expressions between L1 and L2. In conclusion, “FL tutors and educators can design accurate, high-quality, and systemic cultural and conceptual tools, such as SCOBAs to mediate students’ internalization of L2 metaphor concepts” (Liu & Hsieh, 2020, p. 23).

Once different purpose-build activities for a specific ESP classroom have been determined to promote metaphorical awareness and competence, it would be of interest to ESP students to be encouraged to produce creative metaphors (Birdsell, 2018). There is a growing body of literature that recognises the importance of novel metaphors (Birdsell, 2018; Fraser, 1993; Kelso, 2018; Thibodau & Durgin, 2008). The level of creativity of each individual becomes a variant, marking a shift between innovative dialogues and formulaic sequences in form and content. Besides, there is the same metaphorical concurrence to produce original expressions as to express original thoughts in a conceptual manner.

New figurative expressions are constantly being shaped to delineate the line of thought for a new drawing, or a new medical term to describe a new disease, or to explain a new engineering device invented. For this, it is essential to achieve a strong metaphorical awareness and competence in the ESP classroom with the purpose of “viewing metaphoric competence as a multifaceted construct that lies on a continuum from the highly conventional to the highly creative” (Birdsell, 2018, p. 35). In turn, this principle implies the need to master the L2 conceptual system in the first place, and the intentional willpower to devise a distinct metaphorical expression to denote an individual’s ideas and thoughts.

On a different account, Israel (2013), reviewing his case study predicated on the motivational aspect of short, rhythmic, and simple songs with a catchy melody as a teaching methodology, reaffirms that “English second language learners were inspired by the singing of songs and music to achieve better in their study of literature, as well as other aspects of the target language” (pp. 1360). The data collected demonstrate an improvement in language performance due to an enhanced ability to perceive, process, and reproduce accent from the songs

(Stansell, 2005). This technique can be considered a musical strategy for language learning.

Finally, the tailored and collaborative nature of classroom-focused-activities offers another advantage, that of motivation. Purpose-built activities to promote classmates' motivation to produce metaphorical discourses in speaking and writing modes are proposed. On the other hand, reading a text within their ESP domain is very useful to concentrate on the existing metaphors that the author uses to explain the different areas of study. Overall, purpose-built activities in the ESP classroom of any field such as aeronautics are inclined to be considered key in the enactment of metaphorical awareness and competence.

3.4.2. ESP Learners: The case of Aeronautics

Taking up the example of the aeronautical industry, English became the universal language in aviation since 1951 (Tiewtrakul & Fletcher, 2010). Thus, a dichotomy can be established in the ESP classroom of aeronautics where students learn English as a second or foreign language applied to the field of specialisation. In this respect, students must read technical aeronautical texts regarding aeronautical technical issues and are assumed to fully understand them.

Moreover, with regard to linguistic communication in the aviation/aeronautical industry, two types of language are described: plain language, i.e. *a flock of birds in the vicinity of a runway*; and standard phraseology that often points to the metaphorical component of the language, e.g. *an active runway*. Therefore, the language used by flight crews and air traffic controllers in aeronautical radiotelephony communication around the world is technical English whether in plain language or standard phraseology, with a focus on flight safety (Petrashchuk, 2017).

Nonetheless, special attention should be paid to regional accents (Tiewtrakul & Fletcher, 2010) when using English, scilicet, when English is a second or foreign language for airline personnel from non-English-speaking

countries, which can lead to communication errors. Miscommunication or misleading information may occur in international air traffic communication due to failures in the pilot-controller transmissions, such as breakdowns because of language differences, caused by insufficient command of English and / or accent, and may turn into an accident (Tajima, 2004).

Additionally, airline and airport staff will tend to communicate in their native languages naturally, when safety is not at risk, in everyday, ordinary, activities. The following examples show standard aeronautical phraseology in Spanish from Buenos Aires, Argentina, where metaphorical expressions appear. The context is as follows: a pilot communicates with the ATC Tower in Spanish saying: *autonomía dos horas y media, duración del vuelo xx, cinco almas a bordo* which stands for “range two and a half hours, flight duration xx, *five souls* on board”. In the sample, the use of the word *soul* is metaphorical and refers to the number of human beings on board the aircraft.

The next example shows a military traffic controller addressing a military pilot in Spanish: *notifique pies secos*, which means *notify dry feet* denoting not so much an aeronautical correspondence but rather a metaphorical relationship between being on land (*dry feet*) or at sea (*wet feet*). Similarly, the last example constitutes a pilot confirming that the undercarriage has been lowered and in the locked position: *tres verdes* meaning *three greens*, which in this case the metaphor is a synecdoche, a rhetorical figure in which a part is made to represent the whole or vice versa, using the visual cues of the instruments in the cockpit to communicate the information (De-Matteis, 2005).

The generalisability of metaphors in aviation is not surprising since, as noted in the reviewed literature, the word *aviation* comes from the Latin form *avis*, which means *bird*, and *aviator*, whose root *avia* stands for *pilot* (Kopecka, 2017). Hence the language of aviation also contains metaphors (Kopecka, 2017; Robisco-Martín & Cuadrado-Esclápez, 2013). Sentences like *Planes are birds* are commonly used in English as a foreign language (ELL) class, but these expressions are more noticeably meaningful in ESP aeronautics lessons.

Learning specific technical vocabulary will aid in understanding the aviation industry in terms of air navigation, aircraft general knowledge, principles of flight, and any topic related to air travel or aeronautics (Çelik & Coombe, 2021). Since aviation develops in a very particular context, the language is also highly specialised, where figurative expressions will be used by pilots, controllers, engineers, and the airline personnel. However, not by the common citizen, since the technical language employed refers to equipment, activities, and actions (Kopecka, 2017) that take place within airport facilities and flight routes. Below are several examples: *the skin of the aircraft*, *pitching the nose up /down* and *quantity of bleed air*, where in the first example, the metaphor *skin* points to the fuselage; in the second, the metaphor indicates the angle between the longitudinal axis of the body of an aircraft (where *body* is another metaphor) and a chosen reference line seen from the side; and in the third example, the metaphorical expression has to do with the amount of air that the engines ingest.

What is more, the *Bilingual dictionary of Scientific-Technical Metaphors and Metonyms* (Cuadrado-Eslápez et al., 2016) provides a multitude of examples that help to build a visual image of the meaning of aeronautical metaphors that facilitate their comprehension. Some more of these metaphorical words and expressions in the aviation industry along with their Spanish translations are the following (Table 3.4).

Table 3.4 Samples extracted from the Bilingual Dictionary of Scientific-Technical Metaphors & Metonyms (Cuadrado-Eslápez et al, 2016)

English	Spanish
Blind transmission	Transmisión a ciegas
To abort landing	Cancelar aterrizaje
All in the wind	Proa al viento
To arm doors	Armar rampas
Air bridge	Puente para embarcar
Baulked approach	Aproximación frustrada
Angle of attack	Ángulo de ataque
Belly landing	Aterrizaje de panza
Barrel roll	Giro de la aeronave sobre su eje longitudinal

The intervention programme designed for aeronautics students at the Higher Technical School of Aeronautics in Madrid combines the teaching of aeronautical technical English with innovative strategies from a metaphorical approach. Thus, by following purpose-built activities, such as pointing out the metaphors found in aeronautical technical texts and explaining what these figurative expressions mean, students' metaphorical awareness is increased by improving their "metaphor interpretation" (Zhang & Mogana, 2021, p. 8) and helps them to understand the idiosyncrasies of metaphors, reinforcing their metaphorical competence. Once this instruction is completed, essays are often a good tool to test students' metaphorical competence through metaphorical density.

3.5. Conclusion

The most obvious finding emerging from the different case studies reviewed is that raising metaphorical awareness (Zhang, 2019; Andryukhina & Kochkina, 2018; Beynen, 2018; Zhang & Mogana, 2020) is essential to achieving metaphorical competence. Evidence suggests that when metaphors are taught in a specific ESP context, the implementation of purpose-built activities will serve to reinforce students' linguistic competence and increase their critical reasoning skills (Caballero-Rodríguez, 2014). The sequential order of the different phases in which an SLA process is matured will culminate in the development of a stronger communicative competence in the second or foreign language.

Against this conceptual backdrop, several strategies have been outlined to enhance metaphorical awareness and competence, such as mixing visual metaphor with linguistic metaphor (Samburskiy, 2020), or eliciting metaphorical competence constructs from students (O'Reilly & Marsden, 2021a) so that they show the ability to understand and use metaphors in L2, measured with metaphorical competence tests. What is more, the systematicity and experiential basis of metaphorical expressions (Gutiérrez-Pérez, 2018) and hence of the instruction, is understood as a process of human mental activity which involves material, verbal, and mental level (Liu & Hsieh, 2020). And finally, by observing learners for feedback on their capabilities, it can be concluded that participants' metaphorical competence is

influenced by their cognitive and personality-based characteristics (Fattahi & Nushi, 2021) to reproduce conceptual metaphors in the right context or even to create novel ones.

Although more research on metaphorical competence along with larger data sets of findings is needed to achieve the reappraisal of metaphor in the tertiary education curriculum, it is worth mentioning that the body of research on this topic is gradually growing with the incorporation of music in linguistic case studies. The findings support cutting-edge scientific investigations showing that music affects cognitive domains of language (Magne et al., 2006).

In short, it is in the common interest of educators and peers to enhance metaphorical awareness and metaphorical competence in order to achieve a higher level of foreign language proficiency in the ESP classroom (Cortés de los Ríos & Sánchez-Pérez, 2017), thus strengthening communicative competence.

CHAPTER 4: METAPHORS IN MEDIA DISCOURSE

4.1. Introduction

Encountering figurative language in an oral or written context can become a daunting obstacle for EFL learners to understand the meaning of metaphorical expressions. Several studies (Kovecses, 2018; Musolff, 2007) single out that the globalised world has adapted to society's new media to expand metaphorical knowledge through media discourse, such as radio (Marhula, 2018), newspapers (Porto & Romano, 2013; Foley & Hidalgo-Downing, 2023), social networks in the teaching and learning of a foreign language (Wyatt, 2021) and music channels transmitting metaphorical messages through song lyrics (Fonseca-Mora & Camacho-Díaz, 2021). In media language, media discourse highlights its importance in media cognition, whether oral or written speech with exposure through scientific articles (Musolff, 2007), political media (Cammaerts, 2012; Chilton, 2006; Tameryan, MR Zheltukhina, GG Slyshkin, 2018), with its national discourses (Saric & Stanojevic, 2019), as well as public discourses (C Burgers, EA Konijn, GJ Steen, 2016) imbued with war metaphors (SJ Flusberg, T Matlock, PH Thibodeau 2018), physical or digital prints that advocate for the construction of gender (Ahmed, 2018) or sports (R Alzawaydeh, S Alghazo 2018), of migration in media representations (L Arcimaviciene, SH Baglama, 2018; Musolff, 2011), of business (Köller, 2004), or teaching mathematics with the help of metaphors (F Salehi Kahrizsangi, R Barwell, 2021), and also in contemporary songs. All of these media approaches can facilitate students' communication in an ESP context due to the understanding of metaphorical language expressions. In this sense, songs function as a discursive genre where the meaning of the lyrics is examined within its context (Adam, 2017; Bourkaib & Merrouche, 2015; Cardoso & Vieira, 2006), and in which several studies (Adam, 2017; Kovecses, 2018) delve into the Conceptual Metaphor Theory (Lakoff & Johnson, 1980) that involves fostering metaphorical awareness.

4.2. Metaphoricity in oral and written discourses

Metaphoricity, or the power of a metaphor, has been thought of as a key factor in communication, whether consciously or subconsciously, using metaphorical expressions as rhetorical devices (Musolff, 2012) in oral or written discourses to express feelings and emotions. In Ancient Greece, ideas were so largely discussed in public forums such as the Senate that Socrates in the 5th century B. C., used to attempt to convince the audience to follow his guidelines on Estate Affairs with the power of metaphor in his speeches. Into the bargain, the utilization of metaphors by ancient Greek scholars such as Plato (5th c. B. C.) was made explicit with the purpose of embellishing literary texts, availing himself of metaphors as a channel through which emotions were conveyed, either to convince or to persuade the listeners regarding a specific objective where metaphorical expressions were employed as strong argumentative linguistic instruments. And from an educational standpoint, in ancient Egypt, *The Teaching of Menena* was used as a reference to parental guidance with metaphorical utterances such as: *You have gone off without sandals because you have not yet been brought (back) by a thorn* (Horn et al, 2016).

Against this backdrop, the work *Metaphor Networks* (Trim, 2007) focuses on the evolution of figurative language, emphasizing the connection between the metaphors used in the present with images existing in the past, tracing metaphorical expressions to the Middle Ages and earlier times. When analysing the past, scholars oftentimes find explanations for the boundedness of metaphors in the present. Due to its evolution from bidirectionality to unidirectionality, current language is limited by metaphorical abstraction, which reflects the evolution of society in the linguistic and socio-political spheres (Gil & Shen, 2021). In this vein, Black (1962) focuses his work on the metaphoricity of resonance, which is the interpretation of a concept from another concept and proposes to delineate to what extent a metaphor is merely a diachronic phenomenon versus being a useful synchronic element of language with full semantic meaning (Hanks, 2006).

Besides, metaphoricity is gradable (Hanks, 2006), which means that some metaphors or metaphorical expressions have a more complex and entrenched

meaning than others, and so the belief that a statement is either a metaphor or not can be abolished, thereby concluding that “some metaphors are more metaphorical than others” (Hanks, 2006, p. 1); likewise, metaphoricity can also be measured through a computationally-derived scalar, rating between 0 and 1 how metaphorical a sentence is (Dunn, 2014), and/or the metaphorical identification procedure (MIP), among other measurements.

All in all, metaphor is present in both oral and written discourses and the channels through which metaphors reach us today are through the media. In this respect, media experiences are analysed to show the different types of metaphors that are outlined in different discourses, whether formal or informal, science or sports.

4.2.1. Metaphors in all media experiences

Media discourses can be analysed for different purposes to establish a framework of reference with which to measure the entrenchment of language in societies and the development of meaning in pragmatic contexts. In this regard, metaphor surrounds us in all bodily experiences, whether in oral or written discourses, including the media. Thus, media discourses, such as radio, social networks, newspapers and music are among many examples. With respect to the use of metaphorical language in radio media, metaphorical expressions can be used, for instance, as a political tool to generate hatred towards stigmatised ethnic groups, which results in violence not by inciting citizens to take up arms but by reinforcing ethnic identities; and, hence, create insurmountable ethno-cultural differences within a country (Wachanga, 2011). Regarding social networks, internet propitiated a renaissance of digital language where terms such as *cloud computing* and *big data* had to be understood within their new technical context (Wyatt, 2021). Besides, newspapers, whether in print, digital or television format (TV News), become a powerful information channel “contributing to building and adapting knowledge and beliefs” (Krennmayr, 2011, p. 63). Finally, music acts as another media experience through which EFL learners’ interpretation of metaphorical expressions in song lyrics can be examined in the EFL classroom (Cardoso, 2005).

Throughout this continuum, discourse analyses disclose the various ways in which metaphorical language is applied for different purposes. It is used as a powerful means by which people can describe themselves and others, or to narrate the dynamics of any sport, among many other possibilities, establishing relationships between groups of people. Ahmed (2018) states that the female authors of journalistic articles in Nigeria carry out a construction of gender through metaphorical language that constitutes their social identities and reveals the acceptance of male and female roles in a patriarchal society as part of their own ideology.

In line with this trend, Porto and Romano (2013) focus on how the socio-cultural context influences the novel metaphors found in Spanish and British newspapers. In this respect, a twofold dichotomy is established in reference to two discursive genres from different linguistic communities that frame the meaning of metaphorical expressions according to the proposed pragmatic function. The following metaphorical expression, *Ya hay tallos verdes* which stands for “signs of a positive change are green shoots” (pp. 60), was a new figurative expression used by Spanish politicians after the 2008 economic crisis. Printed by the papers and repeated by the people, the metaphor served to convince citizens that the difficult period was coming to an end; similarly, to raise morale after disappointment and frustration had taken hold in Spanish society. On the other hand, the metaphor from the British novel metaphor *Ash cloud* appeared in British newspapers in 2010 about the Icelandic volcano eruption that covered European skies with a dense layer of ash that endangered air travel. It was conceptualised as “obstacles for success are an ash cloud” (pp. 60). From then on, *ash cloud* is used as a metaphor to explicate a conflictive issue in various fields such as politics, sports, economy or culture.

On a different account, the Conceptual Metaphor Theory (Lakoff & Johnson, 1980) is analysed with a pragmatic application of metaphors in sports newspapers (Alzawaydeh & Alghazo, 2018). In this sense, football headlines in Arabic and English-speaking countries were scrutinised in written and oral discourses in search of metaphors, hence the Metaphor Identification Procedure framed by the Pragglejaz Group was used, discerning that the most common metaphor is *Football is war* (pp. 116). In this context, American football uses

unconventional metaphors to praise the winning team at the expense of comparing the game with that of the Military Corps and its terminology in cases like: *Air Force torpedoes the Navy* (Aitchinson, 2012).

Furthermore, Kovecses (2018) explores the conceptual metaphor theory from the point of view of employing metaphors in media language. As seen above, media communication is expanded to the verge of our homes through social networks, radio, music, and newspapers; on the other hand, metaphorical language has got the potential to conceptually structure our minds; thus, conceptual metaphors describe our realities. By connecting both, three issues can be addressed: the first highlights the importance of conceptual metaphors in media cognition where a metaphorical reality is created by conceptualising an intangible item with a tangible domain, as in the advertising industry's slogan *24 hour protection* with its resemblance of protection against an enemy which is the odour (Kovecses, 2018). Moreover, the role of metaphors in the structuring media discourse is highlighted, alleging Christian messages such as *The Lord is your shepherd* from the Bible, that includes metaphorical allusions to a flock of sheep whose shepherd guides them in the likeness of Jesus leading his flock. Lastly, the contextual influence on media metaphorical discourse encompasses our life experiences in particular contexts facilitating the use and retention of metaphors (pp. 47).

Additionally, media representation is a great area to consider as different nations address sensitive topics such as migration according to Arcimaviciene and Baglama (2018). With the manipulation of language, metaphorical expressions are reproduced to portray the political points of view that make the laws. In this research, discourse analysis, following data collection, applies the conceptual metaphor theory and the metaphor identification procedure. The study's findings reveal that media narratives construct a structural dichotomy between US and EU nationals and refugees attempting to cross borders, indicating overwhelming intolerance through metaphorical expressions that stigmatise migrants. Musolff (2011) accentuates the injustice of the implications of certain metaphorical expressions in the media by categorising "immigration as a flood or some kind of *natural disaster*, or as a military *invasion*, and of the "host" nation's response as *containment* or *defence*" (pp. 7)

As a compilation of the different studies mentioned above, the analysis of public discourses shows that metaphor can be used to frame communication because figurative language carries conceptual contents that shape society (Burgers et al., 2016). It stands to reason that the media sends metaphorical messages to the audience with the specific purpose of persuading and influencing the public toward any issue, making these messages more appealing and easier to absorb. A very notable public discourse is that of politics, where metaphors are frequently present, such as “the linguistic expression “tax relief” (that) implies the conceptual metaphor of “taxation is a burden,” defining the issue of taxation as a physical weight that bears down upon the people who have to carry it around (i.e. the taxpayers)” (pp.4).

On this account, Cammaerts (2012) sets up a correlation of political metaphors that describe how politicians and journalists in Northern Belgium felt about the impossibility of forming a government after the general elections that for almost two years led Belgians to ungovernability. The metaphors in question reflected themes such as sports and game metaphors, war metaphors, culinary metaphors and transport metaphors, to chronicle the political unrest centred on the impotence of conciliating and finding consensus between the Flemish side and the French-speaking side through “expressing immobility, attributing blame, the need for unity, bargaining and teasing, the end is nigh and finally lack of direction and leadership” (pp. 229). What is more, metaphors in political discourses can result in a combination of cognitive and discursive approach that transcends cultures such as the “common European house”, metaphor devised by Russian president Gorbachev and his vision and dream of having a unified European community (Chilton & Ilyin, 1993).

In a similar light, “media discourse continuously makes creative and eclectic use of science terminology (...) e.g., that dinosaurs were/ are victims of extinction” (Musolff, 2007, p. 67). Such an innovative metaphorical construction encountered in public discourses is the result of blending, seen in earlier chapters, which consists of mixing conceptual metaphors with novel meanings, generating what Musolff (2007) calls “blended scenarios”. In addition, the source-target mapping is further expanded to accommodate “stories with a moral lesson” (pp.67)

that link creative new fables to ancient manuscripts such as *The Teaching of Menena*.

Ultimately, the need to invent novel ways of implementing SLA led to encompassing social media in a metaphorical language approach adapted to Information and Communication technologies in a rapidly evolving popular context. In this vein, innovative activities are enhanced with Facebook, Twitter, Instagram, WhatsApp, YouTube and the like, where L2 learners are drawn into a virtual world in which they have to manipulate *windows, mirrors, doorways* and *playgrounds* (Reinhardt, 2020). From this perspective, “theses metaphors capture user action, perception, and reflection” (pp. 236) providing a metaphorical linguistic contribution in the teaching and learning of the foreign language.

All things considered, metaphor research is a continuing concern within the media discourse in which metaphor is becoming a key instrument to achieve a compact and integrative educational curriculum for second language acquisition in the Modern Era.

4.2.2. Metaphors in SLA through media discourse

Linguistic strategies used in media discourse can be employed to implement the acquisition of metaphors, expanding and improving communication. As seen above, the metaphor is present in different media channels. In this sense, there are few studies that support that metaphor learning in second language acquisition can be achieved through the media although in informal learning (Li, 2017). MacLennan (1991) showed a negative result regarding learning English in general and English metaphors from the media due to lack of use in an SLA context. The outcome revealed that although his Hong Kong students were asked to identify metaphors in media such as radio, newspapers, and TV, (the Internet was not relevant in those times), EFL learners failed to provide the correct meaning in most cases (pp. 1). Since 1991, things in second language teaching and learning have changed and media is now used for language learning (Blake, 2013), but not for the

acquisition of the metaphorical component of the language, as it is still a pending subject in the curricula.

On the other hand, the following study (Catalano & Moellers, 2013) is based on the monolingual and multilingual population of the USA where 20.8% speak a language other than English in their homes (pp. 165). However, the findings reveal that monolingual discourses expressed through the media (Radio, Newspapers, Internet, TV) and hinged solely on the English language, are riddled with war metaphors that are built on a sense of violence and heroism. Regarding the educational system, the media refers to bilingual programmes with metaphors that portray trap, segregation, failure and industry, in contrast to English in immersion programmes that project success and gift. In other words, it is through the media that “a paradox (is found) between the value placed on foreign language instruction in the US schools and the simultaneously devaluing of those same “foreign language” among indigenous and immigrant minorities (Catalano & Moellers, 2013, pp. 165-166).

Finally, one of the best media channels that reflect metaphorical expressions is music through song lyrics. Thus, metaphors in SLA can be instructed through the analysis of the metaphorical component of the lyrics, that picture emotional issues about all sorts of subjects. Indications of findings from diverse research on music (Arleo, 2000; Fonseca-Mora et al., 2011; Israel, 2013) shed light on knowledge of notions of musical aptitude that can strengthen metaphorical comprehension in class in two ways: first, music is accessible to L2/ESP learners, and, secondly, contemporary songs reflect contemporary issues.

4.3. Music and musical aptitude

Music is defined as “the product of the behaviour of human groups, whether formal or informal: it is humanly organized sound” (Blaking, 1973, p. 10). Besides, other scholars associate music with “an act of intentional construction (...). There is purpose and finality to it” (Arom, 2000, p. 27); and with rhythm and tempo which are “two aspects of the temporal patterning of sound” (McAuley, 2010, p. 165),

whose definition is encompassed by the term musical communication. Furthermore, “Music is sounds temporarily organized by a person for the purpose of enriching or intensifying experience through active engagement” (Levinson, 2017). A vivid testimony of Plato from the 5th century B.C. and collected in modern neuroscience studies on the power of music for teaching and learning (Rouse, 2013), says:

Music is a moral law. It gives soul to the universe, wings to the mind, flight to the imagination, a charm to sadness, gaiety and life to everything. It is the essence of order, and leads to all that is good and just and beautiful.

(Wordsworth Dictionary of Musical Quotations, 1991, p. 45)

On another account, musical aptitude can be defined as “auditory structured ability” (Karma, 2007), whose components are perception, and musicality, among others, understood as the ability “to understand and perceive rhythm, pitch, timbre, tone duration, and formal structure in music” (Oikkonen & Järvelä, 2014) or musicality predicated on musical talent or sensitivity. Musical training is another area intertwined with the above. Hence, the concept of musical aptitude is disclosed as possessing structural and acoustical similarities, allying speech, and music, and initiating a relationship with linguistic abilities that includes the learning of a second language (Milovanov, 2009).

Throughout the course of human history, the significance of music across various societies has been indisputable. It has been noted that even prior to birth, “babies commence exposure to melodic stimuli within the confines of their mother’s womb” (Fonseca-Mora et al., 2011, p. 101). Neuroscientific research draws attention to the discovery that the foetus displays some interaction with specific stimuli in the form of movement which implies that sound received from the outside world affects the brain being formed inside the uterus (Tomatis & Keeping, 2005). That is, those babies “show some appreciation to music when exposed to it” (Mashayekh & Hashemi, 2011, p. 2188).

Thus, music can be used for a variety of purposes. Music can be a relaxing source (Degrave, 2019) throughout our lives as each of us feels the vibe with a particular music style that is used to unwind; even Punk and Techno are de-stressing for some. Hence, defusing stressful situations in a humanly emotional context could be attained with the use of different types of music aimed at specific populations in particular circumstances, such as Air Traffic Controllers. Lesiuk's (2008) experiment, which was conducted during fifteen-minute-breaks in the controllers' eight-hour shifts, demonstrated that the effect of preferred music listening had a positive outcome in reducing stress levels. Throughout this continuum, "music therapy is a non-invasive, safe, structured and organized technique to reduce stress" (Hatwar & Gawande, 2020, p. 405). The levels of anxiety and stress decrease when the listeners/ learners enjoy a musical experience in their personal and professional life through exposure to music.

When "soon after birth we hear our first melodies as our mothers hum soothing lullabies to help us sleep" (Mashayekh & Hashemi, 2011, p. 2187), those lullabies are ascribed a greater significance than simple nursery songs; instead, they accomplish a linguistic mission of instructing babies into setting musical patterns to words whether consciously or not. Humans are therefore being trained for language from birth, developing auditory skills in the first place. It is also believed that the "rhythm (of music) can make the words memorable" (Salcedo, 2010, p. 19) facilitating the assimilation of language, including L2 vocabulary, imitated together with short rhythm patterns (Gillece, 2006). It is even more revealing that the provision of parental and caretaker speech is the natural intersection between music and language (Fonseca-Mora et al, 2011). Parents and custodians modify their intonation when addressing their offspring and pupils respectively, using a soft and very specifically melodic tone of voice (Blount, 1990; Hope, 2007; Whyatt, 1995) and whose intonation is closely related to speech melodies,

Moreover, neuroscientists (Magne et al, 2006) reached the conclusion that musical training can improve cognition in other areas, including language, that has been noted by the educational system in the recent past. In terms of language learning, beginners master rhythm imitation and the musical contours of the L1 language before they can speak, a principle that also works for EFL learners,

because “sounds are the roots of both music and speech” (Fonseca-Mora, 2000, p. 146). In addition, Weinberger (2004) affirms that the pattern of a melody matters in the study of contours. A contour is the pattern of rising and falling pitches which is the basis for all melodies. This correlates with brain responses that may be positively altered by the experience and training of the listener, even little training. In this sense, the study points to believe that “cell tuning might be altered during learning so that certain cells become extra sensitive to sounds to attract attention and are stored in memory” (pp. 93) concluding that “music engages many areas distributed throughout the brain, including those that are normally involved in other kinds of cognition” (Weinberger, 2004, p. 88); namely, music positively affects the brain (Zhang, 2020) and influences different cognitive areas, helping to develop cognition in general, and memory.

Magne et al., (2006) carried out diverse experiments showing that young children can process pitch in music and language after training. The experiment was based on contrasting the pitch discrimination abilities of the participants who were divided into two groups, those with musical training and those without. The results indicate that music facilitates pitch discrimination in language, but also that pitch processing in music occurs first, which results in a “positive transfer effects from music to language” (pp. 199). This constructive outcome also extends to adults, who possess the “capacity to recognise and reproduce learnt melodies, words, poetry, and songs” (Besson & Schön, 2001, p. 235) in which paradigm, memory intervenes. In addition, there appears to be a correlation uniting pitch discrimination and performance in a foreign language; *scilicet*, a relationship can be established between the musical elements and the ability to spell and read English through the acquisition of audio-lingual skills (Blickenstaff, 1963).

In this light, the connection with respect to first and second language learning share similar characteristics. The interdependence of L1 and L2 also encompasses the modulation of speech, the use of easier words and the constant repetition of the same utterances to make language acquisition more accessible, creating an affectively positive environment (Arnold & Fonseca-Mora, 2007). In this regard, teachers’ discourses stage the same strategy, exaggerating the pronunciation of words in a musical way. On the other hand, singing or speaking

the lyrics, which is an activity that combines both linguistic and musical information (Fonseca-Mora et al, 2011; Toscano-Fuentes & Fonseca-Mora, 2012), also understood as spoken songs, is now accepted as a valuable pedagogical tool to teach foreign languages (Millington, 2011). The introduction of songs may induce to an external or internal mental repetition, broadly singing, that will prompt language acquisition. Notoriously advantageous to activate the phenomenon of “song stuck in my head” (SSIMH), an involuntary mental rehearsal or “din” which is a mental occurrence and repetition of new information whose control is not with the speaker, is to sing the lyrics from memory or from a written form, like a text, at the same time as it is played, which helps students to memorize whole phrase constructions (Salcedo, 2010).

Moreover, it is relevant to discuss the causality that establishes the relationship among linguistic competence, working memory and even intelligence. The relationship that links intelligence and the pairing of L1 and L2 languages places the former, L1, as a variable to measure linguistic achievements in a musical contour. Gardner (1993) already included musical intelligence in his theory of Multiple Intelligences. The scholar suggests that all individuals possess musical intelligence. Musical intelligence, which is the ability to perceive, distinguish, transform, and express sounds and musical forms, (Gardner, 1993) is related to musical aptitude, the ability to intuitively learn or appreciate music. In terms of the students’ musical intelligence that can be applied in the second language classroom, the educators can then use music as a teaching tool (Salcedo, 2010; Piri, 2018).

Accordingly, the connection between music and language ability, specifically between musical aptitude and second language aptitude (Gillece, 2006) is the turning point in which music serves as a media discourse in ESP.

4.3.1. Musical experience and language learning

Musical experience engagement occurs when we listen to music, move to the rhythm of music, or sing, compose and play whether in formal contexts such as learning centres or informal settings at home, among others. While provision of

musical experiences is high on students since music channels are within reach, then “Musical experience can be transferred across domains to second language acquisition” (Deng et al., 2023, p. 2040). In this regard, musical experience connects with the aforementioned musical aptitude and the teaching and learning of a second language, since any way of experiencing music can hone comprehension, perception and retention of new vocabulary, seen in the previous section, as well as improving speaking skills (Fernández-García & Fonseca-Mora, 2019).

Today, different studies bridge musical aptitude and second language learning improvement (Fonseca-Mora et al, 2015; Foncubierta et al, 2020). The development of linguistic aptitude with the aid of music favours the learning of a foreign language (Toscano-Fuentes & Fonseca-Mora, 2012). The existing literature on singing as an instrumental tool for foreign language learning focuses particularly on “experimental evidence that singing can facilitate short-term paired-associate phrase learning in an unfamiliar language” (Ludke et al, 2014, p. 41). In other words, when media such as music contributes to listening to a song in a foreign language, and to singing and repeating the song in class or outside of it, the SSIMH phenomenon occurs (Murphey 1990).

Ludke et al. (2014) tested native English speakers in learning Hungarian, a language totally different from Germanic or Romance languages, and whose participants had no notions of it. Participants were divided into three groups and randomly assigned to one of three learning conditions: speaking, rhythmically speaking, and singing. Speaking consisted of listening to and repeating 20 English expressions and their correlates in Hungarian projected on the board; then, rhythmically speaking was based on listening to the English expressions one after the other once and to the Hungarian expression twice, and then repeating those; and finally, singing those utterances. Once these sessions, which lasted 15 minutes, were finished, the participants had to perform some exercises. The findings shed light on the effectiveness of singing compared to the other two variants. The conclusion of the experiment pointed to a development of verbatim memory (Ludke et al, 2014) in which the learner retains exact words and whole expressions, developing the auditory capacity and improving word articulation (Fonseca-Mora et al, 2011) which is related to musical aptitude.

Additionally, the aforementioned musical aptitude is hinged on four musical structures such as tuning, melody, accent, and tempo that are trained and measured through a discrimination process in an experimental study (Foncubierta et al, 2020, p. 5). This process consists of subtests administered to each participant to distinguish different scales of stimuli. The refinement of the training of these four musical structures will aid ELL to perform reading in a developmental phase due to the phonological awareness and music perception skills (Anvari et al, 2002) in the first or second language at any level. Besides, this pedagogy also fulfils the attachment of songs with language processing, improving reading skills in the case of written song lyrics (Iwasaki et al, 2013).

Inferences from studies that compare the rapprochement of musical aptitude to second language learning in adults suggest that many different variants exist, such as age of L2 immersion, patterns of language use and exposure, and phonological short-term memory (Slevc & Miyake, 2006) that explain individual differences in L2 ability that should be considered. Holmes (1954) affirms that “a cluster of musical elements underlies individual differences in spelling ability and the ability to make phonetic associations” (pp. 329). Scilicet, the ability to satisfactorily spell or read in English falls into the phonetic associations that lies within the musical scope related to the visual, auditory, and kinaesthetic areas. These areas take different elements into account, such as melody, rhythm, and memory, but also individual competences like age, and intelligence (Karlin, 1942).

In this view, to build a positive rapport between music and language, sound processing is one of a series of characteristics they have in common. Juslin and Sloboda's (2013) research conclude that music without lyrics conveys a message by evoking emotions in the hearers, while, language, conveys a much more precise message. In addition, music accompanied by lyrics, that is music in songs, is inspirational and it contributes with structuring properties in the process of learning a new language (Schön et al, 2008). Thus, despite not having musical training, a melodic approach can be employed in students for language learning through a modified auditory input (Fonseca-Mora, 2000),

For the purpose of clarity, allusion to music in this investigation refers to song lyrics, an oral and verbal language accompanied with a “melody (...) (which) seems to act as a path or a cue to evoke the precise information we are trying to retrieve” (Fonseca-Mora, 2000, p. 150). Thus, through a melodic approach, the analysis of a musical experience would indicate the values that contemporary songs such as pop, rock, rap, hip hop, Rhythm & Blues, and many more (Israel, 2013) transmit through the subliminal messages channelled through the lyrics (Boothe & West, 2015) by highlighting thoughts, beliefs, and life perspectives to which the audience are frequently exposed.

Accordingly, the brain processes music abilities, and this is shared by musicians and non-musicians, (Peretz & Zatore, 2005). Multiple investigations affirm on the one hand that young participants demonstrate their inclination to learn the subject material more effectively through music (Medina, 1990); and on the other hand, a survey administered to language teachers shed light on their acceptability to teach a class with the help of music and songs (Engh, 2013). Thus, music becomes a linguistic motivation engine for both. Therewithal, in an effort to identify opportunities that involve music and learning, various ways of shaping language skills for a musical setting are considered below among others:

- 1- listening regarded as the enjoyment of music in which the Contemporary Music Approach (CMA) (Anton, 1990) is introduced.
- 2- reading with song lyrics considered as a text.
- 3- speaking with respect to practising an optimum pronunciation of separate words, whole sentences, and phrasal expressions, by repetition of the song; in this context, the students sing at the same time, and experience the song-stuck-in-my-head phenomenon (Morphey, 1990).
- 4- writing as the culminating activity to demonstrate the abilities acquired in the musical experience.

Regarding speaking, grassroots evidence indicates that pronunciation skills ameliorate when musical aptitude intervenes in the linguistic endeavour (Milonavov, 2009). In this facet, phonological aptitude is determinant to

discriminate sounds in general, including L2 sound structure. In consequence, when phonological aptitude is reinforced by musical aptitude, those individuals who possess a sharpened musical aptitude are capable of distinguishing sounds with greater ease and with optimal quality. When this phonological ability is extrapolated to L2 language skills, it is seen that the L2 sounds from musical stimuli serve as an important influence on ELLs, who can then perceive and produce L2 sounds at a better level and to a successful extent (Slevc & Miyake, 2006).

To conclude, what is conveyed in this section is that musical aptitude functions as a knock-on effect on language learners' performance (Mashayekh & Hashemian, 2011). By reason of having musical aptitude, the training of "musical skills may facilitate the acquisition of L2 sound structure" (Oikkonen & Järvelä, 2014, p. 675). Finally, bespoke trends show that the analysis of song texts, that is lyrics, can provide more data.

4.4. Methodological approaches in the ESP classroom to musical media

Music has been deemed so important that a musical performance such as dancing to the rhythm of a marked musical pattern, be it a string, wind, or percussion instrument, was depicted in ancient Egyptian hieroglyphics, where the Goddess Hathor was associated with music². Seemingly, the ancient Greeks applied music in religious festivals, marriages, funeral rites, and banquet gatherings³. In this vein, Middle Age troubadours made use of rhapsodes to transmit the news to the citizens accompanied by the rhythm of a stick hitting the ground to mark the pace of the discourse⁴. It was through music that the news passed from the rulers to the subjects (Appendix A). It could be said that there was an interconnection between music and language.

In the literature, music has been associated with learning. The interplay of these dynamics, music and learning, results in a novel conception in which "scientists have also discovered that learning to read music or play a musical

² Source from World History Encyclopaedia

³ Source from Heilbrunn Timeline of Art History

⁴ See Appendix A for samples of musical pictures from ancient Egypt, ancient Greece, and the Middle Ages

instrument develops higher thinking skills” (Mashayekh & Hashemi, 2011, p. 2187). The reason seems to lie in the activation of cognitive processes in music that influence the development of other cognitive domains such as language. Patel (2011) suggests that neural encoding of speech benefits from musical training due to adaptive plasticity in speech processing networks when five conditions are met: the OPERA hypothesis, consisting of: Overlap, Precision, Emotion, Repetition, and Attention. What is more, Boothe and West’s research (2015) concludes that music increases learning abilities thanks to “rhythmic patterns that stimulates brain activity and encourage imagination” (pp. 249), as well as motivation.

As a consequence, language serves as an instrument for “communicative verbal interaction” (Fonseca-Mora, 2000, p. 147) or communication. There has been a growing interest over time in investigating the connection between music and language learning (Salcedo, 2010), including foreign language learning. Sounds in music and language can be connected, as: “musicality of speech has an effect not only on the pronunciation skills of EFL students but also on the entire language acquisition process” (Fonseca-Mora, 2000, p. 146). This interpretation propitiated the creation of the Contemporary Music Approach (CMA) (Anton, 1990) predicated on a musical experience in the FL classroom. The priority goal of CMA is to use contemporary songs, so that the students are encouraged to learn a foreign language by means of music as a motivating element.

More importantly, “music is an effective tool to make foreign language learning extremely effective” (Linh et al, 2020, p. 5453). In his study, Arleo (2000) presents the benefits of a musical experience in the foreign language classroom, using music and songs to nurture the connection between culture and cognition which contributes to effective learning. “Music is a unique resource for language learning because of its recursive nature and the extensive cultural and linguistic information it contains” (Coats, 2016, p. 1).

As early as in the decade of the 60s, academics already highlighted the potential of music in the teaching of modern languages, enthusiastically recommended by committed teachers (Bartle, 1962). Coe (1972) advised and wondered why there were “no controlled experiments to prove the effectiveness of

songs in the FL classroom” (Coe, 1972, p. 357). Hence, gradually songs gained importance as linguistic instruments to provide teachers with materials in class, such as song lyrics to prepare activities for vocabulary acquisition, and to teach listening, reading, and writings skills (Griffe, 1992) in which songs were already considered as ludic devices with didactic value (Medina, 1990).

The use of songs in the second language classroom is a language teaching technique that provides a melodic approach, that is a natural exposure, to native language through which students improve their pronunciation skills (Fonseca-Mora, 2000). This melodic approach can be empowered by the teacher “to interpret song lyrics as a means of looking for patterns” (Coats, 2016, p. 4), in which context-based listening skills will be reinforced (Hadian, 2015). The input of English songs broadcasted by the music channels is particularly relevant in the SLA ESP course. In this fashion, students learn to perceive native English pronunciation in a natural occurrence (Salcedo, 2010) from at least two different English-speaking countries, the United Kingdom and the United States, where the musical entrepreneurial schemes are very powerful.

Duly, much attention has been paid to musical training since it also affects the learning of a second language due to several features: “training on a musical instrument is associated with improvements in working memory and musical pitch perception ability” (Posedel et al, 2012, p 508). However, non-professional development of musical skills by listeners without musical training advocates as non-professional training, which translates into simple listening to music by young people, including university undergraduates in their spare time.

One of the issues that emerges from research carried out on the link between music and language in the EFL classroom is the pervasive power of sound that channels into a modified auditory input that is made of “auditory units (that) contain syllables where the rhythm of stressed and unstressed vowels conforms to the musical pattern of a word” (Fonseca-Mora, 2000, p. 149) as one of the cutting-edge approaches to language teaching.

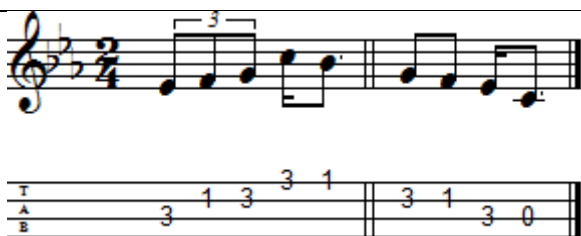
While research has made some inroads in recent years in improving different areas of music, averting dull and superficial unemotional compositions that failed to inspire students (Budiansky & Foley, 2005), as part of the general training for didactic purposes in the classroom, a notion called integrated memory representation (Serafine, et al., 1986) presents an explanation of the dichotomy of melody and lyrics in songs. In this sense, the song lyrics are texts accompanied by a melody, expressly, a tune which is a sequence of single notes in a musical context.

In the fullness of time, “the melody and rhythm of songs makes them easy to learn and easy to remember” (Iwasaki et al, 2013, p. 138) increasing vocabulary. As shown in table 4.1. below, the memory representation for songs is activated, unlike a spoken speech with background music, and triggers the integration effect (Serafine et al, 1984) where the melody is recognised by the brain and the brain remembers the text that accompanied the melody. The melody serves as the trigger to recall the lyrics learnt from songs, or song texts, and therefore sentence structures, vocabulary, and grammar elements.

In the Coca-Cola and McDonalds ads (Anton, 1990), the power of music makes the audience remember the slogans of these brands. In *It's the real thing* from Cola-Cola, or as it was translated into Spanish *La chispa de la vida* from 1970, its broadcast lasted for 20 years, and *I'm lovin' it* from McDonalds was broadcasted for 11. Even after years without exposure, the brain automatically pulls out the melody just by reading the lines and remembers the lines just by hearing the tune. Subsequently, the song-stuck-in-my-head phenomenon (SSIMH) follows (Table 4.1).

On the other hand, rhythm can also be taught in the English language classroom since by exaggerating the rhythm the intonation becomes more musical (Fonseca-Mora, 2000) so that the utterances take on a musical feel (Thain, 2010) and the speech sounds almost like a song. This helps learners to retain new vocabulary, grammar points, and polish pronunciation. As may be observed, melody becomes a powerful musical tool to singing songs that will recall specific information processed in the working memory.

Table 4.1. Integration effect (Serafine et al, 1984)

Coca Cola Ad <i>It's the real thing</i>	I'd like to buy the world a home And furnish it with love Grow apple tress and honey bees And snow white turtle doves I'd like to teach the world to sing In perfect harmony I'd like to buy the world a Coke And keep it company It's the real thing What the world wants today It's the real thing Coca Cola (background)
	https://youtu.be/cZnAuhs41lA
MdDonalds Ad <i>I'm lovin' it</i>	 https://youtu.be/gLaxvIJzATs

Nowadays, a musical experience in the classroom conveys a new methodology for second language learning since “the role of music in learning can be described in terms of enhancement of social harmony, motivation force, and tool for learning” (Mashayekh & Hashemi, 2011, p. 2188). Teaching methods may include learning to read music, learning to sing, or simply listening to a tune in L2 to catch the lyrics.

Preferred music listening enhances learner commitment (Saricoban & Metin, 2000). In addition, listening to a tune and the subsequent repetition of the song lyrics motivated by a catchy rhythmic pattern is an important element in achieving a mental rehearsal that will facilitate the second language learning (Good et al., 2015)). SLLs tend to repeat the sounds as they hear them in songs, because songs have a natural rhythm with a recurring beat that prevents boredom

(Millington, 2011). At the same time, a discursive analysis of the song lyrics can be performed in which many different linguistic features will be analysed.

Comparably, intonation and rhythm are determining factors that make songs a linguistic tool to develop listening skills (Millington, 2011). Each song provides students with a unique melody, and it is this melody that helps the lyrics to trigger memory in the brain (Murphey, 1990), hence the aforementioned ads for Coca Cola and McDonalds. Regarding the song lyrics, it must be noted that English has a stress-timed rhythm (Millington, 2011), which means that stressed syllables are said at regular intervals, which implies that songs in English create a binding feeling, and thus an attraction.

Similarly, “creative listening is (...) as fundamental to music as it is to language” (Blacking, 1973, p. 10). There appears to be mastery skills for honing an effective learning strategy when listening to a speech, dialogue, or song in a second or foreign language (Arleo, 2000) that are deemed essential for successful language learning, since information and knowledge are acquired through listening (Hadian, 2015). On top of that, “songs encode cultural meanings, inspiration, and worldviews” (Mashayekh & Hashemi, 2011, p. 2189), and “learning to listen for changes in pitch in music may promote the ability to sound out new words” (Salcedo, 2010, p. 20).

Moreover, listening is an important capability of social interactions (Hsu et al, 2013) through which subliminal messages are passed on from one culture to another (Fonseca-Mora & Camacho-Díaz, 2021). To this end, active listening is overtly encouraged in the SLA course. For this reason, active listening skills have been studied in successful university students to identify the strategies they use; these are cognitive, affective and psychomotor-based, with the finality of application on other students (Canpolat et al, 2015). This pro-active listening skill in the classroom is called “Educative listening (that) promotes students’ thinking and learning” (English, 2009, p. 69).

Astoundingly, a musical experiment (Schön et al, 2008) with children in the second language classroom reported that after only a very short period of seven

minutes in which a song was played repeatedly in class, the learners could differentiate word boundaries, as opposed to a flat discourse without melody. The grounds are syllable sequences from which words are extracted from continuous speech due to musical stimuli within the learning mechanism of statistical properties (Saffran et al, 1999). Thereupon, melody is a source of “sequential information, line and syllable length information, chunk linking, and rhythmical information” (Salcedo, 2010, p. 22) which supports the ease with which songs are remembered. This way students’ language acquisition level improves with the repetitive lyrics in songs since the more the students repeat the pattern the better the new auditory information is processed using their working memories (Fonseca-Mora, 2000) that “leads to naturally use the target language” (Tse, 2015, p. 88).

Furthermore, listening techniques in the classroom, such as brainstorming activities, add a hook to attract students’ attention (English, 2009; Horn, 2007; Li & Brand, 2009) that also works when dealing with music or songs. With this methodology, interruptions are welcome to introduce the peers’ opinions in English in an ELL course. Thereby, the desired result of improving communicative competence in L2 through the interplay between music and language by way of listening skills (Horn, 2007) is accomplished.

While singing a perceived tune is natural, it also addresses the speaking skill by considering “singing as warm-up for the task of speaking” (Thain, 2010, p. 413). Because of this, music-based instruction stimulates learners to express themselves (Mobbs & Cuyul, 2018). In this sense, singing in the ELL classroom empowers classmates to practice pronunciation (Arleo, 2000) and accent in English. This process will lead to acquiring much better elocution (Linh et al, 2020) as pitch perception and repetition rate help to improve pronunciation in a foreign language (Posedel et al, 2012).

Ultimately, different experiments do reveal that “90.2% of teachers perceive songs as important in promoting listening skills” (Tse, 2015, p. 88). Listening to native songs in the second or foreign language helps students to adapt the prosodic features, such as rhythm, stress, and intonation to that of the L2 language, that Parker (2000) calls pedagogy of pronunciation. That is, learners

perceive the way in which not just individual words but whole sentences are pronounced so that they imitate it, maturing cognitive processes in the brain (Pastuszek-Lipinska, 2008).

Therewithal, the fusion of innovative learning and music returns the result of new learning strategies in the SLA course to engage learners in active participation in class using songs that can improve listening comprehension due to the learning of the rhythm of a given language (Mobbs & Cuyul, 2018). Thusly, listening and learning are in symbiosis. Vocabulary learning through listening to songs (Li & Brand, 2009) is associated with effective learning within a musical experience (Arleo, 2000) in the classroom.

4.4.1. Analysis of a cultural product that contains metaphors: contemporary songs

Particularly striking is the presence of metaphors in songs, songs that are considered literary texts. The composition of these texts is called songwriting. Hence, songwriting is the process in which the songwriters express their emotions; and singing (on stage) is the means of exposing the songs to the audience with the intention of seeking an effect, that of promoting an attraction towards their songs, since the competition on music channels and awards is fierce.

Allusion to the songwriting process is affected by an array of factors in which not only creativity matters, but also the learning task with its different constituents, such as attention, memory, language, the organization of thought, and higher order thinking regardless of the topic, scilicet, inspiration. These characteristics are intertwined with emotions, behaviour, social skills, and the entire cultural background behind songwriters. It is the immersive environment that provides them with the quintessential artistry to engage in the art of metaphor production in the undertaking of songwriting within the music industry (Table 4.2).

Table 4.2 Metaphorical compositions extracted from song lyrics (own creation)

Conceptual metaphor	<i>Two became one, But the foundation was weak; And when it cracked It couldn't be fixed</i>
Novel metaphor	<i>Entregarlo todo y quedarme con cero Por sumarle aniversarios a un amor Que siempre será pasajero “Give everything and keep nothing, For adding anniversaries to a love That will always be temporary”</i>

As metaphors appear in different types of musical genres, such as pop, rap, rock, reggaeton, and many more, the definition of metaphor in music is modelled from the lyrics of the songs, where an important corpus of metaphors is present (Table 4.3).

Table 4.3. Samples of metaphors in song lyrics (own creation)

Metaphors	Song title and singer
<i>Erase all the vibes Leave the memories out to dry Delete forever No archive</i>	<i>Me & Ur Ghost</i> by Blackbear
<i>A veces soy candela “Sometimes I’m fire”</i>	<i>Mala Santa</i> by Becky G
<i>Cómo va a salpicarme la vida Si salto los charcos “How is life going to splash at me If I jump over the puddles</i>	<i>Casi</i> by Melendi
<i>And life is moving so fast I feel like everything’s changing But when we kiss I feel a jump in my heart The same feeling that I felt from the start</i>	<i>Chills</i> by Why don’t we

The former songs highlight the metaphorical mannerism of Western countries, just as other countries shed light on different types of metaphors such as modern Thai love songs *Every day I learn to read your heart* (Ngamjitwongsakul, 2005); or the use of metaphors in new generation Kiswahili-language songs from

Tanzania that focus on HIV/AIDS, gender inequality, and the role of women (Jilala, 2008).

With the provision of analysing the song lyrics, the social, economic, and political background of the composer usually emerges. Moreover, the songwriters' country of origin determine the culture-bound metaphors with which they use to express their emotions, feelings, ideas, ideals, and beliefs. Nonetheless, there are universal themes that are present most likely in the repertoire of all singers, such as *love* which is an important emotion for all of us, including songwriters (Ngamjitwongsakul, 2005); and as such there is a culture of lovers' duel (Arias-Patiño, 2020) that affirms that love is frequently channelled through heartbreak-love stories.

In this light, there is also a growing body of literature that recognises the importance of studying the influence of commercial songs on the audience. Illescas (2015) and Sánchez-Vizcaino and Fonseca-Mora (2019) analyse the contemporary video clips to support the assumption that they have a strong and powerful impact on young people where values and ideology are at stake.

On the other hand, metaphors in song lyrics had hardly been studied before the turn of the century. It is only in recent years that academic literature on this subject has been found. Song lyrics have been analysed in a varied corpus of studies that reinforce different purposes, such as the power of the lyrics in tango musical style (García-Olivares, 2007) or Simon & Garfunkel's song title *Bridge over Troubled Water* which reflects a metaphorical expression, meaning: "looking sad staring down at a flowing river" (Lehtonen, 2005) used by medical patients to reflect their ordeal in a life-threatening situation where metaphors evoke their most meaningful life experiences in their past lives. Therewithal, single songs have been treated as linguistic instruments for different purposes, as the song title *Rabiosa*, by Shakira, which contains a metaphor that denotes sexual arousal in Colombia but not in Spain, and thus it can be used to differentiate the cultural aspects of these two countries through the metaphorical component of language.

Moreover, the presence of metaphors in contemporary songs serves as a social re-vindicative tool by songwriters such as U2 (Hidalgo-Downing & Filardo-Llamas, 2020). One of the few examples that can be presented is the metaphorical analysis of three songs of this pop group regarding the Northern Ireland conflict, of a recent past era, mentioned earlier. Hidalgo-Downing and Filardo-Llamas (2020) affirm that “Metaphors in songs, (...), play crucial roles both in the shaping of ideologies and in the potential to evoke emotions and action in audiences” (pp.71-72).

On a different note, in cognitive linguistics, it is becoming extremely difficult to ignore the importance of metaphors in song lyrics, since the purpose of singing songs is to convey emotions, ideas, ideals, and beliefs so “a metaphor acts like a frame which is a discursive device” (Montagut & Moragas-Fernández, 2020, p. 71). It is only in recent years that some linguists as for example Manabe (2006) have begun to explore the field of metaphors in contemporary songs.

The reasons why songs are so influential, and therefore potentially menacing for society lie in the messages encrypted in the lyrics wrapped in a catchy rhythm that inspires feelings and emotions, whether positive or negative. As communication is often framed in transnational contexts (Márquez-Reiter & Hidalgo-Downing, 2020) as in the case of contemporary songs, the public can be inveigled by certain cultural aspects, often disguised as metaphors, not seen in their native culture.

In this respect, when singers sing songs, they are influencing the audience. On that account, it can be said that song lyrics can be an interesting pedagogical instrument in the SLA classroom since they “encourage and increase cognitive learning by integrating multiple dimensions that will “engage students” (Boothe & West, 2015, p. 250). What is more, subliminal messages conveyed through metaphors in contemporary songs could influence their development of critical thinking, through which the meaning of the metaphorical component of the songs will permeate their knowledge, strengthening their communicative skills, including the acquisition of metaphorical awareness.

Harmon (2012) explains that the meaning of Bob Dylan's song lyrics is deeply veiled by metaphors that lead to different interpretations by different academics. When merged, that is music rhythm and lyrics, songs become influential. Hence, influential songs like Bob Dylan's may have contributed to the increase in interest in analysing song lyrics. Accordingly, Bob Dylan was awarded the Nobel Prize in Literature in 2016 for his poetic elaboration of the lyrics of his songs, since "a song is poetry set to motion" (Israel, 2013, p. 1360). A description of Dylan's talent is expressed as follows:

And if intercepted by another human being, the language in both poems and songs is often so full of metaphors and imagery that its meaning is veiled and subject to an infinite number of interpretations.

(Harmon 2012, p. 1299)

In view of this, songs provide authentic experiences and a linguistic source from which students can extract new vocabulary including metaphors and/or metaphorical expressions (Fonseca-Mora & Camacho-Díaz, 2021), phrasal verbs (Akbari et al, 2018) and different models in pronunciation teaching (Brown, 1991) through the use of songs (Castelo, 2018; Lengkoan, 2017). Music supports song lyrics with a rhythmic pattern that is an enlivening factor (Saricoban & Metin, 2000) thanks to which the songs, classified as linguistic elements, have a significant repeated exposure.

Throughout this continuum, provision of examples of contemporary songs can be emphasized by the analysis of metaphors. Correspondingly, analysing the metaphorical data of song lyrics reflects on the suitability of employing music, that is contemporary songs, to foster metaphorical awareness (MA) in L2. Table 4.4 presents specific cultural and linguistic features in song samples of both Spanish and English language. This dichotomy establishes the importance of L1 and L2.

Table 4.4. Metaphorical samples to envisage metaphorical awareness (own creation)

<i>Tabú</i> by Pablo Alborán	<i>Si no queda amor Dime qué siento entre el pecho y la alas</i> “if there is no love left, tell me what I feel between my chest and my wings”	Linguistic expression that can be used in ESP class to foster metaphorical awareness in Spanish as L1
<i>Don't start now</i> by Dua Lipa	<i>Though it took some time to survive you I'm better on the other side</i>	Linguistic expression that can be used in ESP class to develop metaphorical awareness in English as L2

Ultimately, a musical experience in the ESP classroom highlights an in-depth study of song lyrics in an L2 context in which the metaphorical expressions of song samples could positively alter students' metaphorical awareness. Hence, contemporary songs could serve as a discursive genre to foster metaphorical awareness through musical experiences.

4.4.2. Contemporary songs as a discursive genre

The relationship between musical experience and metaphorical awareness could be achieved with further pedagogical advancement through the discursive analysis of song lyrics focusing on metaphors; hence, idioms can be taught through songs (Boothe & West, 2000). In the first place, singing in a foreign language allows students to “tune in with the target language so that initial stage of language and cultural shock can be avoided” (Mashayekh & Hashami, 2011, p. 2189). Additionally, in a post-stage of preferred music listening, a spoken discursive perusal will channel an in-depth analysis of the culture of the song lyrics that will reveal a musical exposure to cultural awareness (Posedel et al, 2012).

Bourkaib and Merrouche's (2015) research involves improving students' level of cultural awareness by concentrating on metaphor comprehension through the use of songs in the EFL class. From this point of view, a main factor is

considered, that of learners' "perception of the role of culture in foreign language teaching and learning" (pp. 1). Hence, examining the metaphorical elements present in song lyrics in the L2 classroom can achieve the implementation of metaphorical awareness through learning culture.

It has become commonplace to distinguish two different bodies of literature regarding metaphors in songs in the last two decades: studies that analyse the metaphors in the lyrics of the songs (Claramonte-López, 2021; Denis, 2007; Hagen, 2016; Harpela, 2015; Kennedy, 2013; Lehtonen, 2005; Llicevic, 2020; Mercer, 1993; Peltola & Saresma, 2014; Zyga 2020), and studies that use metaphors to develop metaphorical competence in the second language classroom (Aydin, 2017; Caballero-Rodríguez, 2014; Gutiérrez-Pérez, 2018; Kathpalia & Carmel, 2011; Samburskiy, 2020; Weinrauch, 2005), among others.

On account of the former, Adam (2017) hinged his experiment on the song *Titanium* to gather data on the tutees' conceptual fluency. He states that conceptual thought is to be fundamental when interpreting the metaphors found in the song lyrics; thus by, "an understanding and comprehension to the concept and characteristics of source domain will help participant to interpret and comprehend metaphor (...) good strategy in teaching metaphor to students" (pp. 35). Scilicet, fostering metaphorical awareness.

In this manner, within the studies that support the metaphorical component of language, there are works that analyse metaphors in a specific musical style (Denis, 2007; Kennedy, 2013); others whose focal point is a particular type of metaphor in music in general from an artist (Lehtonen, 2005; Llicevic, 2020; Peltola & Saresma, 2014) and even a particular song (Harpela, 2015; Mercer, 1993); and lastly, scholars who study metaphors in a specific context for a given purpose (Claramonte-López, 2020; Hagen, 2016; Weinrauch, 2005; Zyga 2019), including the development of metaphorical awareness (Adam, 2017; Bourkaib & Merrouche, 2015; Cardoso & Vieira, 2006; Sawettanun & Keawduangsang, 2018), as seen above.

Sawettanun and Keawduangsang's (2018) point out that there is a scarcity of research on metaphorical awareness, resulting in the omission of metaphor in language education, which becomes a major disadvantage for EFL learners. In cases like this, students' inability to decipher the meaning of the metaphors encountered causes a handicap in their communicative competence in L2 language. The findings of this study were compiled from metaphorical exercises based on contemporary songs to demonstrate that metaphorical awareness can be raised through the analysis of song lyrics "to broaden (...) students' knowledge and understanding of the situation, culture and language reflected in English contemporary songs" (pp. 114).

Nevertheless, despite the literature researched on the effects of contemporary songs in the SLA course, such as Cardoso and Viera's (2006) approach that works on the process of co-construction of meanings of metaphorical expressions in song lyrics, musical experiences in the ESP classroom have yet to be standardized. By reinforcing the strategy of discussing metaphorical possibilities to correctly understand metaphors in songs (Cardoso & Vieira's, 2006), contemporary songs could serve as a discursive genre among ESP learners. Thus, deducing meaning from metaphorical linguistic products could awaken metaphorical awareness that would help to build a consistent mapping of linguistic and musical information that will boost learning (Schön et al., 2008).

4.5. Conclusion

However, despite the multiple research (Akbari et al, 2016; Anvari et al, 2002; Besson & Schön, 2001; Blickenstaff, 1963; Li & Brand, 2009) from many countries that propel music forward as a learning mode, music is seldomly part of the second language curriculum, perhaps due to the difficulty in selecting the right type of material (Tse, 2015) for the musical experience, or even the scarcity of prepared teachers (Engh, 2013).

Regardless of the provenance of new methodologies in second language teaching and learning, innovative teaching programmes are prone to topple the traditional syllabus. Thusly, the introduction of a musical experience can be

considered as a valuable contribution to instructional strategy in the second language curriculum (Medina, 1990). Contemporary songs are the channel through which success can be achieved, since “a song in a second language classroom enhances the learning of that target language” (Israel, 2013, p. 1360). Additionally, song lyrics are classed as authentic texts, and that being the case, they contribute with real life experiences in which a discursive analysis brings out different linguistic aspects.

Moreover, a musical experience in the classroom sets the strategies for effective learning (Arleo, 2000). It positively affects and promotes the linguistic development of pronunciation in a second language (Slevc & Miyake, 2006), accent, cultural awareness, vocabulary retention, fluency, and, above all and outside the linguistic scope, empowers students and teachers’ spirits, since music acts as a motivator (Mobbs & Cuyul, 2018). While a mindset shift is required in which teachers become highly creative to increase students’ interest in ESP activities leading to second language improvement, teacher training programmes are also being implemented (Peacock, 2009; Viladot & Cslovjecssek, 2015).

All in all, it was very revealing in this chapter that a musical experience for language learning is another element to consider in the SLA. Overall, research has outlined that music and songs are inspiring and motivating for second language learning (Fonseca-Mora et al, 2011), in which not only the rhythm but also the lyrics penetrate our affective and emotional unconsciousness, which triggers the development of the auditory and memory capacities. This positive environment helps students and teachers to be highly motivated, as the routine in class is broken (Millington, 2011). In this light, linguistic cognition is introduced, such as analysing song lyrics to learn any grammatical topic.

As contemporary songs transgress borders often being framed under transnational context (Márquez-Reiter & Hidalgo-Downing, 2020) and song lyrics convey emotions through culture-bound metaphors, a musical experience with the subsequent analysis of song lyrics to enlighten students’ metaphorical awareness is proposed in an intervention programme to reinforce ESP learners communicative

skills through the analysis of the metaphorical component of contemporary songs in the ESP classroom of aeronautics.

EMPIRICAL STUDY

CHAPTER 5: THE METAPHORICAL AWARENESS AND METAPHORICAL COMPETENCE OF AERONAUTICS STUDENTS

5.1 Introduction

This work sheds light on the potential development of metaphorical awareness and metaphorical competence of aeronautics students in the ESP classroom. In this sense, a pre-post design was established along with an intervention programme for the experimental group. It is now understood, since the publication of *Metaphors We Live by* (1980) by Lakoff and Johnson, that the metaphorical component of language is “a major cognitive and linguistic strategy for facilitating the comprehension of mostly abstract concepts” (Niemeier, 2017, p. 267). However, even today the inclusion of the metaphor in the teaching and learning of a second or foreign language rarely occurs despite academic voices (Caballero-Rodríguez, 2014; Gutiérrez-Pérez, 2016; MacArthur, 2010) that affirm that in order to succeed in the pursuit and exploration of fruitful careers, the burgeoning of figurative language in ESP classes is necessary.

Owing to this, metaphor is crucial to enhance understanding not only of informal but also of formal discourses, as well as any field of professional study, such as science (Cameron, 2002) or aeronautics (Robisco-Martín & Cuadrado-Esclápez, 2013). Hence, a novel intervention programme is proposed. It is hinged on fostering metaphorical awareness and mastering metaphorical competence embedded in a musical experience. This programme could lead to the flourishing of a syllabus design based on reinforcing the metaphorical component of language in ESP lectures.

5.2. Method

5.2.1. Aims

The purpose of this study is to determine the effects of an intervention programme conducted over a period of eight consecutive weeks and designed to develop the metaphorical awareness and metaphorical competence of ESP students

of aeronautics; thus, expanding their communicative skills and reinforcing the implementation of the metaphorical component. To this end, a musical experience scenario was conceived as a potential motivation generator, as well as to facilitate the improvement of the four learning skills in addition to intonation, pronunciation, and modulation.

The research design revolves around differentiating areas of deficiencies in terms of the lack of inclusion of the metaphorical component of a language in a traditional ESP class, as opposed to a metaphor-oriented ESP programme, which considers metaphorical competence as an integrative element of a language.

5.2.2. Research Questions

In an ESP context in higher education, university students seek to reinforce their communicative skills by learning new inputs in their field with the use of real case scenarios. Part of the teaching and learning strategies within SLA encompasses the lexicon. However, the metaphorical component of language seems to be a forgotten subject in the curriculum. As metaphors are ubiquitous in all languages since they express complex ideas with just a few words, the development of metaphorical awareness and metaphorical competence are deemed important in this work. Thus, to improve learners' metaphorical awareness, an intervention programme was designed in which the media discourse was explored through musical experiences with the analysis of metaphorical expressions found in the lyrics of contemporary songs. Furthermore, in order to develop students' metaphorical competence, the intervention also included a series of general metaphor exercises related to aviation texts and an aviation-based escape room where the students selected and interpreted metaphorical expressions. Based on a pre-post-design, two tests and three questionnaires were administered to a control and an experimental group of aviation students. These tests were used to measure the students' metaphorical awareness and metaphorical competence in relation to the variables of written comprehension and production.

The intervention programme designed to introduce the teaching of figurative language in a framework that fuses music and aeronautics intends to deliver appropriate materials to university students with the same common area of expertise, in our case aeronautical communication (Çelik & Coombe, 2021). Once the students' needs are examined, novel instructional techniques will be implemented so that learners' linguistic and professional skills are redirected toward the very purpose of learning ESP, which is native-like communication within their area of work (Blok et al., 2020) where metaphorical awareness and metaphorical competence are key. The research questions are the following:

- 1) What are the aeronautics students' L2 metaphorical awareness levels?
- 2) Do they increase their metaphorical competence by increasing their metaphorical awareness?
- 3) Do they strengthen their metaphorical awareness and their metaphorical competence with the specific instruction of an intervention programme?

These research questions were answered specifically following data collected from the pre- and post- tests drawn from the tests and questionnaires, on musical habits, metaphorical awareness, and metaphorical competence, that participants were required to complete.

5.2.3 Context and Participants

The participants were university students who were enrolled in two different degrees during the 2022-2023 academic year at the Higher Technical School of Aeronautics of Madrid, Spain. All the students were in their third year. These degrees belong to two different branches: the Degree in Aerospace Engineering, and the Degree in Air Transport Operation and Management, also known in short as Management Degree. The Control Group (CG) belonged to the first one and the Experimental Group (EG) belonged to the second.

To measure the effects of the intervention, a pre-post approach was adopted for a sample of 54 students. The same pre-tests and post-tests were administered to both groups on the same dates. In addition, in the period between these two tests, the experimental group (EG) attended an intervention programme in the ESP classroom for one hour each week and lasting eight consecutive weeks, from the beginning of February to the end of March 2023; the post- test was administered to both groups in April 2023.

As mentioned above, data was collected from 54 students (61% males and 39% females) (n = 33) (n = 21). There were 27 students in each group, control group (CG) and experimental group (EG). They were all Spaniards. With regard to the two groups, 66.7% of students (n = 18) were males and 33.3% (n = 9) were females in the control group (CG); and 55,6% (n = 15) were males and 44,4% (n = 12) were females in the experimental group (EG).

Age for the CG is represented as follows: the students had a wider range of ages: 48,2% (n=13) were 21 years old, 18,5 % (n= 5) were 22 and 18,5% (n = 5) 23 respectively, 7,4% (n=2) were 24, 3,7% (n=1) was 28 and 3,7% (n=1) was 54. Regarding the EG, age ranged between 20 and 21 years, with the only exception of one student aged 22. 6,7% (n=18 students) being 20 years old, 29,6% (n= 8) being 21, and 3,7% (n = 1) of 22 years.

All subjects were native speakers of Spanish. the control group (CG) had 3 individuals whose mother tongue apart from Spanish were also from other languages from the Iberian Peninsula such as Galician and Basque, and a third student had also German as mother tongue. The experimental group (EG) had one participant whose mother tongue was Arabic besides Spanish. Moreover, their level of English command is also similar in both groups with an average of B2 and C1 levels, according to the Common European Framework of References for languages (CEFR). They tended to spend a certain amount of time every week either communicating or listening to and reading in English, and whose time abroad in an English-speaking country is proportionate, with an average of 5 months per peer in their lifetimes.

5.2.4 Procedure

Prior to the start of the study, the Director of Studies of the ESP department of the Higher Technical School of Aeronautics was informed about the experiment to be conducted and permission was granted. Discussions were held about which groups were more conducive for the experiment and it was agreed that third-year students from two different majors were the most suitable. As for the students belonging to the third year, it was considered more appropriate, since by then the students had already completed two previous years of ESP courses; and regarding the selection of two different degrees located in two different pavilions, this was done to avoid contamination in the event that the music-based activity that belonged to the intervention programme had an impact in the control group (CG). Additionally, consent was sought and given from participants, and the teachers of both groups were explained the multimodal approach.

Concerning the pre-tests and post-test for both groups, they consisted of three questionnaires and two tests encompassing music preferences and perception of metaphorical awareness and competence, which included reading comprehension and written productions exercises. The students had to infer the figurative meaning of the textual elements in these content/concept-based activities. After the pre-test was conducted, the intervention programme (IP) for the experimental group was carried out, predicated on a musical experience to instruct students in the development of metaphorical awareness through song lyrics, first in their mother tongue, Spanish, and subsequently in English as their second or foreign language. The control group (CG) continued with their normal lessons based on a traditional ESP syllabus programme adjusted for aeronautics.

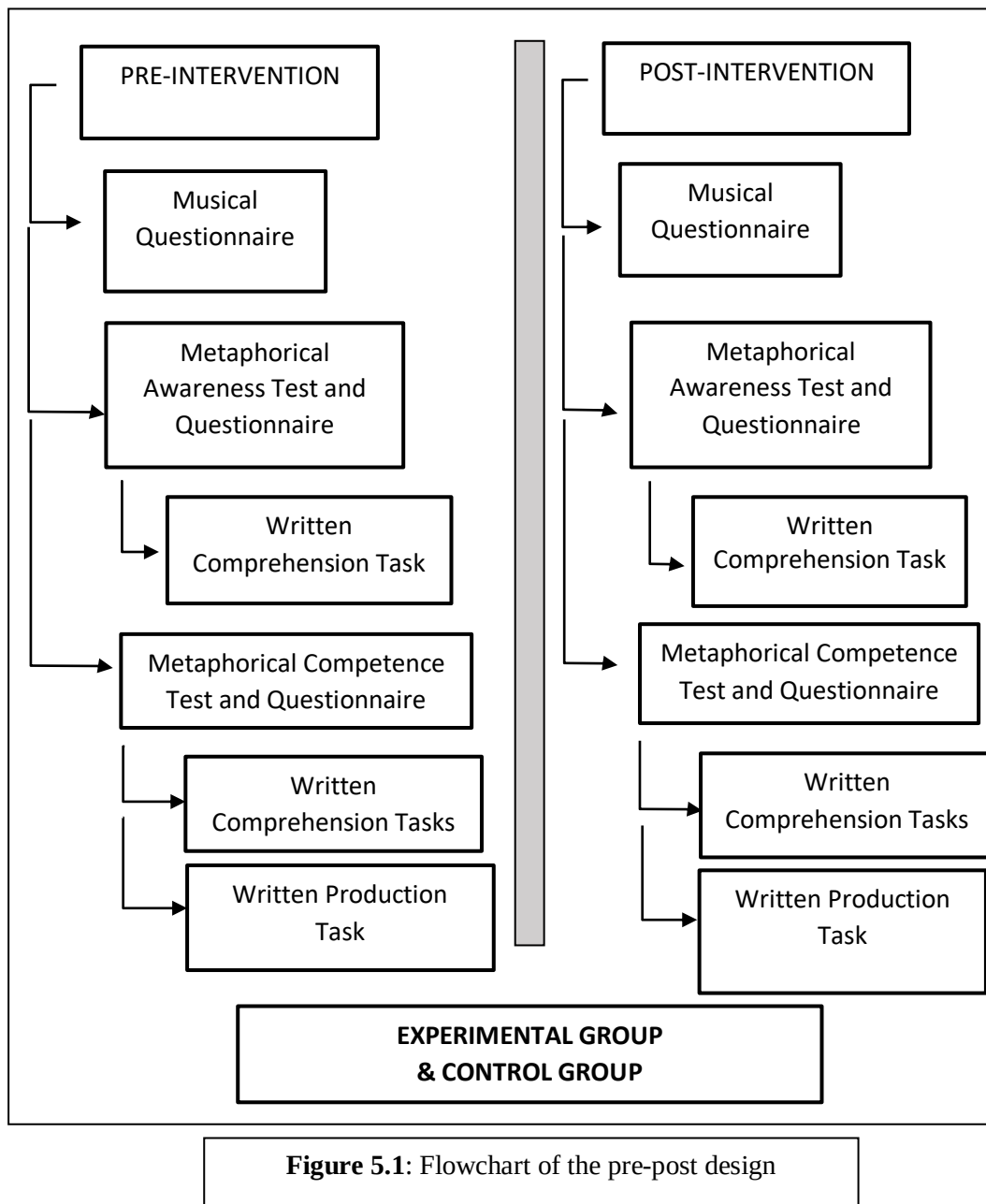
Traditional Syllabus Programme – control group (CG)

After the pre-test was administered to the control group, students continued with their traditional ESP classes, until the post-test was conducted nine weeks later. The traditional ESP class was based on an aeronautical curriculum, where the EFL learners guessed the meaning of any metaphorical expression that might appear in aeronautical texts or be revealed by the teacher without further consideration.

Intervention Programme – experimental group (EG)

Immediately after the administration of the pre-test to the experimental group, the students received an intervention programme of one session of one hour per week, for a period of eight consecutive weeks and a total of eight sessions and eight hours. The training included the opening of a musical experience session that consisted of playing songs in Spanish of selected contemporary hits channelled through the Spanish music charts. This experiment was used to expose students to the metaphorical element present in the music media through the media discourse of song lyrics that can be used as linguistic tools to foster metaphorical awareness. Thus, the metaphorical component of the song lyrics was analysed to see if the students possess metaphorical awareness first in the mother tongue. Subsequently, in the second session, songs were played in English, selected again by the students through commercial streaming of the Spanish hit lists. The task consisted of identifying the metaphorical component so that the participants could demonstrate whether they were metaphorically aware of English idioms.

Thereafter, in the third, fourth, fifth, and sixth sessions, a series of explanations about the metaphorical element in language were given and metaphorical exercises were completed. These exercises comprised the identification of metaphors in texts and sentences, matching metaphorical expressions with meanings, multiple choice, translation, and many more that will be specified, described, and explained in Appendix H. Furthermore, in the seventh and eighth sessions, the metaphorical element was extrapolated to aeronautical texts for the practical application of metaphoricity through the development of metaphorical awareness and metaphorical competence during training. Ultimately, metaphorical awareness and metaphorical competence in ESP language training involve measuring students' knowledge, skills, and expertise. In addition, the initial data collection, pre-test, took place at the beginning of the second semester of the academic year, in February, and the post-test in April 2023, immediately after the participants had completed the assigned activities in the eight-week period that lasted the Intervention Programme (Figure 5.1).



Furthermore, owing to the development of metaphorical awareness as a result of the musical experiences of the intervention programme and the tasks implemented in the metaphorical awareness test, the three exercises comprised of the metaphorical competence test shed light on the acquisition of new figurative vocabulary. In this sense, students' metaphorical knowledge acquired during the exercises is key to determining whether a particular context is appropriate for the use of specific metaphorical expressions. What is more, learners' ability focuses on

the dynamics to reproduce conceptual metaphors in the correct context, or to construct novel metaphors adequately.

With the potential of music as a motivational media discourse, due to the catchy rhythms of the songs and the subliminal messages conveyed through the lyrics, students' attention can be activated. In this light, learners can delve into the meaning of metaphors within song lyrics to foster metaphorical awareness, which can lead to develop metaphorical competence, and thus unravel the technical metaphorical jargon present in technical texts. Scilicet, this possible reaction could instigate an appropriate strategy in the ESP course, that of the application of a multimodal approach based on a musical experience to introduce the metaphorical component of language.

5.2.5. Instruments and Data Collection

In order to examine our subjects' metaphorical knowledge, both in terms of metaphorical awareness and metaphorical competence, the students of both groups, experimental group and control group, were asked to complete two tests and three questionnaires which were administered in a pre-post design. In this regard, a musical questionnaire, a metaphorical awareness test and questionnaire, and a metaphorical competence test and questionnaire, will evidence the participants' music habits with respect to exposure of English-speaking songs, and their recognition of metaphorical awareness and involvement with the acquisition and construe of metaphorical competence (Table 5.1).

Table 5.1 Data Collection Tools

1 st instrument	Musical Questionnaire (own creation)
2 nd instrument	Metaphorical Awareness Test and Questionnaire (adapted from Rodríguez & Moreno, 2009)
3 rd instrument	Metaphorical Competence Test and Questionnaire (adapted from Samburskiy 2020)

5.2.5.1. Musical Questionnaire (Own creation)

The first instrument to measure the participants' characteristics used in this study is a musical questionnaire, that reflects important data about the students' music habits. This information is deemed important in determining whether students listen to and sing songs in English. These questions showcase students' exposure to L2 song lyrics, which channel subliminal messages conveyed in metaphorical expressions across borders. This questionnaire has been prepared by the researcher of this study based on public surveys of music such as the music survey templates from Jotform created by Aytekin Tank in which different questions related to musical habit and tastes are asked (Appendix E).

5.2.5.2. Metaphorical Awareness Test and Questionnaire (Rodríguez & Moreno, 2009)

The second instrument of measurement, the Metaphorical Awareness Test and Questionnaire encompasses an array of metaphorical expressions that are relevant to establishing students' awareness of the metaphorical component in L2. Among the factors that affect the development of metaphorical awareness is the mental capacity to evoke the metaphorical corpus absorbed and cloistered in the long-term memory. Hence, the descriptor that provides an image-schema to recall a metaphorical expression is based on a bodily experience supported by a feeling, a memory, and/ or a variety of social and emotional affairs. Nonetheless, students' ability to elicit metaphorical expressions does not always fit adequately with the context.

The metaphorical awareness test and questionnaire has been adapted from Rodríguez and Moreno, (2009) (Appendix F). In their study, these academics analyse the orientational metaphors of *Up* and *Down* to identify the emotions of happiness and sadness in teaching metaphorical expressions in English to Spanish-speaking students. The scholars support their experiment by explaining that both languages, Spanish and English, and their environmental context contain similar idioms due to the same bodily experiences, despite "cultural differences" (Rodríguez & Moreno, 2009, p. 246). Khonshniyat and Dowlatabadi (2014) make use of the, aforementioned, test and questionnaire in their second language

acquisition (SLA) classroom with an extended list of idioms, and whose Persian students are requested to translate the list of expressions from English to Persian.

Nevertheless, in this doctoral thesis the original corpus of idiomatic expressions was maintained to corroborate whether the aeronautical ESP undergraduates at the Higher School of Aeronautics of Madrid possess metaphorical awareness. Participants were asked to provide the meaning of the different *Up* and *Down* expressions in Spanish. Moreover, as stated before, the assessment of metaphorical awareness from a corpus of ten metaphors is possible because there are common conceptual figurative expressions that both languages share in their socio-cultural background. Despite not being able to translate them word by word on some occasions, there are usually metaphors that mean the same concept in the Spanish-English and English-Spanish tandem.

In this light, the Spanish translation of *to feel over the moon* does not translate as “sentirse sobre la luna”, nor as “estar en la luna” since it would have a completely different meaning; instead, an approximate translation in Spanish would be *tocar el cielo con las manos* which means “to touch the sky with your hands”. Likewise, the Spanish expression *tener muy mala leche* cannot be translated as “to have very bad milk” because it makes no sense (Rodríguez & Moreno, 2009) but rather as *to have very bad temper* or *to be bad-tempered*. As for *Down is sadness*, expressions like *to feel down* can easily be translated with a similar figurative expression in Spanish to *me siento baja de moral*; but *to be under the weather* does not have a correlation *per se*, since the translation reveals another context, such as *no estar muy católico* which stands for “not feeling very Catholic”.

However, for the present experiment, if students can recognise those figurative expressions as metaphorical and provide a similar non-literal utterance in Spanish with the same meaning, they are then granted metaphorical awareness despite metaphorical transfers between L1 and L2, and cross-language interference (Irujo, 1986). The corpus, anew, consists of ten metaphorical expressions, and the measurement scale is as follows: the participants will have Low Metaphorical Awareness (0-3), if they correctly understand only up to 3 utterances; Medium

Metaphorical Awareness draws on correctly guessing 4-6 expressions, and High Metaphorical Awareness on 7-10. This exercise was evaluated in pairs, that is, two evaluators assessed the answers given to the Metaphorical Awareness test.

5.2.5.3. *Metaphorical Competence Test and Questionnaire (Samburskiy, 2020)*

The past three decades have witnessed an ongoing debate over the preferred way of collecting data on L2 learners' communicative competence in general (Bachman, 1990) and metaphorical competence, in particular (Azuma, 2004; Gutiérrez-Pérez, 2018; Littlemore & Low, 2006; O'Reilly & Marsden, 2021a). The descriptors used in the metaphorical competence test and questionnaire were developed by Samburskiy (2020) to collect data on the students' level of metaphorical competence.

The test is a combination of a reading comprehension exercise, written comprehension, and written production tasks, and consists of three assignments (Appendix G): a text with metaphorical expressions that students must explain within its context (taken from *A Good Turn of Phrase* by Milton & Evans, 2000); a multiple choice exercise in which students have to choose the correct paraphrase for a given sentence; and the third assignment is to detect and correct an error in each of the ten sentences containing idioms (Table 5.2).

Table 5.2 Example of the Metaphorical Competence Test
(taken from Samburskiy, 2020)

Whether you're 2) at death's door or simply feeling a bit 3) off colour, Dr Herbert's Life Tonic will have you feeling 4) full of beans again in no time.	
At death's door	"explanation"
Off colour	"explanation"
Full of beans	"explanation"

This exercise was evaluated in pairs, that is, two evaluators assessed the responses. The measurement scale is the following: 25 points that students can

obtain with a 100% correctness in their answers; from 0 to 9 points is classified as Low Metaphorical Competence; between 10 and 19 Medium Metaphorical Competence; finally, between 20 and 25 High Metaphorical Competence.

Thus, for the purpose of this study, this test and questionnaire (Samburskiy, 2020) was selected due to its customised descriptors that fit the research goals of our pre- and post- test. On this account, the acquisition of new figurative vocabulary encompasses the students' ability to reproduce conceptual metaphors in the correct context following the dynamics of metaphorical constructions. In this respect, mastering metaphorical competence to use conceptual metaphors can also support the creation of novel metaphors adequately.

5.2.5.4. Intervention Programme Design

This intervention programme has been proposed to be implemented in the curriculum of the ESP course within the major of Aeronautics. It has been contextualized in terms of the learning objectives to be achieved, which are the advancement of communicative competence in L2 by fostering metaphorical awareness and the development of metaphorical competence through a intervention programme that begins with a musical experience.

A great advantage of using music in the intervention programme that has been designed for the purpose of this thesis is the enormous exposure of young people to contemporary songs, such as pop, rock, rap, reggaeton, and many more. In this sense, 85% and 81% of the participants who belong to the experimental group and the control group respectively claim to listen to music in English frequently, within a time scale between often, always and every day; this information was collected from the musical questionnaire.

Similarly, the lyrics of songs often contain subliminal messages and if those messages were occasionally transmitted in the form of metaphorical expressions, then they would be detected in the intervention programme. The song lyrics thus could become a perfect linguistic instrument to implement metaphor-related

activities in the ESP classroom of Aeronautics.

The design of the different units that make up the intervention programme is presented below. The experiment is used as an innovative strategy in the teaching and learning of metaphorical competence in the ESP classroom of aeronautics. In addition, monolingual, and bilingual dictionaries on the one hand, and feedback on the other, are at their disposal. Accordingly, the metaphor-related exercises (Gutiérrez-Pérez, 2018) were practiced by the experimental group to verify their success in acquiring the comprehension of figurative language and the acquisition of idioms in L2, in order to meet the learning objectives, which are achieving metaphorical awareness and competence (Appendix H).

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Unit 1. Metaphorical Awareness in Spanish: a musical experience

Metaphorical Awareness in Spanish/ Musical Experience						
Unit	1	Area	Year	Degree	Timing	sesiones
		Metaphorical Awareness	3rd	GYOTA	6th February	One 1-hour long
Justification	➤ Students must provide an example of a metaphor in Spanish. ➤ To make students aware of metaphorical expressions in Spanish. ➤ For that, songs in Spanish will be used: contemporary songs (Pop, rock, rap, ...)					
Objectives		Contents		Basic Competences		
1. To understand what a metaphor is 2. To make Spanish students aware of metaphors in Spanish 3. Students must point at metaphors in song lyrics in Spanish		- The teacher asks questions to the students - Listening to song lyrics in Spanish - Analysing metaphors from song lyrics in Spanish		B2/ C1: Metaphorical Awareness in Spanish B2/ C1: Metaphorical expressions in Spanish B2/ C1: Metaphorical analysis of Spanish song lyrics		
Methodology		Cross-cutting Issues		Resources		
The methodology used in this unit consists of playing contemporary Spanish songs; the teacher projects the song lyrics on the board so that the students can read it too. Then, a brainstorming session (5 min) takes place in which students must provide a definition of metaphor and a discursive analysis of the metaphorical component of the songs .		- Discursive analysis - Metaphorical awareness - Metaphorical competence		- Audio downloads (music) - Internet access		
				Didactic rooms - Classroom - LAB (Applied Linguistics)		
Activities			CEFR Levels		Attention to Diversity	
1. Brainstorming			B2/ C1		- Male/ Female/ Other - Spanish and non-Spanish students	
2. Example of metaphor in Spanish			B2/ C1			
3. Listening: Play songs			B2/ C1			
4. Discursive analysis of song lyrics			B2/ C1			
5. Identification of metaphors in song lyrics and meaning making			B2/ C1			
Assessment						
Assessment Criteria				Assessment Instruments		
1. Be able to provide in English an explanation of metaphor				- Song lyrics in Spanish - Discursive analysis - Metaphor recognition		
2. Be able to provide a random example of a metaphor in Spanish						
3. Be able to analyse song lyrics metaphorically						
4. Be able to point out several examples of metaphors in Spanish songs						

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Unit 2. Metaphorical Awareness in English: a musical experience

Metaphorical Awareness in English/ Musical Experience						
Unit	2	Area	Year	Degree	Timing	Sessions
		Metaphorical Awareness	3rd	GYOTA	13th February	One 1-hour long
Justification	➤ Play the participants' favourite songs in English ➤ Ask students to do a discursive analysis of song lyrics ➤ Have them point out metaphorical expressions in English					

Objectives	Contents	Basic Competences
4. Make students aware of metaphors in English 5. Think about similarities and differences between metaphorical expressions in English and Spanish (de los Ríos & Pérez, 2017) 6. Categorise the metaphorical expressions found	- Guided questions (de los Ríos & Pérez, 2017) - Match English expressions to Spanish metaphors - Match Spanish expressions to English metaphors	B2/ C1: Metaphorical Awareness in English B2/ C1: Metaphorical expressions in English B2/ C1: Matching English and Spanish metaphors
Methodology	Cross-cutting Issues	Resources
The method used in this unit is based on a discursive analysis of the song lyrics in English; by making students point out the English figurative expressions found, the peers become aware of the amount, type, and category of the metaphors in English. Likewise, by thinking of similar metaphors in Spanish, the participants learn and retain the expressions learnt.	- Metaphorical awareness in English - Description of type of metaphors - Categorization of metaphors	- Audio downloads (music) - Internet access
		Didactic rooms
		- Classroom - LAB (Applied Linguistics)
Activities	CEFR Levels	Attention to Diversity
6. Listening: to Play favourite songs in English	B2/ C1	- Male / Female /Other - Spanish and Foreign students
7. A discursive analysis of song lyrics in English	B2/ C1	
8. Identification of metaphors in song lyrics and meaning making	B2/ C1	
9. Categorization of metaphorical expressions according to Lakoff & Johnson’s conceptual metaphors	B2/ C1	
Assessment		
Assessment Criteria	Assessment Instruments	
5. Be able to spot metaphorical expressions in English	- Song lyrics in English - Discursive analysis - Metaphorical expressions recognition	
6. Relate metaphorical expressions in English with Spanish		
7. Categorize metaphorical expressions in English within the Conceptual Metaphor Theory (Lakoff & Johnson, 1980)		

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Unit 3. Metaphorical Competence: metaphor instruction (informal discourses)

Metaphorical Competence/ Metaphor Instruction						
Unit	3	Area	Year	Degree	Timing	Sessions
		Metaphorical Competence	3rd	GYOTA	20th February	One 1-hour long
Justification	➤ Metaphor instruction is necessary to develop metaphorical competence ➤ Metaphorical competence is essential to achieve a satisfactory level of proficiency in English ➤ Metaphor retention is managed by practicing different types of exercises					
Objectives		Contents		Basic Competences		
7. Make students familiar with certain generic expressions in English 8. Show them the difference between the literal use and the idiomatic use of these expressions 9. Identification of metaphors in a text		- Conceptual Metaphor Theory by Lakoff & Johnson, 1980 - Common/ conceptual metaphor vs. Novel metaphor		B2/ C1: Recognition of common/ conceptual metaphors B2/ C1: Vocabulary learning B2/ C1: Retention of metaphors		
Methodology		Cross-cutting Issues		Resources		
The methodology is based on the teacher’s explanations about the CMT. Students practice different types of exercises to become familiar with common/ conceptual metaphors to learn new vocabulary and the appropriate situations to use such metaphorical expressions.		- Metaphorical awareness of common expressions - Metaphorical competence development - CMT		- Texts - Classroom projector		
				Didactic Rooms - Classroom - LAB (Applied Linguistics)		
Activities			CEFR Levels	Attention to Diversity		
10. Recognition and identification activities Metaphor exercises to distinguish the literal from the idiomatic use of certain expressions			B2/ C1	- Male/ Female /Other - Spanish and foreign students		
11. Reading and underlining figurative language. Metaphor exercises to identify metaphorical expressions in a text.			B2/ C1			
12. Categorization of metaphorical expressions based on Metaphors We Live By (Lakoff & Johnson, 1980).			B2/ C1			
Assessment						
Assessment Criteria				Assessment Instruments		
8.	Distinguish the literal use vs. the metaphorical use of certain generic expressions			- Oral exercises - Written exercises - Teacher- students discussions		
9.	Identify metaphorical expressions in generic texts					
10.	Identify common/ concetpual metahors vs. novel creations					

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Unit 4. Metaphorical Competence: metaphor instruction (translation)

Metaphorical Competence / Metaphor Instruction						
UNIT	4	Area	Year	Degree	Timing	Sessions
		Metaphorical Competence	3º	GYOTA	27th February	One 1-hour long
justification	➤ Metaphor instruction is necessary to develop metaphorical competence ➤ Metaphorical competence is essential to achieve a satisfactory level of proficiency in English ➤ Metaphor retention is managed by practicing different types of exercises					
Objectives		Contents		Basic Competences		
10. Make student think of possible translations of English idioms to Spanish 11. Show students that it is not possible to translate English idioms into Spanish word by word but whole expressions 12. Have them do exercises to match English idioms to Spanish idioms.		- Metaphorical expressions belong to the culture of a country - Similarities of figurative language between countries with close cultural backgrounds - Translation of whole expressions		B2/ C1: Understanding of different idiomatic expressions in different languages B2/ C1: Vocabulary learning B2/ C1: Metaphor retention		
Methodology		Cross-cutting Issues		Resources		
The teaching method of this unit is based on the understanding that metaphorical expressions in English cannot be translated into Spanish or vice versa word by word; instead, whole expressions must be considered to avoid miscommunication. The practice of exercises makes students aware that a metaphorical expression is a product of culture.		- Metaphorical awareness of possible misinterpretation of specific figurative expressions in English when translated into Spanish - Development of Metaphorical Competence		- Texts - Classroom projector Didactic Rooms - Classroom - LAB (Applied Linguistics)		
Activities			CEFR Levels		Attention to Diversity	
13. Reading and underlining figurative language			B2/ C1		- Male/ Female /Other - Spanish nationals and foreign nationals.	
14. Translation of metaphorical expressions into the Spanish equivalent			B2/ C1			
15. Multiple-choice exercises			B2/ C1			
Assessment						
Assessment Criteria					Assessment Instruments	
11.	Be able to translate metaphorical expressions into Spanish with equivalent figurative expressions				- Oral exercises - Written exercises	
12.	If there is no equivalent, be able to explain the meaning of the metaphorical expression in English					
13.	Be able to assume that metaphorical expressions are cultural products of each country					

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Unit 5. Metaphorical Competence: metaphor instruction (conceptual & novel)

Metaphorical Competence/ Metaphor Instruction									
UNIT	5	Area	Year	Degree	Timing	Sessions			
		Metaphorical Competence	3º	GYOTA	6th March	One 1-hour long			
justification	➤ Make students familiar with generic metaphorical expressions before getting into formal spoken and written English discourses ➤ The more exercises and practice the students have, the better learning and retention of metaphorical expressions								
Objectives		Contents		Basic Competences					
13. Make students familiar with as many metaphorical expressions as possible		- All sorts of metaphorical expressions.		B2/ C1: Vocabulary learning					
14. Have them write texts with metaphors on different themes		- Conceptual metaphors vs. Novel metaphors		B2/ C1: Metaphor retention					
15. Motivate students to be creative: novel metaphors		- Learning new vocabulary		B2/ C1: Development of Metaphorical Competence					
Methodology		Cross-cutting issues		Resources					
The teaching method of this unit is based on carrying out a multitude of exercises so that the students learn the greatest possible number of metaphorical expressions commenting on each metaphor; meaning, context, and repetition through the production of individual texts that contain the learnt metaphorical expressions.		- Metaphorical Competence Development - Conceptual metaphors - Novel metaphors		- Texts - Exercises - Own written and spoken production					
				Didactic Rooms					
Activities		CEFR Levels		Attention to Diversity					
				- Male/ Female/ Other - Spanish nationals and foreign nationals.					
16. Fill-in the gaps		B2/ C1							
17. Matching exercise		B2/ C1							
18. Put the words in the correct order		B2/ C1							
19. Complete sentences		B2/ C1							
20. Written production		B2/ C1							
Assessment									
Assessment Criteria				Assessment Instruments					
14. Be able to recognise, understand and use metaphorical expressions		- Written exercises - Verbal discussions - Written production							
15. Be able to discuss the meaning of conceptual metaphors									
16. Be able to think about possible novel metaphors									

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Unit 6. Metaphorical Competence: spoken and written English (formal discourses)

Metaphorical Competence/ Spoken and Written English						
UNIT	6	Area	Year	Degree	Timing	Sessions
		Metaphorical Competence	3º	GYOTA	13th March	One 1-hour long
justification	➤ Metaphorical awareness is also needed when encountering formal spoken and written discourses, since the students will have to face aeronautical texts in the foreseeing future. ➤ The development of metaphorical competence is structured in different phases which must include real-case scenarios like Live TV shows and Newspapers, covering all areas of society: Economics, Business, Culture, and Sports.					
Objectives		Contents		Basic Competences		
16. Allow students to read and discuss real formal articles and newspapers. 17. Metaphorical expressions in Newspapers and articles. 18. Metaphorical expressions in TV News		- Formal vs. Informal metaphorical speeches. - Formal metaphorical speech in Newspapers and articles. - Formal metaphorical speech in TV News.		B2/ C1: Understanding formal spoken discourse B2/ C1: Understanding formal written discourse B2/ C1: Understanding metaphors are used in all kinds of discursive environments.		
Methodology		Cross-cutting Issues		Resources		
The teaching method used in this unit is based on actual and current major British Newspapers and BBC TV News to show students that metaphorical expressions are employed by major journalist and politicians to transmit their thoughts and ideas in formal speeches.		- Metaphorical Awareness of formal discourse - Metaphorical Competence of formal discourse - Formal discourse: Spoken and Written		- BBC News TV Show - The Times Newspaper Didactic Rooms - Classroom - LAB (Applied Linguistics)		
Activities			CEFR Levels	Attention to Diversity		
21. Reading comprehension exercises (Texts: from Newspapers and Magazine Articles)			B2/ C1	- Male/ Female / Other - Spanish nationals and foreign nationals		
22. Speaking comprehension exercises: discussion (from BBC News/ Live TV Shows)			B2/C1			
Assessment						
Assessment Criteria				Assessment Instruments		
17. Be able to recognise and understand metaphorical expressions in formal spoken discourses such as BBC News and Live TV shows		- Discussions in class - Exercises				
18. Be able to recognise metaphorical expressions in formal written discourses such as Newspapers and articles		- Students' discourses				

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Unit 7. Metaphorical Competence: an aeronautical context

Metaphorical Competence /Aeronautical Context						
UNIT	7	Area	Year	Degree	Timing	Sessions
		Metaphorical Awareness & Competence	3º	GYOTA	20th March	One 1- hour long
justification	➤ Metaphors are a very effective linguistic tool for formal and informal discourses as seen in the previous units. ➤ Therefore, metaphorical expressions do appear in the aeronautical context (formal discourse) in spoken and written formats. ➤ Students need to be aware of them and develop the skills to understand their meaning to avoid miscommunication in their professional field. ➤ Thus, metaphorical competence must be cultivated in the ESP classroom of aeronautics with real situations.					
Objectives		Contents		Basic Competences		
19. Make students aware of metaphorical expressions in aeronautics 20. Have them develop the skills to recognise metaphors and understand their meaning in their professional fields 21. Allow students to read and discuss real aeronautical texts		- Standard aeronautical phraseology based on metaphorical expressions. - Bilingual dictionary of scientific-technical metaphors and metonyms.		B2/ C1: Vocabulary learning of technical metaphorical expressions B2/ C1: Retention of aeronautical metaphorical expressions.		
Methodology		Cross-cutting Issues		Resources		
The methodology of this unit is based on real aeronautical texts that students must read, interpret, and recognise the metaphorical expressions found; then, the peers should discuss their meaning in class. The supplementary activities will reinforce their retention of the new metaphorical vocabulary learnt.		- Metaphorical Awareness of aeronautical metaphors - Development of metaphorical competence of aeronautical metaphors.		- Aeronautical texts - Internet Didactic Rooms - Classroom - LAB (Applied Linguistics)		
Activities			CEFR Levels		Attention to Diversity	
23. Discourse analysis of technical aeronautical texts			B2/ C1		- Male/ Female/ Other - Spanish nationals and foreign nationals	
24. Kahoot based on the text			B2/C1			
25. Fill-in-the-gap activities with aeronautical metaphorical expressions from the text			B2/ C1			
Assessment						
Assessment Criteria					Assessment Instruments	
19.	Be able to recognise and understand metaphorical expressions in written aeronautical texts				- Discussions in class. - Exercises. - Students written work	
20.	Be able to recognise and understand metaphorical expressions in spoken aeronautical contexts					

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Unit 8. Metaphorical Competence Development

Metaphorical Competence Development						
UNIT	8	Area	Year	Degree	Timing	Sessions
		Metaphorical Competence	3º	GYOTA	27th March	One 1- hour long
justification	➤ The metaphorical expressions of the aeronautical text discussed in the previous class should be implemented with exercises such as kahoot that will motivate students to reinforce their knowledge on the subject. ➤ In addition, the Bilingual Dictionary of Scientific-Technical Metaphors and Metonyms is a very useful linguistic tool for implementing metaphor retention in games like Escape Room.					
Objectives		Contents		Basic Competences		
22. Allow students to compete against each other playing Kahoot based on aeronautical metaphorical expressions 23. Metaphor retention with exercises 24. Develop motivation on metaphors by playing Escape Room		- Bilingual Dictionary of Scientific-Technical Metaphors and Metonyms. - Generative learning in which new data is incorporated into existing knowledge		B2/ C1: Vocabulary learning of technical metaphorical expressions. B2/ C1: Retention of aeronautical metaphorical expressions.		
Methodology		Cross-cutting Issues		Resources		
The methodology of this unit is based on implementing the metaphorical expressions learnt through motivational interactive games such as Kahoot and Escape Room where students can test their knowledge and retention of aeronautical metaphorical expressions.		- Development of metaphorical competence - Aeronautical technical phraseology		- Internet - Kahoot - Escape Room		
				Didactic Rooms - Classroom - LAB (Applied Linguistics)		
Activities				CEFR Levels	Attention to Diversity	
26. Kahoot based on the text				B2/ C1	- Male/ Female/ Other - Spanish nationals and foreign nationals	
27. Fill-in-the-gap activities with aeronautical metaphorical expressions from the text				B2/ C1		
28. Escape Room from the Bilingual dictionary of scientific-technical metaphors and metonyms				B2/ C1		
Assessment						
Assessment Criteria					Assessment Instruments	
21.	Be able to recognise new aeronautical metaphorical expressions and understand their meanings within their context				- Games - Discussions in class - Generative learning	
22.	Be able to score high in interactive games based on aeronautical technical phraseology					

5.2.5.5. Methodological decisions taken in the analysis of the data

The application of statistical procedures in this study was carried out following the advice of statistical experts and under the supervision of a senior researcher in the field of second and foreign language acquisition. Two tables (Appendix J) were prepared to illustrate the research questions to guide the statistician, whereby metaphorical awareness was represented with a total value of 10, and in which metaphorical competence was divided into two branches: written comprehension with a total value of 15 and written production with a total value of 10.

The methodology followed to analyse the results was based on a pre-test/post-test design administered to two groups (experimental group and control group) and an intervention programme conducted with the experimental group. It must be noted that data was collected from two sources. The first originated from the interpellation of common questions through the questionnaires, (musical, metaphorical awareness and metaphorical competence questionnaires), to determine different factors, such as gender, level of proficiency in English, number of languages spoken, and length of stay abroad, specifically in an English-speaking country; additionally, two more questions related to listening to and singing songs sung in English were added to the table extracted from the musical questionnaire (Table 5.3). The second source for data collection came from the responses to the exercises related to the metaphorical awareness test and metaphorical competence test.

Table 5.3 Musical questions from the table of variables (own creation)

Music Question 1	Do you sing in English?
Music Question 2	How often do you listen to songs in English?

Different statistical measurements were applied to contrast the varied hypotheses raised in the process of answering the research questions, such as: Wilcoxon, ANOVA, T-student, Shapiro-Wilk, U by Mann-Whitney, Kolmogorov-Smimov, and Levene Test's. The magnitude of these measurements served to

assess whether or not there are significant differences between the pre- and post-results related to the application of the intervention programme.

Each research question, grouped in a corpus of hypotheses, were tested to the null hypothesis by using the Kolmogorov-Smirnov, which is designed to measure whether a particular distribution differs significantly from a normal distribution; and also, Levene's Test of equality of variances to be able to hypothesize similarity of variances. In this case, when the probability is >0.05 – equal variances are assumed, and when the probability <0.05 –, different variances are assumed. In the analysis of our hypotheses, equal variances are assumed. Furthermore, the T-student test must include three assumptions: normality (tested by the Kolmogorov-Smirnov), independence (participants belong to two different groups which do not mix), and homogeneity of the variables (similar variances between the two groups, tested through Levene's Test).

To answer the first research question of our study, which referred to the aeronautics students' L2 metaphorical awareness levels, the metaphorical awareness of the experimental group and that of the control group were examined in the collected pre-post-test data, to see what their level was and if there were differences between both groups. In this sense, three hypotheses are proposed:

Hypothesis 1: There are significant differences in metaphorical awareness levels between the first and second measurement in the experimental group.

Hypothesis 2: There are no significant differences in metaphorical awareness levels between the first and second measurement in the control group.

Hypothesis 3: There are significant differences in metaphorical awareness in the second measurement between the experimental group and control group.

On a different account, to respond to the second research question that deals with whether students increase their metaphorical competence by increasing their

metaphorical awareness, the following hypotheses are established focusing on the experimental group:

Hypothesis 4: Metaphorical awareness predicts metaphorical competence.

The third research question encompasses whether the participants of the experimental group, strengthen their metaphorical awareness and their metaphorical competence with the specific instruction of an intervention programme, as opposed to the control group without the intervention. In this regard, several hypotheses are considered. It must also be noted that that metaphorical competence is broken down into three branches according to the variables of written comprehension, written production and total metaphorical competence. The three hypotheses drawn connect both groups, the experimental group with the intervention programme and the control group without the intervention programme. In this regard, a comparison of the post-test results for both groups takes place in search of a possible increase in metaphorical awareness and metaphorical competence.

Hypothesis 5: There are significant differences in metaphorical competence in written comprehension before and after the intervention for the experimental group.

Hypothesis 6: There are significant differences in metaphorical competence in written production before and after the intervention for the experimental group.

Hypothesis 7: There are significant differences in total metaphorical competence before and after the intervention programme for the experimental group.

These last three hypotheses focus on a possible increase in the experimental group's metaphorical awareness and metaphorical competence in the post-test, after the intervention programme, compared to the level of metaphorical awareness and metaphorical competence in the pre-test, that is, before the intervention. In

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order to account for statistically significant differences, different measurement tests were applied which are specified and illustrated with tables and graphs in the next section.

5.2.5.5.1. Data Analysis of the Experimental Group

Prior to data analysis, descriptive measurements are requested. In the database, the experimental group is first selected, recognised as Group 1 (Table 5.4). According to table 5.4, the metaphorical awareness of the experimental group, before the application of the intervention programme, shows an average of 5.07 out of 10, with a deviation of 1.07. This considers that the minimum value was 3 out of 10 and the maximum was 7 out of 10. In this vein, the metaphorical awareness of the experimental group, after the application of the intervention programme, increases its average compared to the same group in the pre-test by almost 2 points out of 10, resulting in an average of 6.56 points. It should be noted that if we look at the table, an increase is observed both in the percentiles (the 75th percentile being a score of 8 out of 10 compared to the total point to the intervention of 6 out of 10) and in the minimum and maximum scores, increasing from 1 and reaching 10 out of 10.

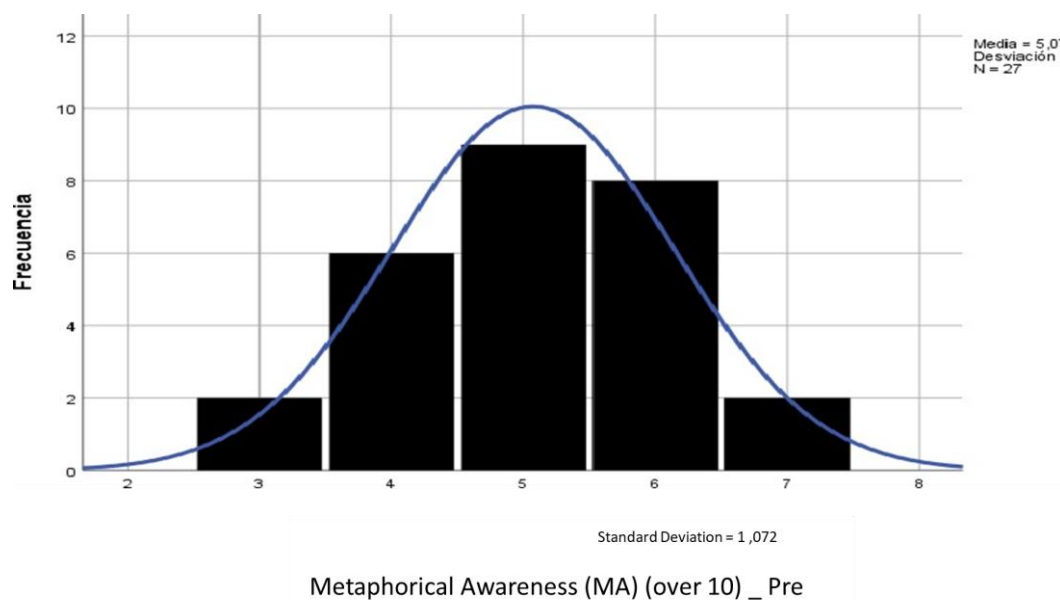
Table 5.4 Summary table of descriptive statistics of the variables for experimental group

	Metaphorical Awareness (MA) (out of 10)_Pre-	Metaphorical Awareness (MA) (out of 10)_Post-	Metaphorical Competence (MC)_Written Comprehension (Out of 15)_Pre-	Metaphorical Competence (MC)_Written Comprehension (Out of 15)_Post-	Metaphorical Competence (MC)_Written Production (Out of 10)_Pre-	Metaphorical Competence (MC)_Written Production (Out of 10)_Post-
Media	5,07	6,56	9,19	11,85	4,52	7,52
Mediana	5,00	6,00	9,00	12,00	4,00	8,00
Desv. Desviación	1,072	1,847	2,466	2,161	2,532	2,455
Varianza	1,148	3,410	6,080	4,670	6,413	6,028
Asimetría	-0,157	-0,708	-0,147	-0,486	0,330	-0,773
Curtosis	-0,498	1,774	-0,504	-0,526	-0,741	-0,291
Mínimo	3	1	4	7	0	2
Máximo	7	10	14	15	9	10
Percentiles 25	4,00	5,00	7,00	10,00	2,00	6,00
50	5,00	6,00	9,00	12,00	4,00	8,00
75	6,00	8,00	11,00	14,00	6,00	10,00

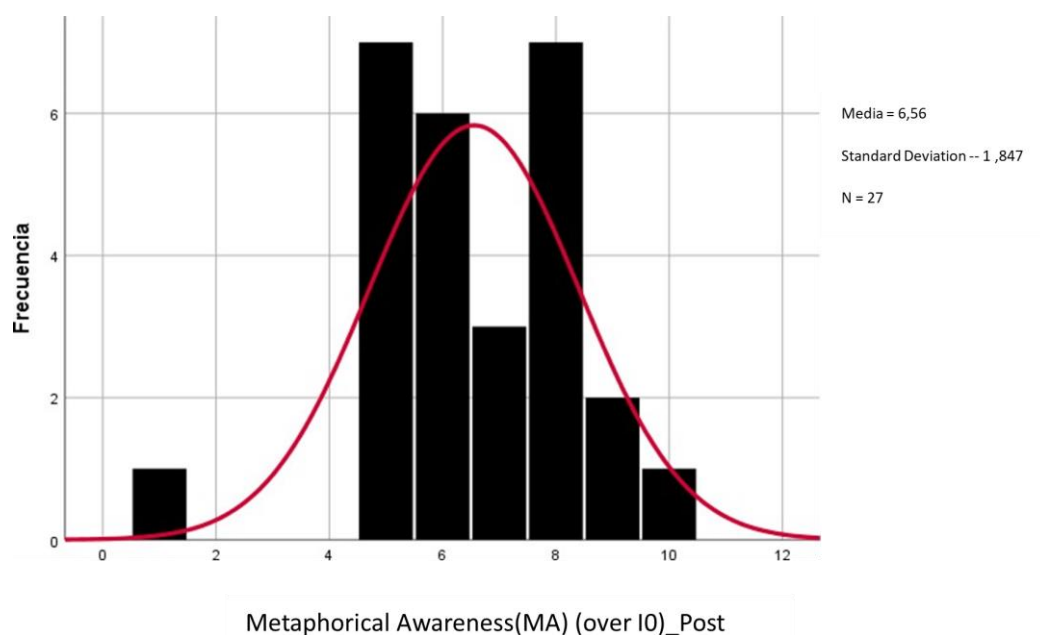
a. There are multiple modes. The smallest value is displayed.

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Observing the pre- and post- charts of graphs 5.1 and 5.2, we can see that the scores tend to increase and move towards the right side of the graph (negative asymmetry). A possible outlier can also be seen in smaller values in the variable measured after the application of the intervention programme.

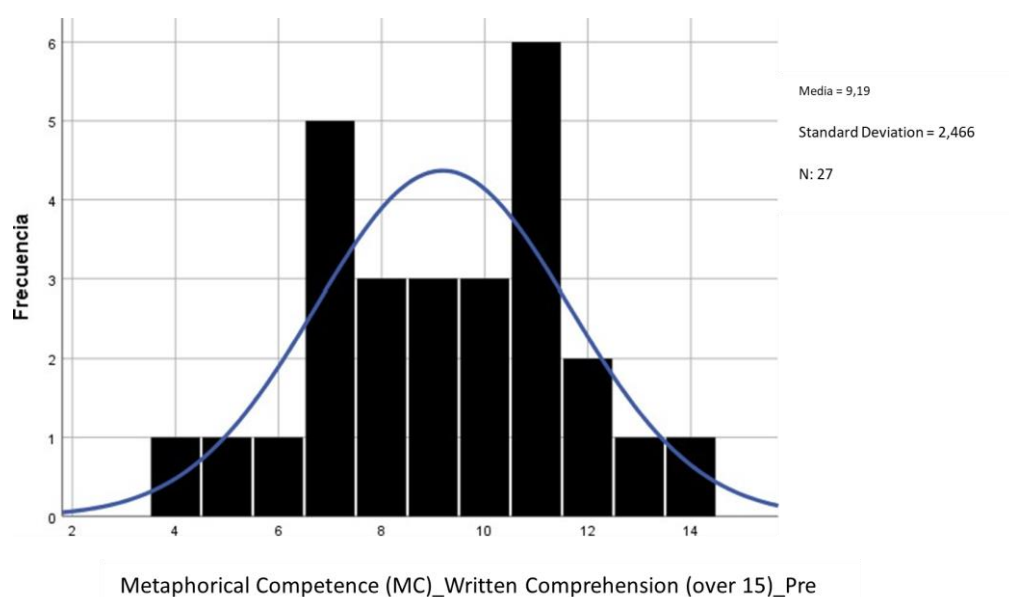


Graph 5.1 Chart of the experimental group's metaphorical awareness pre- test



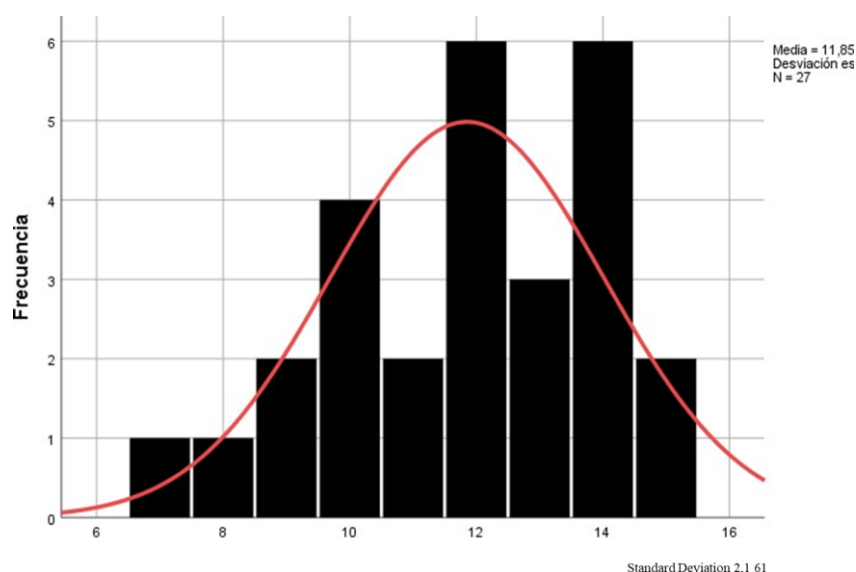
Graph 5.2 Chart of the experimental group's metaphorical awareness post- test

Compared with the same variable before and after the intervention programme, table 5.5 above, shows that the mean of metaphorical competence in written comprehension prior to the intervention is 9.19 out of 15, with a deviation of 2.47; the minimum score is 4 and the maximum score is 14 out of 15. In this light, the metaphorical competence in written comprehension after the intervention programme results in an average score of 11.85; the minimum score is 7 and the maximum is 15 out of 15. Thusly, written comprehension increases by approximately 3 points. Regarding percentiles, the 75th percentile increases from 11 to 14 points out of 15. The written comprehension variable, according to what could be observed in the charts of graphs 5.3 and 5.4, tends to increase after the application of the intervention, with a tendency to negative asymmetry in the post-test.



Graph 5.3 Chart of the experimental group's metaphorical competence in the written comprehension variable pre- test

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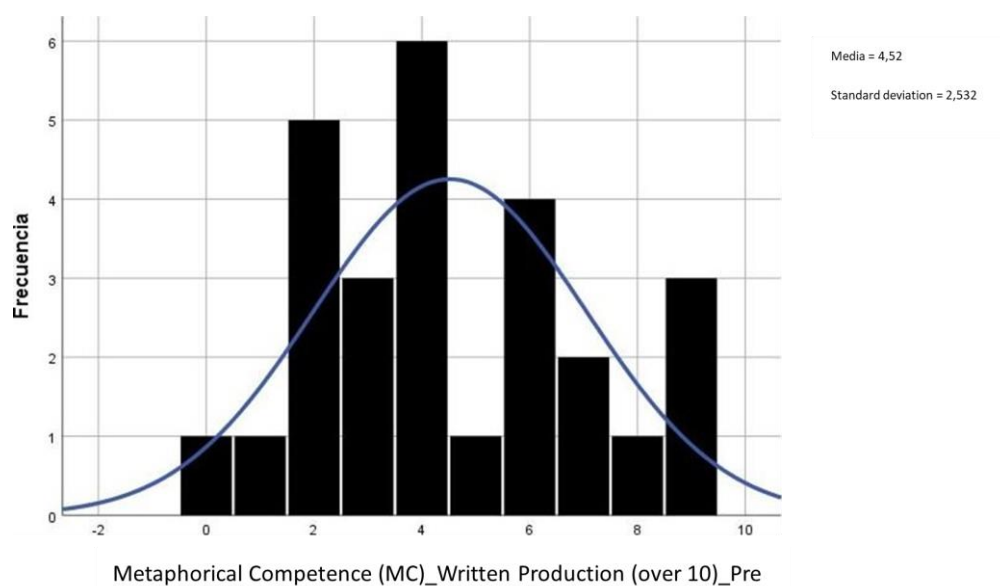
Metaphorical Competence (MC)_Written Comprehension (over 15)_Post

Graph 5.4 Chart of the experimental group's metaphorical competence in the written comprehension variable post- test

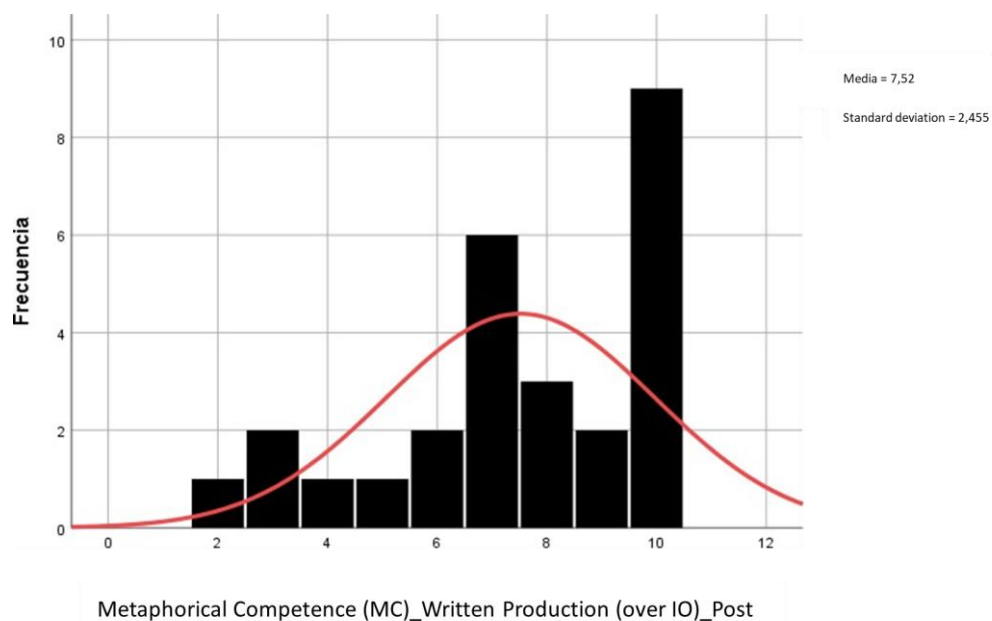
Returning to table 5.5, metaphorical competence was also measured in written production of the experimental group prior to the intervention. The results show an average of 4.52 points out of 10 with a deviation of 2.53. Regarding the participating sample, the minimum score obtained in this variable was 0 and the maximum score was 9 out of 10 points. After the intervention, the variable of written comprehension within metaphorical competence of the experimental group was measured again in a post-test. Remarkably, an increase of 3 points is observed, from 4.52 to 7.52 points out of 10. It should be noted that the 50th percentile increases from 4 to 8 out of 10 with respect to the subsequent evaluation, and the 75th percentile obtains the maximum score after the application of the intervention with 10 out of 10.

The charts of graphs 5.5 and 5.6, show the pre- and post- results of the variable of written production within the metaphorical competence of the experimental group. The variable seems to be less homogeneous than the previously evaluated variables. The reason for this is a tendency to a negative asymmetry observed in contrast with the results of the same variable in the pre-test.

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Graph 5.5 Chart of the experimental group's metaphorical competence in the written production variable pre- test



Graph 5.6 Chart of the experimental group's metaphorical competence in the written production variable post- test

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5.2.5.5.2 Data Analysis of the Control Group

Secondly, descriptive measurements of the control group, recognised as Group 2, are requested, selected, and analysed (Table 5.5).

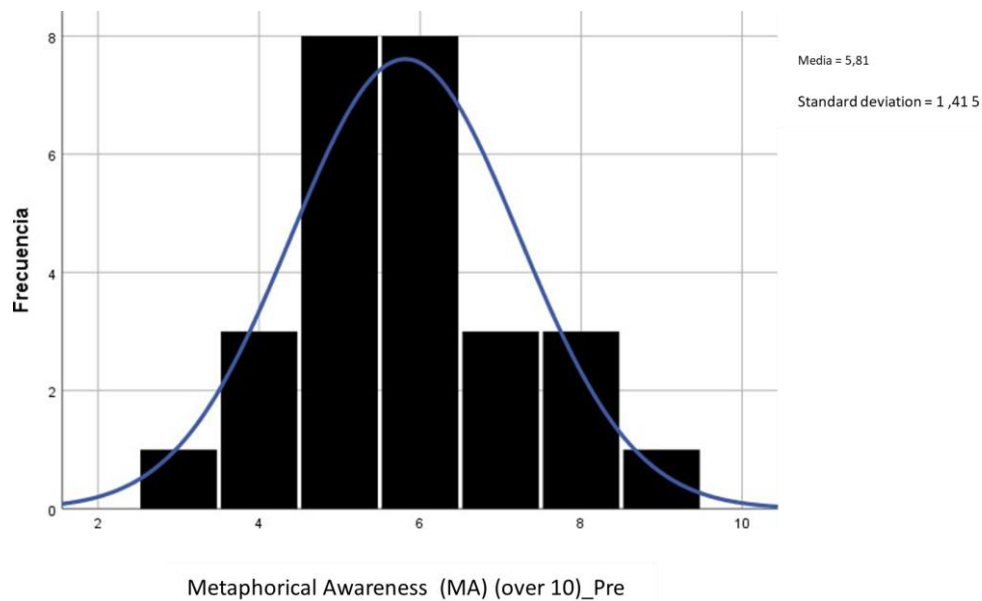
Table 5.5 Summary table of descriptive statistics of the variables for control group

	Metaphorical Awareness (MA) (Out of 10)_Pre-	Metaphorical Awareness (MA) (Out of 10)_Post-	Metaphorical Competence (MC)_Written Comprehension (Out of 5)_Pre-	Metaphorical Competence (MC)_Written Comprehension (Out of 15)_Post-	Metaphorical Competence (MC)_Written Production (Out of 10)_Pre-	Metaphorical Competence (MC)_Written Production (Out of 10)_Post-
Media	5,81	5,67	9,63	10,48	2,96	4,59
Mediana	6,00	6,00	10,00	11,00	2,00	4,00
Moda	5 ^a	6	10	8	2	4
Desv. Desviación	1,415	1,941	2,420	2,622	2,624	3,067
Varianza	2,003	3,769	5,858	6,875	6,883	9,405
Asimetría	0,353	-0,102	-0,655	-0,199	0,872	0,270
Curtosis	-0,044	-0,803	0,331	-1,345	-0,392	-0,955
Mínimo	3	2	4	6	0	0
Máximo	9	9	14	14	8	10
Percentiles 25	5,00	4,00	8,00	8,00	1,00	2,00
50	6,00	6,00	10,00	11,00	2,00	4,00
75	7,00	7,00	11,00	13,00	5,00	7,00

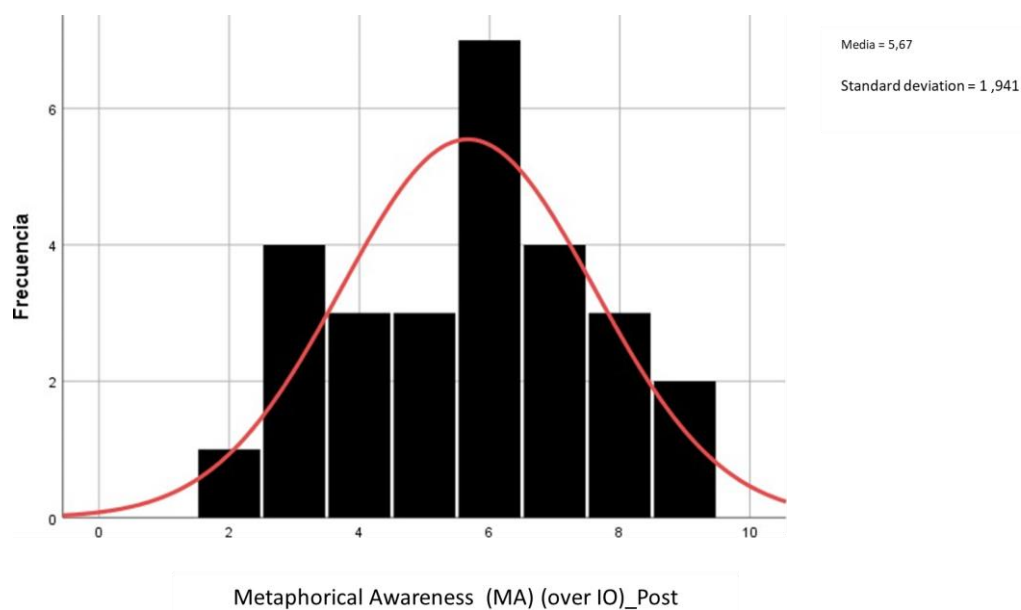
a. There are multiple modes. The smallest value is displayed.

From table 5.5 we can see that the metaphorical awareness of the control group, before the applied intervention, shows an average of 5.81 out of 10, with a deviation of 1.42. Keeping in mind that the minimum value of metaphorical awareness in the pre-test was 3 out of 10 and the maximum value was 9 out of 10, no improvement is perceived without intervention programme in the post-test of the control group's metaphorical awareness. Thereby, no apparent changes are observed in the graphs of the pre- and post- test for the first and second measurements for the variable of the metaphorical awareness (Graphs 5.7 and 5.8).

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Graph 5.7 Chart of the control group's metaphorical awareness pre- test

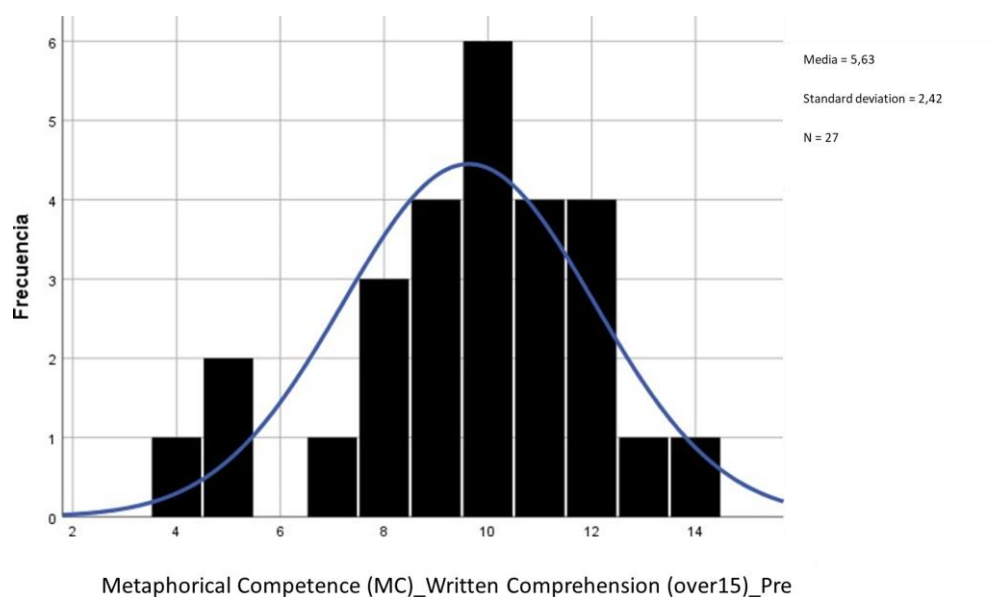


Graph 5.8 Chart of the control group's metaphorical awareness post- test

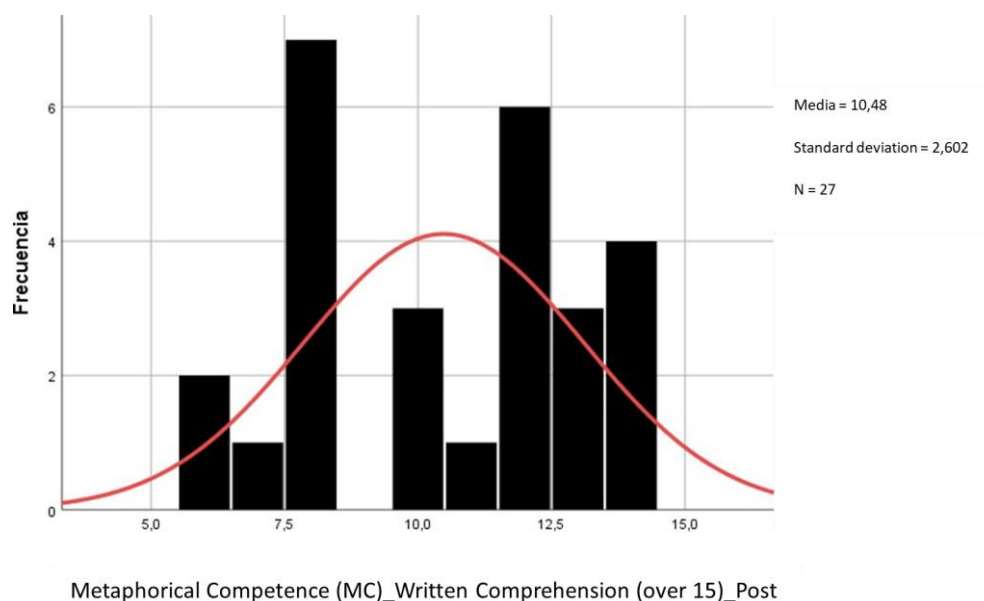
Going back to table 5.6, the mean of the metaphorical competence variable in written comprehension prior to the intervention is 9.63 out of 15, with a deviation of 2.42. The minimum and maximum scores of the participants are 2 and 9 out of 15 respectively. This could indicate that there is no pre- and post- improvement when the intervention programme is not applied. Metaphorical competence in written comprehension, after the intervention, results in an average of 10.48, which

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compared to the pre-test shows an increase of less than one point, which is not significant (Graphs 5.9 and 5.10).



Graph 5.9 Chart of the control group's metaphorical competence in the written comprehension variable pre- test

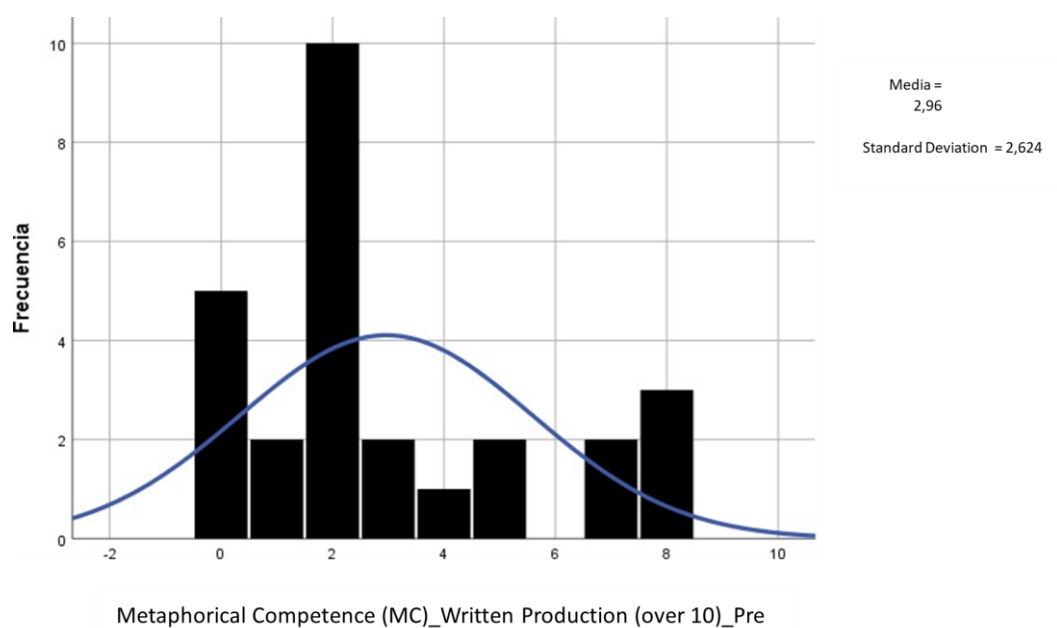


Graph 5.10 Chart of the control group's metaphorical competence in the written comprehension variable post- test

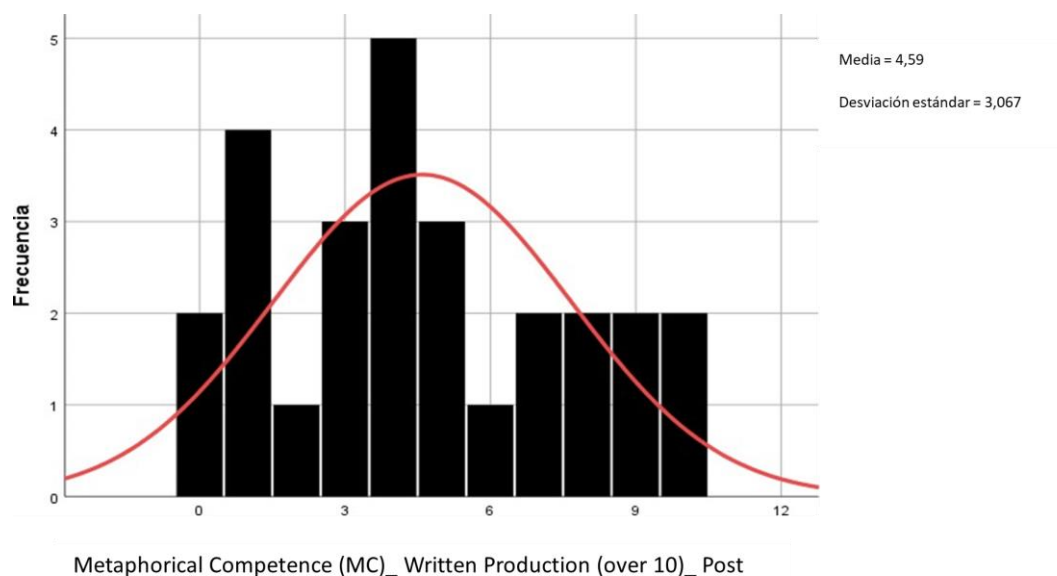
The last variable measured in the pre- and post- tests for the control group was the written production within the metaphorical competence. The results of the pre-test, whose reference is table 5.6, show an average of 2.96 points out of 10 with

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a deviation of 2.63. Regarding, the participating sample, the minimum score obtained was 0 and the maximum was 8 out of 10. In the post- test, this variable showed an increase of 1 and a half points, which is not very significant when compared to the increase of 3 points in the same variable in the experimental group, which will be explained in the discussion section (Graph 5.11 and 5.12).



Graph 5.11 Chart of the control group's metaphorical competence in the written production variable pre-test



Graph 5.12 Chart of the control group's metaphorical competence in the written production variable post- test

5.3 Results

The general objective of the study was to explore the potential of the designed intervention programme and to observe whether metaphorical awareness predicts metaphorical competence. The tipping point is whether an increase in metaphorical awareness develops an improvement in metaphorical competence. Thus, metaphorical awareness and metaphorical competence were observed in university students at the Higher Technical School of Aeronautics of Madrid. The experiment was conducted in a pre- /post- testing design to analyse the augmentation in these skills. For that purpose, two groups were contrasted: the experimental group and the control group. Besides, an intervention programme was applied to the experimental group in addition to the pre- and post- tests, whilst only the tests were administered to the control group.

5.3.1. Results related to the First Research Question: Aeronautics students' L2 metaphorical awareness levels

The three hypotheses contained in this section revolved around the participants' L2 metaphorical awareness levels of both groups: experimental and control group, as well as a comparative between them. The purpose was to determine what their initial level was by the time they were administered the pre-test and what their final metaphorical awareness level was when they completed the post-test, bearing in mind that the experimental group was instructed an intervention programme.

5.3.1.1. Hypothesis 1

With respect to metaphorical awareness the results showed that it was significantly higher in the post-test intervention measurement ($M = 6.56$, $SD = 1.847$) than in the pre-test intervention measurement ($M = 5.07$, $SD = 1.072$, $p < .005$). The testing, predicated on the Shapiro-Wilk, null hypothesis, and Wilcoxon statistical analysis, indicated so.

The following description of the tests below serves as a reference of the exhaustive analysis evaluated throughout this entire section. The significance level was checked using the Shapiro-Wilk statistic, the results of which can be seen in table 5.6. If it was less than 0.05, the distribution was not normal. Therefore, to analyse the metaphorical awareness variable in the experimental group, non-parametric statistic was used.

Table 5.6 Shapiro-Wilk statistical result to verify normal distribution in experimental group's metaphorical awareness

	Shapiro-Wilk		
	Estadístico	gl	Sig.
Metaphorical Awareness (MA) (out of 10)_Pre-	0,920	27	0,040
Metaphorical Awareness (MA) (out of 10)_Post-	0,911	27	0,024

More specifically, since there were two related samples, the Wilcoxon measurement was applied to test the hypothesis and assess whether or not there were significant differences between the measurements before and after the application of the intervention (Table 5.7).

Table 5.7 Wilcoxon signed rank test results for hypothesis 1

Metaphorical Awareness (MA) (out of 10)_Post – Metaphorical Awareness (MA) (out of 10)_Pre -	
Z	-3,377 ^b
Sig. asintótica(bilateral)	0,001

a. Wilcoxon signed rank test

b. It is based on negative ranges

Nonetheless, prior to the Wilcoxon test, it was postulated the contrast of hypotheses. The null hypothesis that assumed equality of means was proposed, indicating that the distribution of the data of a variable was the same in both groups.

In other words, if the null hypothesis was accepted, it means that there were no differences due to the intervention (Table 5.8).

Table 5.8 Null hypothesis. Descriptive statistics pre- and post- experimental group's metaphorical awareness

	N	Media	Desv. Desviación	Mínimo	Máximo
Metaphorical Awareness (MA) (out of 10)_Pre-	27	5,07	1,072	3	7
Metaphorical Awareness (MA) (out of 10) Post-	27	6,56	1,847	1	10

Since the level of significance is 0.001, the null hypothesis was rejected, indicating that there were statistically significant differences between the previous and subsequent results in metaphorical awareness after the measurement once the intervention was applied.

5.3.1.2. Hypothesis 2

Concerning the control group, which deals with aeronautical engineering students' L2 metaphorical awareness levels, hypothesis two states that there are no significant differences in metaphorical awareness between the first and second measurement in the control group. From table 5.8 we can see that the metaphorical awareness of the control group, before the applied intervention, shows an average of 5.81 out of 10, with a deviation of 1.42. Keeping in mind that the minimum value of metaphorical awareness in the pre-test was 3 out of 10 and the maximum value was 9 out of 10, no improvement is perceived without intervention programme in the post-test of the control group's metaphorical awareness (Table 5.9).

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Table 5.9 Summary table of descriptive statistics of the variables for control group

	Metaphorical Awareness (MA) (Out of 10)_Pre-	Metaphorical Awareness (MA) (Out of 10)_Post-	Metaphorical Competence (MC)_Written Comprehension (Out of 5)_Pre-	Metaphorical Competence (MC)_Written Comprehension (Out of 15)_Post-	Metaphorical Competence (MC)_Written Production (Out of 10)_Pre-	Metaphorical Competence (MC)_Written Production (Out of 10)_Post-
Media	5,81	5,67	9,63	10,48	2,96	4,59
Mediana	6,00	6,00	10,00	11,00	2,00	4,00
Moda	5 ^a	6	10	8	2	4
Desv. Desviación	1,415	1,941	2,420	2,622	2,624	3,067
Varianza	2,003	3,769	5,858	6,875	6,883	9,405
Asimetría	0,353	-0,102	-0,655	-0,199	0,872	0,270
Curtosis	-0,044	-0,803	0,331	-1,345	-0,392	-0,955
Mínimo	3	2	4	6	0	0
Máximo	9	9	14	14	8	10
Percentiles 25	5,00	4,00	8,00	8,00	1,00	2,00
50	6,00	6,00	10,00	11,00	2,00	4,00
75	7,00	7,00	11,00	13,00	5,00	7,00

a. There are multiple modes. The smallest value is displayed.

The measurements to assess the participants' level of metaphorical awareness in L2 led us to ascertain that the second hypothesis which suggested that there were no significant differences in the control group's metaphorical awareness between the first and second measurement was confirmed by the statistical analysis. As in the experimental group, statistical procedure was followed by administering a series of tests such as the Shapiro-Wilk (5.10) and parametric tests, including the T-test.

Table 5.10 Shapiro-Wilk statistical result to verify normal distribution in control group's metaphorical awareness

	Shapiro-Wilk		
	Estadístico	gl	Sig.
Metaphorical Awareness (MA) (out of 10)_Pre-	0,946	27	0,172
Metaphorical Awareness (MA) (out of 10)_Post-	0,954	27	0,262

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The result of the t-test (Table 5.11) was not significant, and the null hypothesis, explained in the previous section, was accepted.

Table 5.11 t-test between pre- and post- metaphorical awareness in the control group

		Paired differences			95% confidence		t	gl	Sig. (bilateral)
		Media	Desv. Desviación	Desv. Error promedio	Interval of the difference				
Par 1	Metaphorical Awareness (MA) (out of 10)_Pre – Metaphorical Awareness (MA) (out of 10)_Post-	0,148	2,032	0,391	Inferior -0,656 Superior 0,952		0,379	26	0,708

That is to say that the metaphorical awareness scores, scilicet levels, of the participants in the control group did not increase significantly after the first measurement (5.12).

Table 5.12 Descriptive statistics pre- and post- in control group's metaphorical awareness

		Media	N	Desv. Desviación	Desv. Error promedio
Par 1	Metaphorical Awareness (MA) (out of 10)_Pre-	5,81	27	1,415	0,272
	Metaphorical Awareness (MA) (out of 10)_Post-	5,67	27	1,941	0,374

5.3.1.3. Hypothesis 3

In an attempt to demonstrate that there are significant differences in metaphorical awareness in the second measurement between the experimental group and control group, the data obtained from the results of both groups were contrasted in the post-tests of metaphorical awareness. The results derived from the statistical study indicated that there were none, because the advantage of the control group on metaphorical awareness in the pre-test was neutralised by the increase in the same variable of the experimental group in the post-test after the intervention. The explanation of this item will be assessed in the next section; nevertheless, an account of the tentative analysis is shown below. Different non-parametric and parametric tests were applied to elucidate a series of factors, such as the normal distribution, as before, with the particularity that in this case the Kolmogorov-Smirnov test was used (Table 5.13):

Table 5.13 Kolmogorov-Smirnov statistical result for hypothesis 3

	Kolmogorov-Smirnov ^a		
	Estadístico	gl	Sig.
Metaphorical Awareness (MA) (out of 10)_Pre-	0,171	54	0
Metaphorical Awareness (MA) (out of 10)_Post-	0,125	54	0,034

As seen in table 5.21, since the significance level was less than 0.05 the distribution was not normal leading to non-parametric tests such as the Mann-Whitney U test due to having a qualitative variable and two independent samples (Table 5.14).

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Table 5.14 Mann-Whitney test results for pre- and post- metaphorical awareness

Control or experimental		N	Average Range	Sum of ranges
Metaphorical Awareness (MA) (out of 10)_Pre-	Control	27	31,41	848,00
	Experimental	27	23,59	637,00
	Total	54		
Metaphorical Awareness (MA) (out of 10)_Post-	Control	27	24,07	650,00
	Experimental	27	30,93	835,00
	Total	54		

The Mann-Whitney U test works with ranges, so the result showed the mean ranges first and, also, the sum of ranges. What this means is that the metaphorical awareness of the control group was higher on the first measurement, the pre-test; this outcome, however, was reversed in the second measurement, after the intervention of the experimental group, resulting in an increase in metaphorical awareness compared to the control group. In sample 2 (Table 5.15), the significance was 0.059 in the first measurement, while in the second measurement was 0.104, so it was higher than the significance level of 0.05. This means that with these data it was not possible to determine any difference between both groups regarding the metaphorical awareness measurements.

Table 5.15 Mann-Whitney & Wilcoxon test statistics for metaphorical awareness pre- and post-

	Metaphorical Awareness (MA) (out of 10)_Pre-	Metaphorical Awareness (MA) (out of 10)_Post-
U de Mann-Whitney	259,000	272,000
W de Wilcoxon	637,000	650,000
Z	-1,885	-1,624
Sig. asintótica(bilateral)	0,059	0,104

a. Groups variable: Control or experimental

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Considering the second measurement (post-test), the two samples obtained different values (CG $M = 24.07$ and EG $M = 30.93$) although the Mann-Whitney U test showed that this difference was not significant ($U = 272$, $p = .104$).

5.3.2. Results related to the Second Research Question: whether an increase in metaphorical awareness influences an increase in metaphorical competence

5.3.2.1. Hypothesis 4

In this hypothesis, only the experimental group was addressed to see if a development in metaphorical awareness, as seen in hypothesis 1, predicts metaphorical competence. In this sense, the factor to be examined was whether metaphorical awareness and total metaphorical competence follow a normal distribution. The Shapiro-Wilk was observed. Since one of them follows a normal distribution and the other is not, non-parametric techniques were used (Table 5.16)

Table 5.16 Normality tests

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Estadístico	gl	Sig.	Estadístico	gl	Sig.
Metaphorical Awareness (MA) (over 10)_Post	,163	27	,064	,911	27	,024
Metaphorical Competence (MC)_TOTAL (over 25)_Post	,134	27	,200*	,951	27	,223

*. This is a lower limit of true significance.

a. Lilliefors meaning correction.

Moreover, in order to know whether there is a relationship between metaphorical awareness (post) with metaphorical competence (post), bivariate correlations were used. In this case, Spearman's Rho was used as a non-parametric technique (Table 5.17).

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Table 5.17 Correlations between metaphorical awareness and metaphorical competence

			Metaphorical Awareness (MA) (over 10)_Post	Metaphorical Competence (MC)_TOTAL (over 25)_Post
Rho de Spearman	Metaphorical Awareness (MA) (over 10)_Post	Coeficiente de correlación	1,000	,433*
		Sig. (bilateral)	.	,024
		N	27	27
	Metaphorical Competence (MC)_TOTAL (over 25)_Post	Coeficiente de correlación	,433*	1,000
		Sig. (bilateral)	,024	.
		N	27	27

*. The correlation is significant at the 0.05 level (bilateral).

Scilicet, there is a positive correlation (.433) between metaphorical awareness (post) and total metaphorical competence (post) in the experimental group, this being significant ($p > .024$). This means that if metaphorical awareness increases, metaphorical competence will also increase.

5.3.3. Results related to the Third Research Question: development of metaphorical awareness and metaphorical competence due to specific instruction of an intervention programme

In an attempt to demonstrate the effectiveness of the intervention programme to develop metaphorical awareness and metaphorical competence, the data obtained from the results of the pre-post tests of the experimental group were examined and contrasted to those of the control group. In the first place, metaphorical awareness was already assessed in hypothesis 1, above, which leads to directly address metaphorical competence in all its variants: written comprehension, written production, and total metaphorical competence. In this regard, it is important to establish whether metaphorical competence in each variant increases in the second measurement, that is, after the intervention for the experimental group. The research question indirectly speculates that there were significant differences in metaphorical competence in the second measurement

between the experimental group and the control group and the results evinced that there were indeed significant differences.

As always, parametric, and non-parametric tests were employed to discern the answer. Additionally, Levene's test of equality of variances which tells us whether equal variances can be assumed was used. Thus, if the probability associated with Levene statistics is >0.05 , equal variances were assumed; if <0.05 , then different variances were assumed. In this case, regarding the results of the second measurement, post-test, equal variances were assumed.

On the other hand, the T-student test must gather three assumptions: normality (checked by the Kolmogorov-Smirnov), independence (the participants belong to two different groups which do not mix), and homogeneity of the variables (similar variances between the two groups, tested through the Levene Test). After assuming equal or similar variances within the same table (Table 5.18), the t-statistics was observed with its bilateral significance level. This value informed the researcher about the degree of compatibility between the hypothesis of equality of means (null hypothesis) and the difference between observed population means (alternative), which in this case was less than 0.05, so the null hypothesis was rejected. The conclusion was that the means of the control group were different from those of the experimental group. This confirmed that the intervention was effective with respect to total metaphorical competence.

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Table 5.18: t-test results for pre- and post- metaphorical competence in both groups

		Levene's test of equality of variances		t-test for equality of means					95% confidence of Interval of the difference	
		F	Sig.	t	gl	Sig. (bilateral)	Diferencia de medias	Diferencia de error estándar	Inferior	Superior
Metaphorical Competence (MC)_TOTAL (out of 25)_Pre-	Equal variances are assumed	0,197	0,659	-0,943	52	0,350	-1,111	1,178	-3,475	1,253
	Equal variances are NOT assumed			-0,943	51,846	0,350	-1,111	1,178	-3,475	1,253
Metaphorical Competence (MC)_TOTAL (out of 25)_Post-	Equal variances are assumed	1,707	0,197	-3,824	52	0,000	-4,296	1,124	-6,551	-2,042
	Equal variances are NOT assumed			-3,824	49,905	0,000	-4,296	1,124	-6,553	-2,040

5.3.3.1. Hypothesis 5

This hypothesis establishes whether there are significant differences in the metaphorical competence in written comprehension before and after the intervention for the experimental group. The assessments showed an increase after the intervention, leading to believe that the intervention programme was effective. The statistical measures applied in this case were parametric statistics. In this case, two different statistical measurements were applied to the samples: the student's T test for related samples and the intra-subject ANOVA to test the hypothesis and assess whether or not there were significant differences between the measurement before and after the application of the intervention. Nonetheless, as in the preceding variable, the contrast hypothesis was postulated to discern the null hypothesis (Table 5.19) and also the level of significance was checked.

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Table 5.19 Null hypothesis. Descriptive statistics in experimental group's metaphorical competence in pre- and post- written comprehension

	Media	N	Desv. Desviación	Desv. Error average
Metaphorical Competence (MC)_Written Comprehension (over 15)_Pre	9,19	27	2,466	0,475
Metaphorical Competence (MC)_Written Comprehension (over 15)_Post	11,85	27	2,161	0,416

The scores for the written comprehension variable before the intervention had lower values ($M = 9.19$, $SD = 2.466$) than the score for the variable after the intervention ($M = 11.85$, $SD = 2.161$). However, a dependent sample t-test showed that this difference was not statistically significant, $t(26) = -4.785$ $p = .000$, 95% confidence interval $(-3.812, -1.521)$ (Table 5.20).

Table 5.20 T test for experimental group's metaphorical competence in written comprehension pre- and post-

	Paired differences				t	gl	Sig. (bilateral)	
	Media	Desv. Desviación	Error225awareness2255% confidence Interval of the difference					
Inferior	Superior							
Metaphorical Competence (MC)_Written Comprehension (O-t of 15)_Pre - Metaphorical Competence (MC)_Written Comprehension (Out of 15)_Post -	-2,667	2,896	0,557	-3,812	-1,521	-4,785	26	0,000

This test resulted in a p-value of .000, which was below the defined significance level of 0.05. Therefore, the result of the t-test was significant, and the null hypothesis was rejected. In other words, the scores in metaphorical competence in written comprehension increased after the intervention, so the intervention was effective.

In contrast, no significant differences were detected in the metaphorical competence in the written comprehension variable between the first and second measurement in the control group. Statistical analysis confirmed this hypothesis. The usual statistical tests were applied, such as the Shapiro-Wilk test in which if the significance level was greater than 0.05, the distribution was normal, and therefore, other parametric tests were used, like the t-test, whose result was not significant, and therefore the null hypothesis was accepted. The usual statistical tests were applied, such as the Shapiro-Wilk test in which if the significance level was greater than 0.05, the distribution was normal, and therefore, other parametric tests were used, like the t-test, whose result was not significant, and therefore the null hypothesis was accepted.

5.3.3.3. Hypothesis 6

With reference to the sixth hypothesis, the results on the variable of written production within metaphorical competence extracted from the statistical measurements pre- and post- intervention for the experimental group indicated that certainly there were significant differences. Like the previous variable, the level of significance was checked which threw a value of .000, so the null hypothesis was rejected, indicating that there were statistically significant differences between the previous and subsequent results in the experimental group's metaphorical competence in this variable once the intervention was applied. Besides, parametric statistics were also used. Hence, the Wilcoxon measurement was applied to test the hypothesis (Table 5.21).

Table 5.21 Wilcoxon signed rank test results for hypothesis 6

Metaphorical Competence (MC)_Written Production (out of 10)_Post – Metaphorical Competence (MC)_Written Production (out of 10)_Pre-	
Z	-3,912 ^b
Sig. asintótica(bilateral)	0,000

a. Wilcoxon signed rank test

b. It is based on negative ranges.

In addition, descriptive statistics of the experimental group's metaphorical competence in pre- and post- written production are shown in table 5.22.

Table 5.22 Descriptive statistics of experimental group's metaphorical competence in written production

	N	Media	Desv. Desviación	Mínimo	Máximo
Metaphorical Competence (MC)_Written Production (out of 10)_Pre-	27	4,52	2,532	0	9
Metaphorical Competence (MC)_Written Production (out of 10)_Post-	27	7,52	2,455	2	10

The reading of table 5.22 is as follows: metaphorical competence in written production was significantly higher in the post-test intervention measurement ($M = 4.52$, $SD = 2.532$) than in the pre-test intervention measurement ($M = 7.52$, $SD = 2.455$, $P < .005$) for the experimental group. What is more, in comparison, the results presented from the same variable of the control group indicated significant differences that will be explained in the discussion section. As the statistical procedure was administered and evaluated, it was appreciated that only one of the variables followed a normal distribution, but the other did not, which was the reason why the non-parametric test of Wilcoxon was used. When examining the non-parametric Wilcoxon test (Table 5.23), it was observed that the level of significance is .012, so the null hypothesis was rejected, indicating that there were statistically significant differences between the previous and subsequent results in metaphorical competence regarding the variable of written production of the control group.

Table 5.23 Wilcoxon signed rank test result for the control group

Metaphorical Competence (MC)_Written Production (out of 10)_Pre- Metaphorical Competence (MC)_Written Production (out of 10)_Post-	
Z	-2,512 ^b
Sig. asintótica(bilateral)	0,012
a. Wilcoxon signed rank test b. it is based on negative ranges	

5.3.3.4. Hypothesis 7

Hypothesis seventh states that there are significant differences between the total metaphorical competence before and after the intervention programme for the experimental group and the results showed that there truly were. Once again, the level of significance was checked which reported being below the defined significance level of 0.05 with a p-value of .000. which resulted through the assessment of a t-test statistical measurement (Table 5.24).

Table 5.24 t-test between pre- and post- total metaphorical competence for experimental group

		Paired Differences							
		Medi a	Desv. Desviación	Desv. Error promedi o	95% confidence interval of the difference		t	Pair e	Sig. (bilateral)
					Inferior	Superior			
Par 1	Metaphorical Competence (MC)_TOTAL (out of 25)_Pre- Metaphorical Competence (MC)_TOTAL (out of 25) Post-	- 5,66 7	4,699	0,904	-7,525	-3,808	-6,267	26	0,000

On another account, the metaphorical competence variable score (Table 5.25) before the intervention had lower values ($M = 13.70$, $SD = 4.445$) than the variable score after the intervention ($M = 19.37$, $SD = 3.681$). A t-test for dependent samples showed that this difference was statistically significant, $t(26) = -6.267$, $p = .000$, 95% confidence interval $(-7.525, -3.808)$.

Table 5.25 Descriptive statistics pre- and post- in experimental group's total metaphorical competence

		Media	N	Desv. Desviación	Desv. Error promedio
Par 1	Metaphorical Competence (MC)_TOTAL (out of 25)_Pre-	13,70	27	4,445	0,855
	Metaphorical Competence (MC)_TOTAL (out of 25)_Post-	19,37	27	3,681	0,708

Therefore, the result of the t-test was significant, and the null hypothesis was rejected. In other words, the scores in metaphorical competence increased after the intervention, so the intervention was effective for the experimental group. Ultimately, when comparing the same variable in the control group, significant differences were found, as a matter of fact. As usual, the statistical procedure was followed to distinguish the implications of total metaphorical competence in the pre- and post- test of the control group (Table 5.26). The indications pointed that there were statistically significant differences between the previous and subsequent results in total metaphorical competence. In the discussion section, this anomaly will be addressed.

Table 5.26 Descriptive statistics pre- and post- total metaphorical competence in the control group

		Media	N	Desv. Desviación	Desv. Error promedio
Par 1	Metaphorical Competence (MC)_TOTAL (ouf of 25)_Pre-	12,59	27	4,209	0,81
	Metaphorical Competence (MC)_TOTAL (out of 25)_Post-	15,07	27	4,531	0,872

5.4 Discussion

In this section, we discuss the results of the three research questions posed. These questions involve the aeronautics students' L2 metaphorical awareness levels, whether an increase in metaphorical awareness is followed by an increase in metaphorical competence, that is, if metaphorical awareness predicts metaphorical competence, and whether metaphorical awareness and metaphorical competence are strengthened after the administration of the intervention programme. The first research question inquired about the metaphorical awareness possessed by the participants in both groups which led to the second query delving into the dichotomy of the relationship between metaphorical awareness and competence and finishing with the need to include an intervention programme as the instrument to apply metaphorical knowledge in the ESP classroom.

5.4.1. Aeronautics students' L2 metaphorical awareness levels

The metaphorical awareness of both groups, experimental group and control group, was measured twice, once before the intervention programme and once after for the experimental group, and also twice for the control group, but without any intervention. First of all, the results obtained from the experimental group suggested that the level increased from the pre-test to the post- test, which means that there were significant differences in their metaphorical awareness

before and after the intervention programme, leading to believe that the intervention was successful. In contrast, no significant differences in the control group's metaphorical awareness between the first and second measurement were found.

These results confirm the conclusions of several scholars (Deignan et al, 1997) who explicitly asserts that comprehending metaphors, which means being aware of what a metaphor is and the hidden meaning it conveys, through which metaphorical awareness can be fostered, is necessary to generate metaphors in L2; thus, be metaphorically competent. Enhanced comprehension will not be achieved without explicit instruction on metaphors, as "learners may need to be aware of the metaphorical motivation of linguistic items" (Beréñdi et al., 2008, p. 86). Methodologically, retention will not occur if the relevance of certain words and expressions categorised as metaphors, idioms, or figurative expressions is not explained to students.

To harbour long-term metaphorical awareness, EFL learners should be able to recognise unfamiliar metaphorical expressions and possess the skills to figure out their meaning. Educational voids rattle metaphorical awareness if no instruction has been pursued beforehand. The intervention programme is how students glimpse the world of metaphors with the help of instruction, a compendium of bespoke exercises and different strategies to approach the teaching of idioms that will foster metaphorical awareness.

At the same time, this corroboration highlights the need to establish strategies for teaching metaphors, such as translating metaphors from L2 to L1 (Johnson, 1989) to see the differences between languages. According to other academics (Jensen, 2005; Schäffner, 2016) the translation process will lay the foundations for understanding the mental process that figurative expressions entail to delve into how metaphors are created to reproduce the method. Moreover, it would also help to develop communication across linguistic and cultural boundaries, addressing the aforementioned transfer from source to target domain (Radden, 2002).

The correlation with the tests to which the aeronautics students were exposed underlined the translation process as a valid comprehension scheme to provide the meaning without context in the following examples from the metaphorical awareness test: *to cheer up*, *to be in high spirits*, *to give a lift/boost*, *to be under the weather*, and *to sink one's spirits*. This translating-strategy provides the EFL Learner with the skills to overcome the obstacles found in a discourse. Nonetheless, it can sometimes cause confusion when a suitable and equivalent L1 metaphor is not established. Thus far, other strategies should also be taken into consideration not only in the intervention programme but also in regular English lessons to complement translation and foster metaphorical awareness in L2.

Furthermore, there are other strategies that motivate attention, perception, and dynamo to a greater degree than translation. When metaphorical expressions are explained regarding the “motivations behind meaning” (Beréñdi et al., 2008, p. 71), metaphorical awareness is fostered aided by memorization. Scilicet, the original meaning they once had triggers mental mapping within cognitive semantics in EFL learners that correlates the meaning of a particular context into other potential scenarios.

By translating these metaphors from English into Spanish, the English learner will automatically understand the unknown expressions (if any) in English. The similarities between languages evidently help, as in the following cases of *small fortune* “*pequeña fortuna*”, and *to bear fruit* “*dar sus frutos*”. In other cases, however, a direct translation may not prompt a clear understanding of the L2 metaphor encountered; instead, alternative translations will give the clue, *as in*: *meant business* could be translated as “her father was serious” and *get the company off the ground* could be interpreted with the Spanish expression of “ponerse en marcha”.

5.4.2. Metaphorical awareness predicts metaphorical competence

To proceed to answer the second research question, whether an increase in L2 learners' metaphorical competence is a consequence of the increase of their metaphorical awareness, in other words, if metaphorical awareness predicts

metaphorical competence, the post-tests of the experimental group were analysed. Indeed, an increase in metaphorical awareness correlates with an increase in metaphorical competence. In this regard, the results predicated on whether the experimental group strengthened their total metaphorical competence after the intervention considering the written comprehension and written production variables; hence, developed metaphorical awareness, seen earlier. The outcome was positive, stating that there were significant differences in total metaphorical competence.

The former statement is understood to indicate that explicitly instructing metaphorical language is the most effective method for inspiring metaphorical competence in EFL learners (Beréñdi et al., 2008) than assuming that by showing students texts containing metaphors, they can take the initiative and creativity to resolve the tangled meaning of certain utterances. Without precise metaphorical instruction and attention to the metaphorical expressions present in the text, there is no visual image that can trigger a possible successful understanding of conceptual metaphors.

Moreover, the metaphor identification task is complex when knowledge of figurative language is scarce or non-existent. Similarly, extensive L2 knowledge is required even to identify metaphorical language when metaphors are not highlighted. As has been observed in the first and second measurements of the experimental group, in order to interpret the metaphors in the first exercise of the metaphorical competence test (Appendix G), cognitive linguistic processing is indispensable.

The metaphorical competence test proposed several exercises. The first one measured the written comprehension with a context provided. The participants were asked to provide the meaning of specific expressions from a text (Table 5.27). The context will pose the correct approach to figurative meanings that would otherwise be guessed depending on the knowledge of metaphors.

Table 5.27 Figurative expressions with context (taken from the first exercise of the metaphorical competence test by Samburskiy, 2020)

*“What? Another loan? No way, Kim, I’ve already given you **1) a small fortune!**” Kim shuddered as she knew her father **2) meant business** this time; she could hear it in his voice. “But, Dad... Please! Just until I **3) get the company off the ground.** Once I get some orders I’ll be fine... Honest!” She was desperate. Unless her father helped her out, her new clothing company would never get the chance to **4) bear fruit.***

The concern arises with the fact that the control group showed an increase in metaphorical competence in the written production variable in the post-test similar to that experienced by the experimental group with the help of the intervention programme. The exercise consisted of demonstrating metaphorical knowledge by singling out the odd one in a group of three sentences to try to explain the meaning of a formulaic expression (Table 5.28).

Table 5.28 Experimental group’s written comprehension exercise from the metaphorical competence test (Samburskiy, 2020)

Your idea is right up my alley
Your idea is strange
Your idea is great for me
Your idea is my idea

Deep processing may be behind the fact that some students belonging to the control group managed to optimally deduce the error in the metaphorical expressions of the first measurement, searching for it later and correcting it in the second measurement. Albeit sparse, some upper-intermediate levels have the audacity to “use their knowledge of the target language and discourse practices to guess what the speaker is implying” (Low, 2008, p. 221). What is more, grammatical and/or semantic errors were reasonably easy to detect in the written production exercise, the third task of the metaphorical competence test, unlike in written comprehension, the second task, where the meaning of idioms is sought.

These hurdles to cognitive linguistics in L2, that is the formulaic sentences also known as conceptual metaphors found in oral and written discourses, are part of native speakers' daily perspective of the world and hence cannot be isolated from L2 teaching (Nacey, 2016). In consequence, the dismissal of the importance of figurative language in traditional foreign language teaching can no longer be supported. Instead, the research literature on the topic endorses the almighty task of expanding the message that metaphors are not mere rhetorical devices (Zhou et al, 2022) but a fundamental link between non-native speakers' and native speakers' speech. Therefore, the teaching of metaphors by educators should never be an extraordinary lesson but rather inclusive within the pedagogical methodology of second language instruction.

Fiona MacArthur (2010) already applied cognitive linguistics in EFL learners' attempt to unravel metaphorical domains with respect to writing skills. The productive result enlightened the idiosyncrasies of the dynamics of figurative language and the principles it transmits to proceed to express ideas metaphorically in oral and written formats. Despite this, as has been pointed out (Sabet & Tavakoli, 2016) in previous chapters, the revealed metaphor may not present the most adequate meaning to portray the intended message in the amateur creation process.

As a deduction, training in metaphorical teaching becomes apparent when language learners can distinguish between conceptual and novel metaphor. In the first place, students have gained the metaphorical knowledge of utilising a learnt conceptual metaphor in the right context, as well as using creativity to construct new output from an original stem (Birdsell, 2018; Kelso, 2018). In both cases, metaphorical competence is mastered, which leads to a development of communicative competence.

The following examples from table 5.29 prompt students to highlight the error present in ten conceptual metaphors and correct it. Occasionally, the figurative language used in the metaphorical competence questionnaire administered to the experimental group before and after the intervention

programme, as well as to the control group without intervention, is of common knowledge and therefore the mistake is easily pointed out.

Table 5.29 Experimental group's written production exercise from the metaphorical competence test (taken from Samburskiy, 2020)

Metaphorical expressions with an error	Metaphorical expressions without an error
I think the change is already at the horizon	I think the change is already on the horizon
He is an up-and-running your business	He is an up-and running business man
This task is a slice of cake	This task is a piece of cake
Mr Smith is the right-arm man of my boss	Mr Smith is the right-hand man of my boss
I have no plans for tonight so I'll play it with ear	I hve no plans for tonight so I'll play it by ear

As an explanation to table 5.28, in the third line, that says *this task is a slice of cake* it is feasible to understand what the correct wording should be probably due to encounters with metaphorical language in traditional lessons, or due to similarities between the conceptual systems of L1 and L2; or in the fourth line, *Mr Smith is the right-arm man of my boss* which in Spanish stands for “ser la mano derecha”. On other occasions, expressions are intuitive, as in the second line, or even grammatically incorrect, as in the first line. However, there are countless times in which a B2/C1 English student comes across an unfamiliar conceptual metaphor, such as in the fifth line.

Undeniably, EFL learners' exposure to metaphorical language fosters metaphorical awareness and it masters metaphorical competence. The expressions written in the previous table are peripheral, underlining, over again, that any language known in the world (exceptions could be made in the indigenous languages of the Amazon rainforest and other isolated places like this) contains metaphors to convince and to persuade the audience, as Aristotle in the 4th century B.C. put it, and to embellish our speech, whether poetry or everyday conversation.

Thus by, it is in the interest of the EFL students, educational institutions, and nations to expose L2 learners to metaphors in innovative classes predicated on real-case scenarios. Owing to this innovation, the instruction of metaphorical language greatly assists to propel non-native speakers' discourses to the

international community, preventing communication handicaps and hence levelling up with native speakers' language proficiency (Gutierrez-Pérez, 2016, 2018). In closing, exposure to metaphorical expressions is key to developing metaphorical competence (Shirazi & Talebinezhad, 2013).

Concomitantly, the improvement of the former variant of written production exhibited in the control group results affects the total metaphorical competence, also increasing. In allusion to this anomaly the reason can be found in the dual coding (Beréñdi et al., 2008) used as an effective global strategy followed by the students in the control group with their upper-intermediate English language proficiency, collected from metaphorical competence questionnaire. The dual-coding elucidation technique entails successful metaphorical identification and meaning elucidation due to exposure of unfamiliar L2 metaphorical expressions mapped to known L1 idioms. In other words, the correlation of meaning between L1 and L2, partially ascribed to similarities between languages (Table 5.30).

Table 5.30 Dual coding: unfamiliar English idioms mapped onto familiar Spanish idioms (own creation)

English metaphoric expressions	Spanish metaphoric correspondence
I hate waking up at the crack of dawn	Se despertó con el kikiriki del gallo
I can't recall his name but it is on the tip of my tongue	Lo tengo en la punta de la lengua
When she said she loved someone else, she broke my heart	Tengo el corazón partío (me rompió el corazón)
My new computer cost an arm and a leg	Me ha costado un riñón
I think he really hit the nail on the head with his words	Le ha dado en la cabeza con sus palabras

In the case of the final results of total metaphorical competence, the previous discussion converges with the voices of some linguists (Hashemian & Nezhad, 2007) who navigate the field of cognitive linguistics in their study, and whose findings emphasise that the conceptual system of the L2 must be taken into account, since this is where the formulaic expressions reside, and these give meaning and understanding to the world. Ultimately, conceptual fluency is part of the linguistic skills to develop in the process of learning a second language, where

situation bound utterances SBU (Kecskes, 2000) are used, that is, conceptual metaphors to express thoughts, emotions, and daily routines (Danesi, 2016; Kiefer, 1996).

Finally, the effectiveness of an intervention programme as a methodological instruction tool in the L2 curriculum to promote metaphorical awareness and develop metaphorical competence is revealed as crucial to strengthen communicative competence in L2.

5.4.3. Anomalies that reinforce the effectiveness of the intervention programme

Two anomalies observed in the results section are explained below. With respect to finding significant differences in metaphorical awareness in the post-test between both groups, the results obtained from the statistical study stipulated that there were none, since the advantage that the control group had on metaphorical awareness in the pre-test was neutralised by the increase in the same variable of the experimental group in the post-test after the intervention.

Capitalizing on that outcome, the control group's slightly higher level of English proficiency tended to cause students to procure higher scores on the metaphorical awareness pre-test. However, after the intervention, the metaphorical awareness fostered by the experimental group increased while that of the control group remained the same. It must be remembered that the participants of both groups were of the same age and were in the third year of their degree, with both degrees being within the aeronautical field.

Throughout the continuum of cognitive linguistics, "the technique of metaphor awareness is powerful enough to accommodate all individual learners" (Boers, 2004, p. 221), reflecting good results in the experimental group after the intervention programme. Moreover, enhanced metaphorical awareness acquainted with a myriad of metaphor-focused activities yielded the students within the experimental group to reinforce vocabulary retention.

Similarly, a Japanese study (Yasuda, 2010) corroborates that the implementation of metaphorical awareness through conceptual metaphors contributes to the dissection of expressions that are analysed and thus understood by EFL students that belong to the experimental group, who can then proceed to apply the learnt metaphors in the right contexts, versus the students of the control group, who learnt the expressions by heart without a context. To this end, the metaphorical awareness test and questionnaire (Appendix F) administered in this dissertation sought to prone students to provide the meaning of ten figurative expressions classified under Lakoff and Johnson's (1980) conceptual metaphor theory. The aim was to check the awareness of both groups about metaphors in the pre-test and to strengthen the metaphorical knowledge in the post-test assimilated with the help of the intervention in the case of the experimental group.

Lastly, with regard to the speculation that there were significant differences in metaphorical competence in the second measurement between the experimental group and the control group. The results evinced that there were indeed significant differences, which confirmed that the intervention programme was effective with respect to total metaphorical competence.

In 2016, Regina Gutiérrez-Pérez already proclaimed that teaching metaphors to EFL learners in an ESP context would be the key to raising metaphorical awareness and fostering metaphorical competence as a way to brace communicative skills in Spanish students of any level of proficiency. Gutiérrez-Pérez (2018) tested her theory of innovative teaching methodology after confirming that figurative language was a missing subject not only in textbooks but also in the foreign language curricula of higher education institutions.

Based on the conceptual metaphor theory (Lakoff & Johnson, 1980) and within the cognitive linguistics paradigm (Croft & Cruse, 2004; Littlemore & Low, 2006; Boers & Linstromberg, 2006) new teaching strategies are achieved to develop metaphorical competence by focusing on "the conceptual motivation behind the figurative meaning" (Gutiérrez-Pérez, 2018, p. 1). Thus by, an English lesson in which metaphor-based activities are the core teaching/learning strategy

will undoubtedly boost students' knowledge of conceptual metaphors, increasing their mental processing on the principles of formation of novel metaphors (Table 5.31).

Table 5.31 Sample of metaphor-based activity included in the intervention programme (taken from John Wright's Idioms Organiser, 1999)

Literal Use	Idiomatic Use
The river flooded several villages	The crowd flooded on to the pitch
Piles of rubbish lay everywhere	He's got piles of money

5.4.4. The influx of song lyrics to foster metaphorical awareness within a context of musical experience in the ESP classroom

Furthermore, analyses of the lyrics of contemporary songs were introduced in the intervention programme as an innovative linguistic tool in which the metaphorical component of language is analysed through media discourse. By listening to contemporary songs and detecting the metaphorical expressions in the lyrics, metaphorical awareness can be fostered. Thus, this teaching strategy can be rewarded with the development of metaphorical awareness facilitated through songs. In other words, if song lyrics awaken the cognitive approach to metaphorical expressions in the ESP classroom, with music and its catchy rhythm as a possible motivational element with which students may be inclined to show interest in acquiring metaphorical awareness.

As for exposure of metaphorical awareness through song lyrics, either by singing or saying the words out loud, it is due to the fact that only when a string of words is pronounced does the speaker become aware of the words they are saying. Additionally, those words that are read and repeated (Butzlaff, 2000; Smith, 2000) follow a rhythmic pattern. Against this backdrop, positive concerns arise when EFL learners realize that certain expressions are unfamiliar to them, which makes them cognizant of the factuality that there is room for improvement in a second or foreign language.

In previous sections, song writing has been compared to poetry. What is more, poetry is literature and literature is the art of verbal expression and therefore encompasses not only written texts but also oral or sung texts according to the Royal Spanish Academy (RAE), such as songs. Moreover, literature can be used as a language teaching technique to assume the grammatical rules, vocabulary, pronunciation and the four language skills (Hismanoglu, 2005). Hence, from birth, children are bombarded with literature in the form of stories or books and lullabies.

In a similar light, second or foreign language teaching can be approached with literary texts through which the examination of the use of a particular set of grammar rules rather than others can be highlighted. To this end, well-trained teachers are sought. Thus, the process towards mastering EFL effectively includes the implementation of both literary texts per se as well as song lyrics, since music can be a motivating element that can trigger curiosity. The following song illustrates metaphors in song lyrics (Table 5.32).

Table 5.32 Sample of metaphorical expressions in song lyrics
(taken from *Adore You* by Harry Styles)

Walk in your rainbow paradise
Strawberry lipstick state of mind
I get so lost inside your eyes
Would you believe it?

<https://youtu.be/VF-r5TtIT9w>

In concordance with our intervention programme, metaphorical awareness-raising lessons were established as the first and second units of an eight-unit syllabus design predicated on singing contemporary songs that students liked. Subsequently, the musical experience was followed by literary text analysis activities. Accordingly, this strategy leads to developing metaphorical awareness in the form of unravelling the meaning of such expressions. Understanding meaning through a “memory process of encoding and decoding of non-musical information which makes music become an efficient memory device” (Galinska, 2015, p. 835) culminates in the use of a song as memory prompter (Anton, 1990). Thereby, the assimilation of vocabulary, including figurative language will

reinforce the metaphorical competence, and hence, communicative competence of L2 learners.

On this note, a difference between passive and active listening ought to be established. Passive listening outside the classroom in a relaxed state of mind only prompts inquisitiveness in very few students. However, active listening in the ESP class is the basis of an innovative teaching methodology (Costeleanu, 2022). Listening to songs in the foreign language classroom (Tse, 2015) has got positive effects on improving communicative competence in L2 through the interplay between music and language by way of listening skills (Horn, 2007).

Therewith, raising active listening skills in the classroom presents a cutting-edge approach to language teaching in which the pervasive power of sound is channelled into a “modified auditory input” (Fonseca-Mora, 2000, p.146) that encourages intonation and rhythm (Millington, 2011), improving pronunciation and remembrance of vocabulary (Morphey, 1990).

5.5. Conclusion

The objective of the present study has been to explore the benefits of an intervention programme in the ESP course of aeronautics, where students based their increase of metaphorical awareness on the media discourse of song lyrics, that led to the development of metaphorical competence through the application of content/concept-based exercises. To our knowledge, no study that underlines the importance of including metaphors in the classroom (Gutiérrez-Pérez, 2016; MacArthur, 2010) have framed the didactic instruction with full cognizance of the positive effects of musicality (Fonseca-Mora, 2000).

On this account, metaphors aid in daily communications by conveying what would otherwise be difficult or impossible to express (Ortony & Fainsilber, 1987). The use of a metaphor or figurative expression is extremely effective when trying to express a feeling or an emotion. Besides, research has reported that metaphors

are so popular and widely used among ordinary speakers, as well as among songwriters, due to the linguistic need to invent new expressions with which to vehemently describe a feeling or an action in a few metaphorically charged words. In this respect, this study is informed by the notion that the rhythm of music is a motivating agent (Gardner, 1993; Towell, 1999), thus becoming a crucial factor in persuading students to delve deeper into semantics, by analysing the meaning of song lyrics. Subsequently, understanding the subliminal messages of contemporary songs that transmit culture-bound customs is only possible by strengthening metaphorical awareness and metaphorical competence.

Furthermore, when teaching a second language to L2 learners, be it English in Spain or Spanish in Japan, professors should assess whether students' communicative competence in the second or foreign language includes metaphorical competence in a seamless discourse, similar to how native speakers express their actions and emotions. This approach implicitly considers conceptual fluency in L2 (Gibbs, 1999; Kövesces, 2010; Lakoff & Johnson, 1980), in which linguistic and communicative adequacy in L2 goes conjointly with L1. Hence, the conceptualization of figurative language in L2 requires unravelling a deep-rooted and possibly distant historical meaning that requires time to grasp, and even more so to reciprocate in the appropriate context.

To this end, metaphor teaching techniques in an intervention programme expose student to translating specific metaphorical expressions from L2 to L1 so that the full meaning of the figurative expression is comprehended and retained. For instance, *to think outside the box* (Velasco-Sacristán, 2009) translates as “pensar fuera de la caja”, which will reflect elaborate thinking if EFL learners when using this expression refer to “think creatively to solve a problem without being influenced by common solutions”. The inference from this dissertation is that the L2 communicative process is more effective when metaphorical competence has been mastered as a consequence of the development of metaphorical awareness, acquired through an intervention programme. Moreover, the realization that the development of metaphorical competence is essential for L2 education (Gutiérrez-

Pérez, 2016; Liu & Hsieh, 2020; MacArthur, 2010) is broadening the horizons of L2 teachers around the world.

Additionally, second or foreign language learners learn the culture of the country where that language is spoken while absorbing figurative expressions (Danesi, 2016). This methodology can be bolstered with a new didactic proposal hinged on music that brings motivation and interest to the ESP classroom of the degree of Aviation. Thus, the intended focus of this PhD is the construction of a pedagogical musical experience for aeronautics students predicated on fostering metaphorical awareness and developing metaphorical competence in the ESP classroom with the help of music in the form of the lyrics of the songs, and the discourse analysis of them.

For this purpose, a retrospective review of the literature on musical experience for language learning has been revised. In our language intervention programme, a musical experience is used as a classroom activity to enhance knowledge of metaphorical language in the ESP classroom of the Higher School of Aeronautics of Madrid, where students will proactively learn to foster metaphorical awareness and master metaphorical competence. The implementation of metaphors assists to improve communication skills in the L2 ESP course in any professional field. By adding such a motivating element in the classroom environment, such as music (Boothe & West, 2015), students are encouraged to increase second language learning skills based on strengthening communicative competence.

Our data were collected from 54 students divided into two groups of 27 students each called experimental group and control group. Two tests and three questionnaires were administered in a pre- and post- test dynamic, and an intervention programme was conducted with the students of the experimental group, between the pre- and post- tests to prove our hypotheses that specific instruction of an intervention programme, strengthens students' metaphorical awareness and metaphorical competence. Thus, the tests and questionnaires were used to evaluate the students' musical habits, their awareness of metaphors, and their wielding of metaphorical competence in written comprehension and written

production. All data procured in the pre- and post- tests were analysed using Statistical Presentational System Software (SPSS) from which the tables, figures and graphs in the results section were taken.

The main findings of the study point in the direction of remarkable differences between the pre- and post- tests of the experimental group, as opposed to the control group. Three research questions were interpellated, resulting in seven different hypotheses. The hypotheses tested were as follows:

Hypothesis 1: There are significant differences in metaphorical awareness levels between the first and second measurement in the experimental group.

Hypothesis 2: There are no significant differences in metaphorical awareness levels between the first and second measurement in the control group.

Hypothesis 3: There are significant differences in metaphorical awareness in the second measurement between the experimental group and control group.

Hypothesis 4: Metaphorical awareness predicts metaphorical competence.

Hypothesis 5: There are significant differences in metaphorical competence in written comprehension before and after the intervention for the experimental group.

Hypothesis 6: There are significant differences in metaphorical competence in written production before and after the intervention for the experimental group.

Hypothesis 7: There are significant differences in total metaphorical competence before and after the intervention programme for the experimental group.

Our first hypothesis addresses students' L2 metaphorical awareness levels. In this regard, although exposure to metaphorical expressions may occur in the pre-

test, the meaning of those expressions may be unclear, and hence, students' metaphorical awareness level would be lower than after an intervention programme. The metaphorical awareness pre-test consisted of reading and repeating words (Butzlaff, 2000; Smith, 2000), which helps to memorize expressions, including figurative language, but from which the meaning of the figurative expressions had to be elucidated without context.

Our second hypothesis corresponded to the L2 metaphorical awareness levels of aeronautical engineering students, recognised as the control group. It voiced that there were no significant differences in metaphorical awareness between the first and second measurement. The results confirmed that, in fact, metaphorical awareness remained the same in the post-test as in the pre-test, which resembled the consistency mentioned above. It states that only with explicit metaphor instruction can students develop the cognitive skills necessary to be aware of and understand the metaphorical expressions present in an oral or written text.

What is more, the third hypothesis dealt with significant differences between the absolute outcome of the experimental group and the control group with respect to metaphorical awareness in the second measurement, that is, the post- test. The results showed that the control group scored higher in metaphorical awareness in the pre-test. However, this advantage disappeared in the post-test since the performance of the experimental group improved remarkably after the intervention programme.

Hypothesis four correlates metaphorical awareness with metaphorical competence. In this sense, an increase in metaphorical awareness translates into an increase in metaphorical competence. As seen previously, the participants of the experimental group experienced a development of metaphorical awareness in the post-test that highlighted an improvement of their metaphorical competence. Comprehending metaphors (Deignan et al, 1997), that is, being metaphorically aware, is the first step towards acquiring metaphorical competence.

Therefore, different strategies for teaching metaphors should be applied in the ESP classroom so that undergraduates gain metaphorical awareness, for instance, through translation from the source domain of L1 language to the target domain of the L2 language (Radden, 2002). These results agree with the study by Beréndi et al. (2008) who observed that the motivation behind meaning is key to fostering metaphorical awareness. This fulfils the activation of a mental mapping that helps the L2 learner not only to identify a metaphorical expression but also to understand the mental process to apply the new learnt expression in the right context in the future, thus, mastering metaphorical competence.

To test hypothesis five, which argued that metaphorical competence in written comprehension was stronger after the intervention programme for the experimental group, data from the pre- and post- tests were examined. To evaluate this variable, a multiple-choice exercise was established, in which students were required to choose a sentence that carries the same meaning as the selected metaphorical expression. Our results showed that the choice was much more accurate in the post-test, revealing the necessity for explicit instruction to identify metaphorical expressions and comprehend their meaning. These findings are consistent with Nacey's (2016) study advising that native speakers' daily perspective of the world is based on metaphors. On that account, the metaphorical element cannot be isolated from L2 teaching, since an effective ESP classroom to build communicative competence at a native-like proficiency level is the one that considers the metaphorical element.

The sixth hypothesis suggested that metaphorical competence in the variable of written production was reinforced after the intervention programme for the experimental group. The results extracted from the pre- and post-test data obtained from the metaphorical competence test indicated that there were indeed notable differences. The process of detecting errors in the metaphorical expressions of the exercise showed the students' ability to immerse themselves into the cognitive linguistics paradigm in an EFL context (MacArthur, 2010). This is done with the intention of polishing their writing skills, which entails the positive

outcome of penetrating the veiled meanings of figurative language that encompass the strengthening of metaphorical competence.

In this light, language acquisition is a conscious process for L2 learners. It has been shown that SLA is not fixed exclusively on vocabulary and grammar learning, but on a triangle: cognition-language-culture (Batoreo, 2018). Metaphors are part of that triangle, just as metaphorical expressions are part of language (Semino & Steen, 2008). Everyday experiences are essential to building our emotions, which are normally expressed through metaphors, as they express the deepest feelings conveyed in a few words, as in “to be walking on air”. Similarly, metaphors help to visualize a mental image (Gibbs & O’Brien, 1990) that will aid L2 learners in retaining a new expression.

Our seventh hypothesis predicted that there were significant differences in the total metaphorical competence before and after the intervention programme for the experimental group. The data collected from the tests and the previously proclaimed results on metaphorical competence in written comprehension and written production seemed to support such a prediction. As such, drawing on the design of an aeronautical ESP programme outlined the framework of our research. It was based on technical texts that aim to teach students the subject of aeronautics in all its categories, including the recognition and utilization of metaphors in their field, supported by a Technical Dictionary of Aeronautical terms (Robisco-Martín & Cuadrado-Esclápez, 2013).

In this regard, the objective to be achieved in the final stage of this study was for ESP students to be able to recognise technical metaphorical expressions in reading comprehension tasks and subsequently use them in written production exercises. In addition, explanations should be provided in their own words about the meaning of the metaphorical component with a specific text and context. These educational attainments require a thorough comprehension and knowledge of metaphorical systems in L1 and L2, which could lead to a deep-entrenched syllabus design approach (Velasco-Sacristán, 2009) in order to cover all the features related to the metaphorical element of language. All in all, metaphor-related activities in

the ESP classroom (Fiona MacArthur, 2010) are key to alleviating the existing gap in metaphorical awareness and metaphorical competence in the cognitive linguistics paradigm.

Nowadays aeronautics students who are training to perform native-level technical communications should receive extensive instruction in metaphorical awareness and metaphorical competence to improve their communication skills in the ESP classroom of aviation. While in traditional language curricula the introduction of figurative language, when it happens, involves teaching L2 learners only a few classic idioms such as *I'm over the moon*, other academics consistently advocate for the inclusion of metaphorical competence in the syllabus (Caballero-Rodríguez, 2003). This reasoning is a consequence of an in-depth research of metaphorical awareness and competence that concluded that for any field of study, the ESP professor should highlight significant metaphorical expressions related to the topic being addressed (Littlemore, 2002; Musolff, 2004; Caballero-Rodríguez, 2014).

Thereby, with this incorporation, a tailored metaphor-oriented education would prompt students to deem metaphorical awareness and competence important by conceptualizing metaphors into structured expressions in the second language within their disciplinary jargon. In other words, L2 learners would understand the need for and use of metaphors by native speakers (Littlemore & Low, 2006) as well as learn to make metaphorical constructions (Ellis, 2001). Concomitantly, this metaphorical grassroots advocacy approach involves teaching and learning the L2 as close to reality as possible, exposing students to real dialogues and situations. In this light, recreating real-case scenarios in as much detail as possible (Shirazi & Talebinezhad, 2013) should include the metaphorical messages transmitted in the texts, whether song lyrics or technical manuals.

Consequently, an innovative L2 curriculum is proposed, that of a musical experience in the classroom, in which the lyrics of the songs transmit a cultural background. Hence, the intervention programme conducted here is based on the acquisition and learning of metaphorical language (Shirazi & Talebinezhad, 2013;

Liu & Hsieh, 2020) through listening to songs in the classroom (Tse, 2015) as active listening (Costeleanu, 2022), whereby the catchy rhythm of music is accompanied by a semantics analysis of the song lyrics to foster metaphorical awareness. It stands to reason that in addition to motivation, music helps to process the auditory skills (Fonseca-Mora et al, 2015) to facilitate the learning of metaphorical expressions. Thus by, the interplay between music and language improves metaphorical awareness by bolstering up the listening skills (Horn, 2007). Owing to the pervasive power of sound channelled into a “modified auditory input” (Fonseca-Mora, 2000, p.146), intonation and rhythm (Millington, 2011) are encouraged to improve pronunciation, and remembrance of vocabulary (Murphey, 1990).

In conclusion, this empirical work is contributing to highlighting that metaphor is gradually becoming a topic of great significance for ESP courses (Charteris-Black, 2000), including aviation. In addition, the effectiveness of an intervention programme with musical experience shed light on the development of metaphorical awareness leading to mastery of metaphorical competence. Having discussed how the literature on metaphor in the field of linguistics (Tendahl & Gibbs, 2008) has grown exceptionally large in volume in recent decades, and having also considered the high implications of metaphorical competence in the second language classroom (Danesi, 1992; Littlemore & Low, 2006), it is therefore indisputable that metaphors should be implemented in the design of an SLA study programme (Andreu & Galantomos, 2008), that includes the ESP classroom of aeronautics.

CONCLUSIONES

El objetivo del presente estudio ha sido explorar los beneficios de un programa de intervención en el curso ESP de aeronáutica, donde los estudiantes basaron su instrucción de la conciencia metafórica en el discurso mediático de las letras de las canciones, lo que condujo al desarrollo de la competencia metafórica implementada a través de la aplicación de ejercicios específicos. Hasta donde sabemos, ningún estudio que subraye la importancia de incluir metáforas en el aula (Gutiérrez-Pérez, 2016; MacArthur, 2010) ha encuadrado la instrucción didáctica con pleno conocimiento de los efectos positivos de la musicalidad (Fonseca-Mora, 2000).

Por este motivo, las metáforas ayudan en las comunicaciones diarias al transmitir lo que de otro modo sería difícil o imposible de expresar (Ortony y Fainsilber, 1987). El uso de una metáfora o expresión figurativa es sumamente efectivo cuando se intenta expresar un sentimiento o una emoción. Además, las investigaciones han informado que las metáforas son tan populares y ampliamente utilizadas entre los hablantes comunes, así como entre los compositores, debido a la necesidad lingüística de inventar nuevas expresiones con las que describir con vehemencia un sentimiento o una acción en unas pocas palabras cargadas de metafórica. En este sentido, este estudio se basa en la noción de que el ritmo de la música es un agente motivador (Gardner, 1993; Towell, 1999), convirtiéndose así en un factor crucial para persuadir a los estudiantes a profundizar en la semántica, analizando el significado de la canción. letra. Posteriormente, comprender los mensajes subliminales de las canciones contemporáneas que transmiten costumbres ligadas a la cultura sólo es posible fortaleciendo la conciencia y la competencia metafórica.

Además, al enseñar una segunda lengua a estudiantes de L2, ya sea inglés en España o español en Japón, los profesores deben evaluar si la competencia comunicativa de los estudiantes en la segunda lengua o en la lengua extranjera incluye competencia metafórica en un discurso fluido, similar a cómo los hablantes nativos expresan sus acciones y emociones. Este enfoque considera implícitamente

la fluidez conceptual en L2 (Gibbs, 1999; Kövesces, 2010; Lakoff & Johnson, 1980), en la que la adecuación lingüística y comunicativa en L2 va de forma conjunta con la L1. Por lo tanto, la conceptualización del lenguaje figurado en L2 requiere desentrañar un significado histórico profundamente arraigado y posiblemente distante que requiere tiempo para captarlo, y más aún para corresponder en el contexto apropiado.

Con este fin, las técnicas de enseñanza de metáforas en un programa de intervención exponen al estudiante a traducir expresiones metafóricas específicas de L2 a L1 para que comprenda y retenga el significado completo de la expresión figurativa. Por ejemplo, “to think outside the box” (Velasco-Sacristán, 2009) se traduce como “pensar fuera de la caja”, lo que reflejará un pensamiento elaborado si los estudiantes de inglés como lengua extranjera al usar esta expresión se refieren a “pensar creativamente para resolver un problema sin ser influenciados por soluciones comunes”. La inferencia de esta disertación es que el proceso comunicativo de la L2 es más efectivo cuando se ha dominado la competencia metafórica como consecuencia del desarrollo de la conciencia metafórica. Además, la comprensión de que el desarrollo de la competencia metafórica es esencial para la educación de L2 (Gutiérrez-Pérez, 2016; Liu & Hsieh, 2020; MacArthur, 2010) está ampliando los horizontes de los profesores de L2 en todo el mundo.

Además, los estudiantes de una segunda lengua o de una lengua extranjera aprenden la cultura del país donde se habla esa lengua mientras absorben expresiones figurativas (Danesi, 2016). Esta metodología se puede reforzar con una nueva propuesta didáctica basada en la música que aporta motivación e interés al aula ESP del grado de Aeronáutica. Por lo tanto, el enfoque previsto de este estudio es la construcción de una experiencia musical pedagógica para estudiantes de aeronáutica basada en el fomento de la conciencia metafórica y el desarrollo de la competencia metafórica en el aula de ESP con la ayuda de la música en forma de análisis del discurso de las letras de las canciones.

Para ello, se ha realizado una revisión retrospectiva de la literatura sobre la experiencia musical para el aprendizaje de idiomas. En nuestro programa de

intervención lingüística se utiliza una experiencia musical como actividad de aula para mejorar el conocimiento del lenguaje metafórico en el aula ESP de la Escuela Superior de Aeronáutica de Madrid, donde los estudiantes aprenderán de forma proactiva a fomentar la conciencia metafórica y así dominar la competencia metafórica. La implementación de metáforas ayuda a mejorar las habilidades comunicativas en el curso L2 ESP en cualquier ámbito profesional. Al añadir un elemento tan motivador en el ambiente del aula, como es la música (Boothe & West, 2015), se anima a los estudiantes a aumentar las habilidades de aprendizaje de una segunda lengua basándose en el fortalecimiento de la competencia comunicativa a través del componente metafórico de las letras de las canciones.

Nuestros datos fueron recogidos de 54 estudiantes divididos en dos grupos de 27 estudiantes cada uno llamado grupo experimental y grupo de control. Se administraron dos pruebas y tres cuestionarios en una dinámica pre y post test, y se realizó un programa de intervención con los estudiantes del grupo experimental, entre las pruebas pre y post, para comprobar nuestras hipótesis de que la instrucción específica de un programa de intervención fortalece la conciencia y la competencia metafórica de los estudiantes. Así, las pruebas y cuestionarios se utilizaron para evaluar los hábitos musicales de los estudiantes, su conciencia de las metáforas y su competencia metafórica en la comprensión y producción escrita. Todos los datos obtenidos en las pruebas previas y posteriores se analizaron utilizando el software del sistema de presentación estadística (SPSS) del cual se tomaron las tablas, figuras y gráficos de la sección de resultados.

Los principales hallazgos del estudio apuntan a diferencias notables entre las pruebas pre y post del grupo experimental, a diferencia del grupo de control. Se interpellaron tres preguntas de investigación, 1) ¿Cuáles son los niveles de conciencia metafórica L2 de los estudiantes de aeronáutica?; 2) ¿Aumenta su competencia metafórica al aumentar su conciencia metafórica?; 3) ¿Fortalecen su conciencia metafórica y su competencia metafórica con la instrucción específica de un programa de intervención? dando como resultado siete hipótesis diferentes. Las hipótesis probadas fueron las siguientes:

Hipótesis 1: Existen diferencias significativas en los niveles de conciencia metafórica entre la primera y la segunda medición en el grupo experimental.

Hipótesis 2: No existen diferencias significativas en los niveles de conciencia metafórica entre la primera y la segunda medición en el grupo de control.

Hipótesis 3: Existen diferencias significativas en la conciencia metafórica en la segunda medición entre el grupo experimental y el grupo de control.

Hipótesis 4: La conciencia metafórica predice la competencia metafórica.

Hipótesis 5: Existen diferencias significativas en la competencia metafórica en comprensión escrita antes y después de la intervención para el grupo experimental.

Hipótesis 6: Existen diferencias significativas en la competencia metafórica en la producción escrita antes y después de la intervención para el grupo experimental.

Hipótesis 7: Existen diferencias significativas en la competencia metafórica total antes y después del programa de intervención para el grupo experimental.

Nuestra primera hipótesis aborda los niveles de conciencia metafórica de la L2 de los estudiantes. En este sentido, aunque la exposición a expresiones metafóricas puede ocurrir en el pre-test, el significado de esas expresiones puede no estar claro y, por lo tanto, el nivel de conciencia metafórica de los estudiantes sería menor que después de un programa de intervención. El pretest de conciencia metafórica consistió en leer y repetir palabras (Butzlaff, 2000; Smith, 2000), lo que ayuda a memorizar expresiones, incluido el lenguaje figurado, pero a partir de las cuales había que dilucidar el significado de las expresiones figurativas sin contexto.

Nuestra segunda hipótesis correspondió a los niveles de conciencia metafórica L2 de los estudiantes de ingeniería aeronáutica, reconocidos como grupo de control. Los resultados revelaron que no hubo diferencias significativas

en la conciencia metafórica entre la primera y la segunda medición. Los resultados confirmaron que, de hecho, la conciencia metafórica se mantuvo igual en el post-test que en el pre-test, lo que se asemejaba a la consistencia mencionada anteriormente. Afirma que sólo con una instrucción explícita en metáforas los estudiantes pueden desarrollar las habilidades cognitivas necesarias para ser conscientes y comprender las expresiones metafóricas presentes en un texto oral o escrito.

Es más, la tercera hipótesis abordaba diferencias significativas entre el resultado absoluto del grupo experimental y el grupo de control con respecto a la conciencia metafórica en la segunda medición, es decir, el post-test. Los resultados mostraron que el grupo de control obtuvo una puntuación más alta en conciencia metafórica en la prueba previa. Sin embargo, esta ventaja desapareció en el post-test ya que el rendimiento del grupo experimental mejoró notablemente después del programa de intervención.

La hipótesis cuatro correlaciona la conciencia metafórica con la competencia metafórica. En este sentido, un aumento de la conciencia metafórica se traduce en un aumento de la competencia metafórica. Como se vio anteriormente, los participantes del grupo experimental advirtieron un desarrollo de la conciencia metafórica en la prueba posterior que destacó una mejora de su competencia metafórica. Comprender metáforas (Deignan et al, 1997), es decir, ser metafóricamente conscientes, es el primer paso hacia la adquisición de competencia metafórica.

Por lo tanto, se deben aplicar una serie de estrategias para enseñar metáforas en el aula de ESP para que los estudiantes adquieran conciencia metafórica, por ejemplo, a través de la traducción del dominio de origen de la lengua L1 al dominio de destino de la lengua L2 (Radden, 2002), como mencionamos anteriormente. Estos resultados concuerdan con el estudio de Beréndi et al. (2008) quienes observaron que la motivación detrás del significado es clave para fomentar la conciencia metafórica. Esto cumple con la activación de un mapeo mental que ayuda al estudiante de L2 no solo a identificar una expresión metafórica sino

también a comprender el proceso mental para aplicar la nueva expresión aprendida en el contexto correcto en el futuro, dominando así la competencia metafórica.

Para probar la hipótesis cinco, que sostenía que la competencia metafórica en comprensión escrita era más fuerte después del programa de intervención para el grupo experimental, se examinaron los datos de las pruebas previas y posteriores. Para evaluar esta variable se estableció un ejercicio de “múltiple choice”, en el que los estudiantes debían elegir una oración que tuviera el mismo significado que la expresión metafórica seleccionada. Nuestros resultados mostraron que la elección fue mucho más precisa en la prueba posterior, revelando la necesidad de instrucción explícita para identificar expresiones metafóricas y comprender su significado. Estos hallazgos son consistentes con el estudio de Nacey (2016) que advierte que la perspectiva cotidiana del mundo de los hablantes nativos se basa en metáforas. Por ese motivo, el elemento metafórico no puede aislarse de la enseñanza de L2, ya que un aula de ESP eficaz para desarrollar la competencia comunicativa a un nivel de competencia similar al nativo es la que considera el elemento metafórico.

La sexta hipótesis sugirió que la competencia metafórica en la variable de producción escrita se vio reforzada después del programa de intervención para el grupo experimental. Los resultados extraídos del pre- y post- test obtenidos de la prueba de competencia metafórica indicaron que efectivamente había diferencias notables. El proceso de detección de errores en las expresiones metafóricas del ejercicio mostró la capacidad de los estudiantes para sumergirse en el paradigma de la lingüística cognitiva en un contexto de inglés como lengua extranjera (MacArthur, 2010). Esto se hizo con la intención de pulir sus habilidades de escritura, lo que conlleva el resultado positivo de penetrar en los significados velados del lenguaje figurado que engloban el fortalecimiento de la competencia metafórica.

Desde este punto de vista, la adquisición de una lengua es un proceso consciente para los estudiantes de L2. Se ha demostrado que el SLA no se fija exclusivamente en el aprendizaje de vocabulario y gramática, sino en un triángulo: cognición-lenguaje-cultura (Batoreo, 2018). Las metáforas son parte de ese

triángulo, así como las expresiones metafóricas son parte del lenguaje (Semino & Steen, 2008). Las experiencias cotidianas son fundamentales para construir nuestras emociones, que normalmente se expresan a través de metáforas, ya que expresan los sentimientos más profundos transmitidos en pocas palabras, como en “to be walking on air”. De manera similar, las metáforas ayudan a visualizar una imagen mental (Gibbs y O’Brien, 1990) que ayudará a los estudiantes de una L2 a retener una nueva expresión.

Nuestra séptima hipótesis predijo que había diferencias significativas en la competencia metafórica total antes y después del programa de intervención para el grupo experimental. Los datos recopilados de las pruebas y los resultados previamente proclamados sobre la competencia metafórica en comprensión escrita y producción escrita parecen respaldar tal predicción. Como tal, basarnos en el diseño de un programa ESP aeronáutico delineó el marco de nuestra investigación. De tal modo, se basó en textos técnicos que tienen como objetivo enseñar a los estudiantes la materia de aeronáutica en todas sus categorías, incluyendo el reconocimiento y utilización de metáforas en su campo, apoyado en un Diccionario Técnico de términos Aeronáuticos (Robisco-Martín & Cuadrado-Esclápez, 2013).

En este sentido, el objetivo a alcanzar en la etapa final de este estudio fue que los estudiantes de ESP sean capaces de reconocer expresiones técnicas metafóricas en tareas de comprensión lectora y posteriormente utilizarlas en ejercicios de producción escrita. Además, se deben proporcionar explicaciones con sus propias palabras sobre el significado del componente metafórico en un texto y contexto específicos. Estos logros educativos requieren una comprensión y un conocimiento profundos de los sistemas metafóricos en L1 y L2, lo que podría conducir a un enfoque de diseño de programas de estudios profundamente arraigado (Velasco-Sacristán, 2009) con el fin de cubrir todas las características relacionadas con el elemento metafórico del lenguaje. Con todo, las actividades relacionadas con las metáforas en el aula de ESP (Fiona MacArthur, 2010) son clave para aliviar la brecha existente en la conciencia y la competencia metafórica en el paradigma de la lingüística cognitiva.

Hoy en día, los estudiantes de aeronáutica que se están capacitando para realizar comunicaciones técnicas a nivel nativo deben recibir una instrucción extensa en conciencia metafórica y competencia metafórica para mejorar sus habilidades de comunicación en el aula ESP de comunicación aeronáutica. Mientras que en los planes de estudio tradicionales de enseñanza de lengua extranjera la introducción del lenguaje figurado implica enseñar a los estudiantes de L2 sólo unos pocos modismos clásicos cuando aparecen como “I’m over the moon”, otros académicos abogan consistentemente por la inclusión de la competencia metafórica en el programa de estudios (Caballero-Rodríguez , 2003). Este razonamiento es consecuencia de una profunda investigación sobre conciencia y competencia metafórica que concluyó que, para cualquier campo de estudio, el profesor de ESP debe resaltar expresiones metafóricas significativas relacionadas con el tema que aborda (Littlemore, 2002; Musolff, 2004; Caballero- Rodríguez, 2014).

Por lo tanto, con esta incorporación se conseguiría una educación personalizada orientada a las metáforas que incitaría a los estudiantes a considerar importantes la conciencia y la competencia metafóricas al conceptualizar las metáforas en expresiones estructuradas en el segundo idioma dentro de su jerga disciplinaria. En otras palabras, los estudiantes de L2 comprenderían la necesidad y el uso de metáforas por parte de hablantes nativos (Littlemore & Low, 2006) y aprenderían a realizar construcciones metafóricas (Ellis, 2001). Al mismo tiempo, este enfoque metafórico implica enseñar y aprender la L2 atendiendo a necesidades reales, exponiendo a los estudiantes a diálogos y situaciones reales. En este sentido, recrear escenarios de casos reales con el mayor detalle posible (Shirazi & Talebinezhad, 2013) es fundamental, como ocurre en los mensajes metafóricos transmitidos en los textos, ya sean letras de canciones o manuales técnicos.

En consecuencia, se propone un currículo innovador de L2, el de una experiencia musical en el aula ESP, en el que las letras de las canciones transmiten un trasfondo cultural. De ahí que el programa de intervención aquí realizado se base en la adquisición y aprendizaje de conciencia metafórica, es decir, del lenguaje metafórico (Shirazi & Talebinezhad, 2013; Liu & Hsieh, 2020) a través del análisis

del discurso de canciones en el aula (Tse, 2015). Además, se requiere una escucha activa (Costeleanu, 2022), donde el ritmo pegadizo de la música va acompañado de un análisis semántico de la letra de la canción para fomentar la conciencia metafórica. Es lógico que además de la motivación, la música ayude a procesar las habilidades auditivas (Fonseca-Mora et al, 2015) para facilitar el aprendizaje de expresiones metafóricas. Así, la interacción entre la música y el lenguaje mejora la conciencia metafórica al reforzar las habilidades de escucha (Horn, 2007). Debido al poder omnipresente del sonido canalizado en una “modified auditory input” (Fonseca-Mora, 2000, p.146), se fomenta la entonación y el ritmo (Millington, 2011) para mejorar la pronunciación y la memoria de vocabulario (Murphey, 1990).

En conclusión, este trabajo empírico contribuye a resaltar que la metáfora se está convirtiendo gradualmente en un tema de gran importancia para los cursos de ESP (Charteris-Black, 2000), incluida la aeronáutica. Además, la eficacia de un programa de intervención con experiencia musical arroja luz sobre el desarrollo de la conciencia metafórica que conduce al dominio de la competencia metafórica. Habiendo discutido cómo la literatura sobre metáfora en el campo de la lingüística (Tendahl & Gibbs, 2008) ha crecido excepcionalmente en volumen en las últimas décadas, y habiendo considerado también las altas implicaciones de la competencia metafórica en el aula de una segunda lengua (Danesi, 1992; Littlemore & Low, 2006), es por tanto indiscutible que se deben implementar metáforas en el diseño de un programa de estudio SLA (Andreu & Galantomos, 2008), que incluya el aula ESP.

5.7. Future Lines of Research

Inspired by the musical experience through which metaphorical awareness can be fostered leading to the development of metaphorical competence, it would be interesting to examine the gender factor. In this regard, gender is considered part of “personality-based characteristics” (Galantomos, 2018, p. 62). Thus, further investigation is needed to see if males and females with the same exposure to the metaphorical component of language, assimilate the dynamics in a similar expeditious process, or not.

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APPENDICES

Appendix A: Images of musical culture

Ancient Egyptian Culture



Ancient Greece



Ancient troubadours



Appendix B: Table of metaphors

You're running out of time
Crabbing
She is the light of my life
I'm feeling blue
The foundations of our society
La crisis del euro es una enfermedad
Marketing is war
TCAS provide a set of electronic eyes
The heart of the airspeed indicator is a diaphragm
The world will be your oyster
You're a mouse
I'm the black sheep in my family
Starvation seemed to stare them in the face
In the teeth of every difficulty
Fountain of happiness
Surf the Internet
I stepped into the twilight zone
I'm in limbo
Happy is up
I'm feeling up today
Hoy me siento baja de moral
Today I'm feeling down
Today I've got the blues
Your claims are indefensible
Time is money
Our relationship has hit a dead-end street
The company is hiring new brains
Amanda was overcome by grief
Life is a journey
He is without direction in life
She's gone through a lot in life
I am where I want to be in life
El estallido de la burbuja inmobiliaria
The bursting of the housing bubble
It takes two to tango
I can't face the future
Buscarle los tres pies al gato
If it ain't broke don't fix it
How are you doing
Come again?
Poetry comes straight from the heart
All the world's a stage
Electric propulsion for large commercial aircraft remains a very distant prospect
Tom is like a tortoise
The hydrogen atom is like our solar system
The ugly side of his personality comes out under pressure"
she saw getting married as the solution to her problems

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Electric batteries will be the barriers
Love is a journey
When I figure out this problem, I can go back to the issues I really care about
Street spam
Snail mail
Time seemed to stand still
The time for a decision has arrived
This time, it was a bit more serious because I got a registered letter
The young woman's time approached
Time has no end / Time goes on forever
Time has aged me
Eastern Standard Time is five hours behind Greenwich Mean Time
Time is money
Her behaviour goes beyond my understanding
This is caused by a combination of plasticity in the skin (of an aircraft) and a reduction of effective shear stiffness due to buckling
A heart of gold
The ham sandwich is waiting for his check
Argument is war
Treating illness is fighting a war
I am the punching bag of my group
If you're barking at the wrong tree, you're in the wrong forest
I'm under the weather
People who live in glass houses should not throw stones
It's not my cup of tea
It's my bread and butter
It's raining cats and dogs
His words cut deeper than a knife
Anger is a hot fluid in a container
I was boiling with anger
Life has cheated me
Time flies
Inflation is lowering our standard of living
She is in love
You can't herd cats
The honeymoon is over
The surface wraps itself
Companies are in good health
I am feeling a bit down
Estoy un poco baja de moral
All that glitters is not gold
No es oro todo lo que reluce
Monkey rush
Buscarle los tres pies al gato
If it ain't broke, don't fix it
The theory needs more support
She devoured the book
A tightly knit neighbourhood

APPENDICES

Erase all the vibes Leave the memories out to dry Delete forever, no archive
A veces soy candela (Sometimes I'm fire)
Cómo va a salpicarme la vida si salto los charcos (How is life going to splash at me If I jump over the puddles)
Though it took some time to survive you I'm better on the other side
As old age (D) is to life I, so is evening (B) to day (A
Every day I learn to read your heart
Rabiosa
Bridge over Troubled Water
He is the light of my life
As delicate as a seahorse
You walk without sandals because you haven't yet been brought back by a thorn
Feast your senses; Spice things up
To think outside the box
The skin of the aircraft
Pitching the nose up and down
Quantity of bleed air
Blind transmission
To abort landing
All in the wind
To arm doors
Air bridge
Baulked approach
Angle of attack
Belly landing
Crab landing
Axis
Barrell roll
There is not one silver bullet that is going to improve big aircraft efficiency
The crowd flooded on to the pitch
He's got piles of money
Walk in your rainbow paradise
Strawberry lipstick state of mind

Appendix C: Song lyrics samples from the intervention programme

Songs in Spanish

Tabú by Pablo Albarán y Ava Max

https://youtu.be/Q3_Lnx7XrJ8

Tabú

¿De qué está hecho tu corazón?
 Dime que no está vacío
 Que yo tengo el mío lleno de ilusiones contigo
 Tic toc, we took it too far
 Don't wanna say goodbye
 Stop killing our fire (Our fire)
 Time is running out
 How could you do this to us? We were flying
 Si no puedo borrar las estrellas
 No me pidas que olvide tu huella
 I die every night and everyday
 Crying my way to the moon
 How come there is no other way?
 I don't wanna live without you (Ay)
 Te busco en cada amanecer
 Y en el último rayo de luz
 Desarma mi cuerpo otra vez
 Inventa un nuevo tabú
 What can I do to take us back?
 Back to the very beginning
 When only your eyes could see mine
 Remember that?
 Tic-tac, suena el reloj, llega el adiós
 Socorro no tengo bengalas
 Si no queda amor
 Dime qué siento entre el pecho y las alas
 No, I don't wanna leave it behind us
 'Cause my love, I can't do this without you
 Te busco en cada amanecer
 Y en el último rayo de luz
 Desarma mi cuerpo otra vez
 Inventa un nuevo tabú
 I die every night and every day (Every day)
 Staring you down from the moon
 Just tell me that you're on the way
 Only you can break the taboo
 Te busco en cada amanecer
 Y en el último rayo de luz

APPENDICES

Desarma mi cuerpo otra vez
Inventa un nuevo tabú
I die every night and every day
Staring you down from the moon
Just tell me that you're on the way
Only you can break the taboo
Oh-oh-oh
Baby
Oh-oh-oh, yeah
Ah-ah
Oh-oh, yeah
Only you can break the taboo

Tusa by Nicky Minaj & Karol G
<https://youtu.be/tbneQDc2H3I>

TUSA

¿Qué pasó contigo?
Dímelo, rrr
O-O-Ovy On The Drums (Mmh)
Ya no tiene excusa
Hoy salió con su amiga, dizque pa' matar la tusa
Que porque un hombre le pagó mal
Está dura y abusa
Se cansó de ser buena, ahora es ella quien los usa
Que porque un hombre le pagó mal
Ya no se le ve sentimental
Dice que por otro man no llora, no
Pero si le ponen la canción
Le da una depresión tonta
Llorando lo comienza a llamar
Pero él la dejó en buzón
Será porque con otra está
Fingiendo que a otra se puede amar
Pero hice todo este llanto por nada
Ahora soy una chica mala
And now you kickin' and screamin', a big toddler
Don't try to get your friends to come holla, holla
Ayo, I used to lay low
I wasn't in the clubs, I was on my JO
Until I realized you a epic fail
So don't tell your guys that I'm still your bae YO
'Cause it's a new day, I'm in a new place
Gettin' some new D, sittin' on a new face

APPENDICES

'Cause I know I'm the baddest bitch you ever really met (Wuh)
You searchin' for a badder bitch, and you ain't met her yet (Wuh)
A yo, tell 'em to back off, he wanna slack off
Ain't no more booty calls, you gotta jack off
It's me and Karol G, we let them rats talk
Don't run up on on us 'cause they lettin' the macks off (Rrr)
Pero si le ponen la canción
Le da una depresión tonta
Llorando lo comienza a llamar
Pero él la dejó en buzón
Será porque con otra está
Fingiendo que a otra se puede amar, eh-uh
Un shot pa' la pena profunda
Y seguimo' gastando la funda
Otro shot pa' la mente
Pa' que el recuerdo no la atormente
Ya no le copia nada
Su ex ya no vale nada
Se va pa' la disco y solo quiere perrear (perrear)
Pero se confunde cuando empieza a tomar (tomar)
Ella se cura con rumba (ah)
Y el amor pa' la tumba (eh)
To' los hombre' le zumban (le zumban)
Pero si le ponen la canción
Le da una depresión tonta (tonta)
Llorando lo comienza a llamar
Pero él la dejó en buzón (oh)
Será porque con otra está
Creyendo que a otra se puede amar
Hey, Karol G (Karol G)
Nicki Minaj, hey
The queen
With the queen
O-O-Ovy On The Drums

Songs in English

Adore You by Harry Styles

<https://youtu.be/VF-r5TtIT9w>

Adore You

Walk in your rainbow paradise (paradise)
 Strawberry lipstick state of mind (state of mind)
 I get so lost inside your eyes
 Would you believe it?
 You don't have to say you love me
 You don't have to say nothing
 You don't have to say you're mine
 Honey (ah)
 I'd walk through fire for you
 Just let me adore you
 Oh, honey (ah)
 I'd walk through fire for you
 Just let me adore you
 Like it's the only thing I'll ever do
 Like it's the only thing I'll ever do
 You're wonder under summer skies (summer skies)
 Brown skin and lemon over ice
 Would you believe it?
 You don't have to say you love me
 I just wanna tell you somethin'
 Lately you've been on my mind
 Honey (ah)
 I'd walk through fire for you
 Just let me adore you
 Oh, honey (ah)
 I'd walk through fire for you
 Just let me adore you
 Like it's the only thing I'll ever do
 Like it's the only thing I'll ever do
 I'd walk through fire for you
 Just let me adore you
 Oh, honey (ah)
 I'd walk through fire for you
 Just let me adore you
 Like it's the only thing I'll ever do
 (Ah)
 I'd walk through fire for you
 Just let me adore you
 Oh, honey (ah)
 Oh, honey

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I'd walk through fire for you
Just let me adore you
oh, honey
(Oh)
Just let me adore you
Like it's the only thing I'll ever do

Rare by Selena Gómez

<https://youtu.be/ia1iuXbEaYQ>

Rare

Baby (Baby)
You've been so distant from me lately (Lately)
And lately (And lately)
Don't even want to call you baby (Baby)
Saw us getting older (Older)
Burning toast in the toaster
My ambitions were too high (High)
Waiting up for you upstairs (Upstairs)
Why you act like I'm not there?
Baby, right now it feels like
It feels like you don't care
Oh, why don't you recognize I'm so rare?
Always there
You don't do the same for me
That's not fair
I don't have it all
I'm not claiming to
But I know that I'm special (Special)
Yeah
And I'll bet there's somebody else out there
To tell me I'm rare
To make me feel rare
Baby (Baby)
Don't make me count up all the reasons
To stay with you
No reason (No reason)
Why you and I are not succeeding
Ah-ah (Mmm, ah, ah)
Saw us getting older (Older)
Burning toast in the toaster (Ah-huh)
My ambitions were too high (Too high)
Waiting up for you upstairs (Upstairs)
Why you act like I'm not there? (Ah-huh)
Baby, right now it feels like
(What?)
It feels like you don't care
Oh, why don't you recognize I'm so rare? (I'm so rare)
Always there

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You don't do the same for me
That's not fair
I don't have it all
I'm not claiming to
But I know that I'm special (Special)
Yeah
And I'll bet there's somebody else out there
To tell me I'm rare
To make me feel rare (Yeah, yeah)
I'm not gonna beg for you
I'm not gonna let you make me cry (Ah, nah nah make me cry)
Not getting enough from you (No-oh)
Didn't you know I'm hard to find? (Hard to find)
Saw us getting older
Burning toast in the toaster
My ambitions were too high (Too high)
Waiting up for you upstairs
Why you act like I'm not there?
Baby, right now it feels like
It feels like you don't care (You don't care)
Why don't you recognize I'm so rare? (So rare)
I'm always there
You don't do the same for me
That's (That's)
Not (Not)
Fair
I don't have it all (I don't have it all)
I'm not claiming to (I'm not claiming to)
I know that I'm special (Special)
Yeah
And I'll bet there's somebody else out there
To tell me I'm rare
To make me feel rare
(Ooh, yeah)
So rare
(Rare)

Appendix D: CMT List of metaphor categorization (Lakoff & Johnson, 1980)**ORIENTATIONAL METAPHORS****1. Time is money**

You're waisting my time
 Time is a limited resource
 Time is a valuable commodity

2. Argument is war

To win an argument
 Advertising is a minefield in which you have targets and keep your
 sights on what your competitors are doing.

3. Life is a journey

You can be on the road to recovery.
 You might be at a crossroads in your life because you are in a dead-
 end job.

4. Happy is up

I'm feeling up today

5. Sadness is down

I'm feeling low

6. Conscious is up

Wake up
 He rises early in the morning

7. Unconscious is down

He's under hypnosis
 He sank into a coma

8. Understanding is grasping

I couldn't grasp his explanation

ONTOLOGICAL METAPHORS**9. Inflation is an entity**

Inflation is lowering our standard of living
 We need to combat inflation

10. Referring

My fear of insects is driving my wife crazy
 That was a beautiful catch
 We are working toward piece

11. Quantifying

It will take a lot of patience to finish this book
 There is so much hatred in the world

12. Identifying aspects

The ugly side of his personality comes out under pressure
I can't keep up with the pace of modern life

13. Identifying causes

He did it out of anger

14. Setting goals and motivating actions

He went to New York to seek fame and fortune
She saw getting married as the solution to her problems

15. The mind is a machine

My mind just isn't operating today
I'm a little rusty today
He broke down

16. The mind is a brittle object

Her ego is very fragile
His mind snapped
He cracked up

CONTAINER METAPHORS

17. Visual fields are containers

The ship is coming into view
I have him in sight

18. Container objects

Are you in the race on Sunday?
He's in love

19. Container substance

There was a lot of good running in the race

PERSONIFICATION

Life has cheated me
Inflation is eating up our profits
Cancer finally caught up with him

METONYMY

The ham sandwich is waiting for his check

SYNECDOCHE

The automobile is clogging up our highways
I've got a new set of wheels

TIME IS A MOVING OBJECT

Time flies
I can't face the future
In the weeks to come

LOVE IS A JOURNEY

Look how far we've come
I don't think this relationship is going anywhere
Our marriage is on the rocks

THEORIES and ARGUMENTS ARE BUILDINGS

Is that the foundation for your theory
The argument collapsed
The theory needs more support

IDEAS ARE FOOD

What he said left a bad taste in my mouth
I just can't swallow that claim
That argument smells fishy
All this paper has in it are raw facts
He's a voracious reader
That idea has been fermenting for years

IDEAS ARE PEOPLE

He's the father of modern biology
Those ideas died off in the Middle Ages

IDEAS ARE PLANTS

Mathematics has many branches
She has a fertile imagination

IDEAS ARE PRODUCTS

He produces new ideas at an outstanding rate
It's a rough idea, it needs to be refined

IDEAS ARE COMMODITIES

He won't buy that
That idea just won't sell

IDEAS ARE RESOURCES

He ran out of ideas
He's a resourceful man

Appendix E: Musical questionnaire (own creation)

LINK: https://docs.google.com/forms/d/1YNf5IMykCYSa5C6ut7Hkbyqzjfy_-Vk-wMn0NvkJ36s/edit

MUSICAL QUESTIONNAIRE
Name:
Gender: Male Female Other
Age:
Nationality:
Do you sing in English: Never Rarely Sometimes Often Always Everyday
How often do you listen to music: Never Rarely Sometimes Often Always Everyday
How often do you listen to songs in English: Never Rarely Sometimes Often Always Everyday
What type of music do you like: Pop Rap Rock Jazz Reggae Classical I enjoy all types of music

Appendix F: Metaphorical Awareness Test and Questionnaire (Rodríguez & Moreno, 2009)

Link: https://docs.google.com/forms/d/1yqEOU_Tt3bsT4xTS_IXuPO9uPLTF0w9actYZGEYXDBQ/edit

METAPHORICAL AWARENESS TEST AND QUESTIONNAIRE
Name:
Gender: Male Female Other
Provide the meaning in Spanish of the following sentences:
Happiness is up
To feel up:
To be over the moon:
To be floating/ walking on air:
To cheer up:
To be in high spirits:
To give a lift/ boost:
Sadness is down
To feel down:
To fall into a depression:
To be under the weather:
To sink one's spirits:
Ref: Rodríguez, I. L. & Moreno, E. M. G. (2009). Teaching idiomatic expressions to learners of EFL through a corpus based on Disney movies. <i>Interlingüística</i> , 18, 240-253.

Appendix G: Metaphorical Competence Test and Questionnaire (Samburskiy, 2020)

Link: https://docs.google.com/forms/d/1zr_ZHwEI0jZOE24avaZl9V1Mm9pvYrPNtin5sauz8nw/e
dit

METAPHORICAL COMPETENCE TEST AND QUESTIONNAIRE

(taken from Samburskiy, 2020)

Name:

Gender:

Male
Female
Other

What is your mother tongue:

How many languages do you speak:

Spanish: A1 A2 B1 B2 C1 C2

English: A1 A2 B1 B2 C1 C2

French: A1 A2 B1 B2 C1 C2

German: A1 A2 B1 B2 C1 C2

Chinese: A1 A2 B1 B2 C1 C2

Other: _____ A1 A2 B1 B2 C1 C2

How many hours a day (approximately) you communicate with native speakers of English or watch/read/listen to authentic content in English:

Never
Rarely (- 1 hour per day)
Sometimes (1-2 hours per day)
Often (3-7 hours per day)
Always (+8 hours per day)

Your time spent abroad:

I have never been to an English-speaking country
Seldom (1-2 weeks)
Sometimes (1-2 months)
Every summer

Expressions in a text. Read the text and try to explain the idioms in English.

“What? Another loan? No way, Kim, I’ve already given you **1) a small fortune!**”

Kim shuddered as she knew her father **2) meant business** this time; she could hear it in his voice.

“But, Dad... Please! Just until I **3) get the company off the ground**. Once I get some orders I’ll be fine... Honest!” She was desperate. Unless her father helped her out, her new clothing company would never get the chance to **4) bear fruit**. “I’m **5) living on a shoestring** already; all I get is my income support!” She could hear her father trying to interrupt, but she went on, “Listen, I’ve been **6) burning the midnight oil** this month and I’m exhausted, but I’ve figured out that just another thousand should do it. You’ll see!”

“I said no, Kim,” her father stated sternly. “You seem to think that I **7) am rolling in it**, but I’m not – I work hard to earn the little that I do, and to be honest, I’m not sure if I’ll be able to **8) keep my head above water** if I keep lending you money.” Kim fought back a sob. She couldn’t believe that he would let her down.

“I’m begging you, Dad. It won’t be **9) money down the drain**. Just give me a chance to show you! You’ll get it all back with interest!” Kim waited nervously for her father’s reply. Eventually, he answered.

“Alright love. But this is the last time. I hope that you realise that your mother and I are really going to have to **10) tighten our belts** through”.

TASK 1. Written comprehension. Explain the metaphorical expressions in English:

1) a small fortune

2) to mean business

3) get something off the ground

4) to bear fruit

5) to live on a shoestring

6) to burn the midnight oil

7) am rolling in it

8) to keep one’s head above water

9) money down the drain

10) to tighten one`s belt(s)

Task 2: Written comprehension. Below are five sentences, each of which is followed by three paraphrases containing idioms. Only one paraphrase has a meaning similar to the original sentence. Which one?

Your idea is right up my alley:

- Your idea is strange
- Your idea is great for me
- Your idea is my idea

I ran into an old flame of mine the other night:

- I ran into a colleague of mine
- I ran into a friend of mine
- I ran into my ex-lover

This situation has gotten out of hand:

- This situation has improved
- We lost control over the situation
- We need to hold hands now

I feel ready to throw in the towel:

- I feel ready to celebrate!
- I feel ready to take a shower
- I feel ready to give up

My boss asked me to start from scratch:

- My boss asked me to start from the very beginning
- My boss asked me to start tomorrow morning
- My boss asked me to be careful and not scratch anything

APPENDICES

Task 3: Written production task. Below are ten sentences, each of which has an idiom with an error in it. Please, correct the error in each sentence to the best of your knowledge.

I think the change is already at the horizon. _____
He is an up-and-running your businessman. _____
Mr Smith is the right-arm man of my boss. _____
This task is a slice of cake. We'll do it quickly. _____
I have no plans for tonight so I'll play it with ear. _____
I hate waking up at the crack of dusk. _____
I can't recall his name but it is on the edge of my tongue. _____
When she said she loved someone else, she ruined my heart. _____
My new computer cost a hand and a leg. _____
I think he really hit the nail on the top with his words. _____

Appendix H: Intervention Programme

Unit 1. Metaphorical Awareness in Spanish: a musical experience. Activities to detect metaphorical awareness and trigger motivation.

The objective of this unit is to verify that Spanish students of aeronautics do possess metaphorical awareness in Spanish. In addition, a motivating environment is pursued with the use of music that tends to activate the interest of the students.

Activity one. Students choose their favourite contemporary Spanish songs from commercial Spanish music channels to play in class. The song lyrics are projected on the board so that the students can read them. It is assumed that the participants will also sing the songs, drawn by motivation. See examples below.

Example 1

***Tabú* by Pablo Albarán y Ava Max**

https://youtu.be/Q3_Lnx7XrJ8

Example 2

***Tusa* by Nicky Minaj & Karol G**

<https://youtu.be/tbneQDc2H3I>

Activity two. A brainstorming activity is useful to elicit students' participation in class. The music helps to provide confidence; also, the fact that it is a well-known song. They must identify metaphors in the song lyrics and explain their meaning in English. For that, a discursive analysis must be carried out so that students acknowledge comprehension of the figurative language found; in addition, they must provide in English a definition of what a metaphor is.

Examples of metaphorical expressions from the songs

From the song Tabú	¿De qué está hecho tu corazón?
From the song Tabú	Dime que no está vacío Que yo tengo el mío lleno de ilusiones contigo
From the song Tabú	Si no puedo borrar las estrellas No me pidas que olvide tu huella
From the song Tusa	Hoy salió con su amiga dizque pa' matar la tusa
From the song Tusa	Que porque un hombre le pagó mal Está dura y abusa

A brief explanation of the target outcome that is expected is the following. The first metaphorical expression “¿De qué está hecho tu corazón?” which means “What is your heart made of?! implies that the heart can be made of other material than muscle tissue and blood cells. This is a good perfect example to establish the definition of metaphor that the teacher must elicit from the students. Subsequently, the next two lines of the song support the concept of metaphorical language. It must be noted that the song is partially sung in English, but in this session of the experiment no attention will be paid to the English lyrics of the song. Additionally, some of metaphorical expressions of the second song *Tusa* are characterised with sexual connotations, which serves to establish cultural differences between the compositions from Spain and The Americas.

Unit 2. Metaphorical Awareness in English: a musical experience. Activities to detect metaphorical awareness and trigger motivation.

The objective of this unit is to verify that Spanish students of aeronautics do possess metaphorical awareness in English. In addition, a motivating environment is pursued with the use of music that tends to activate the interest of the students.

Activity one. Students choose their favourite contemporary songs in English from commercial Spanish music channels to play in class. The song lyrics are projected on the board so that the students can read them. It is assumed that the

participants will also sing the songs, drawn by the motivation triggered by the music and their favourite songs. See examples below.

Example 3

***Adore You* by Harry Styles**
<https://youtu.be/VF-r5TtIT9w>

Example 4

***Rare* by Selena Gómez**
<https://youtu.be/ia1iuXbEaYQ>

Activity two. Once the song is finished but still with the song-stuck-in-my-head-phenomenon that keeps the motivation going, students read the lyrics to conduct a discursive analysis of the songs so that they identify metaphors and provide a meaning for them. Discussions are held in groups and in English to elicit communication in L2 from the participants. Retention is reinforced by repetition, either by singing or discussing the metaphorical elements encountered. Thus, acknowledgement and comprehension of the figurative language found are achieved.

Examples of metaphorical expressions from the songs

From the song <i>Adore you</i>	Walk in your rainbow paradise Strawberry lipstick state of mind I get so lost inside your eyes
From the song <i>Rare</i>	Saw us getting older Burning toast in the toaster

Unit 3. Metaphorical Competence: metaphor instruction (informal discourses).

Activities to instruct metaphorical competence.

Literal vs. Idiomatic Use

Instruction about the literal use and the metaphorical use of certain generic expressions. The teacher presents comparative sentences to elicit students' understanding of literal versus idiomatic uses.

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Literal vs. Idiomatic Use

Literal Use	Idiomatic Use
The river flooded several villages	The crowd flooded on to the pitch
Piles of rubbish lay everywhere	He's got piles of money
I love roast potatoes	Euthanasia. Now, that's a very hot potato!
I've got an uncle at sea	I'm all at sea

Activity one. Look at these pairs of sentences. Decide which contains the literal and which the metaphorical use of the words.

1a. I've lost my car keys 1b. I've lost my confidence
2a. I picked up a few bargains at the market on Saturday 2b. I can't pick up my suitcase. There's too much in it
3a. We can't sit here. The ground is too wet 3b. This idea will never get off the ground
4a. So, what's your side of the story? 4b. Somebody's put a scratch right down the side of my car 5a. I don't know what I've done to my back. It really hurts when I bend 5b. Have you been talking about me behind my back?
6a. She can be a bit aggressive, but her heart is in the right place 6b. Did you hear my father's had a heart attack, but he's alright now

Activity two. Identify the idioms. Underline the idioms and idiomatic expressions in the following sentences:

1. I'm feeling a bit under the weather this morning. 2. We arrived in the nick of time. 3. I know London like the back of my hand. 4. Don't you think you could pull a few strings for me? 5. I couldn't get a word in edgeways. 6. I'm fed up with the rat race. 7. My father thought I would follow in his footsteps. 8. Hurry up! You're cutting it a bit fine, aren't you? 9. Let's look on the bright side, shall we? 10. Come on, we can't just sweep this under the carpet.

CMT Categorization.

Based on *Metaphors We Live By*, (Lakoff & Johnson, 1980), the teacher presents the different categories of conceptual metaphors.

Example of categories of conceptual metaphors (Lakoff & Johnson, 1980)

1. Time is money

You're waisting my time

Time is a limited resource

Time is a valuable commodity

2. Argument is war

To win an argument

Advertising is a minefield in which you have targets and keep your sights on what your competitors are doing.

3. Life is a journey

You can be on the road to recovery.

You might be at a crossroads in your life because you are in a dead-end job.

Activity 3. Match the metaphorical expressions with the different categories.

Moods are weather	A company is a ship
Life is gambling	People are liquid
Seeing is understanding	Business is war
Time is money	Life is a journey

1. I simply can't afford more than a week off.
2. You win some, you lose some.
3. He had a constant stream of visitors.
4. I think I'm in a rut.
5. Carry on. But keep your head down.
6. We're going to have to weather the storm.
7. He was a bit hazy about the amount.
8. I just don't see the point.

Unit 4. Metaphorical Competence: metaphor instruction (translation). Activities to instruct metaphorical competence.

Activity one. Read the text and point out the metaphorical expressions.

1. When my father saw what I had done to his car, he went through the roof.
2. I should have been a teacher, but I dropped out and became a pop singer. I was the black sheep of my family.
3. My car is in a terrible state. It's on its last legs.
4. I wish he would shut up. He could talk the hind legs off a donkey.

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Activity two. Translation. Try to translate into Spanish the metaphorical expressions found in the sentences of the previous exercise.

1. He went through the roof.
2. I was the black sheep of my family.
3. It's on its last legs.
4. He could talk the hind legs off a donkey.

Activity three. In groups discuss similarities and differences of metaphorical expressions between English and Spanish.

Activity four. Multiple-choice exercise on metaphorical expressions.

1. He went through the roof	a) Se fue por el tejado b) Se subió por las paredes c) Se fue por los cerros de Úbeda
2. I was the black sheep of my family	a) Era la oveja negra b) Era el mirlo blanco c) Era la gallina de los huevos de oro
3. It's on its last legs.	a) Está cogido por pinzas b) Está sostenido por las ruedas c) Está en las últimas
4. He could talk the hind legs off a donkey	a) Podría hablar por ti y por mi b) Habla por diez c) Habla por un burro

Unit 5. Metaphorical Competence: metaphor instruction (conceptual & novel). Activities to instruct metaphorical competence.

Activity one. Fill in one of the following words in each space to complete the idioms:

afford waste (verb) plenty make save ran out of spare waste
(noun) value short of precious spend

1. I've had to go the doctor about my eyes. I _____ at least 6 hours a day in front of my computer.
2. If you want to get to college quicker, _____ time: don't drive, buy a bike!
3. I don't get home till 10 o'clock every night, so I _____ the free time I have at weekends.
4. If you're thinking of going to see the new Bond movie, don't bother. It's a _____ of time.
5. Sorry I wasn't able to get that book for you. I just _____ time.

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6. Can you _____ a minute or two? I just want to ask you something.
7. I'm sorry I can't _____ the time right now. I've got a plane to catch.
8. I work long hours so the time I spend with my family is very _____ to me.
9. I hate airports. You _____ so much time just queuing!
10. I think we should hurry up. We're _____ time.
11. There's _____ of time. Don't worry! The train doesn't leave for an hour.
12. There's no way I can _____ the time to see you before the end of the week.

Activity two. Match the two parts of the dialogues below:

1. Why doesn't Steve ever listen to other people's point of view?
2. Did you see the way Simon spoke to his wife?
3. Not you again! What do YOU want?
4. We should never have bought this car. It's been nothing but trouble.
5. Oh, so you didn't know that Jill got the job because her dad knows the Director.
6. These instructions are incomprehensible.

- a. > Yes. It was a real eye-opener, wasn't it? I never knew he could get so angry!
- b. > It's easy to say that with hindsight.
- c. > Because he's blinkered, that's why.
- d. > Ah! Now I get the picture.
- e. > Let me have a look. Yes, I see what you mean.
- f. > I want to clear up the misunderstanding we had earlier.

* Note: Another way of saying *with hindsight* is *in retrospect*.

Activity three. Put the words in italics in the correct order:

1. I can never understand his explanations, can you? > No. They're _____ (<i>as mud as clear</i>)
2. So I think we should keep the women-only policy. > Isn't that a ? _____ (<i>view short-sighted very</i>)
3. There are so many possibilities. We could also develop a new — > Stop. Slow down. Don't _____ our aims. (<i>lose of sight</i>)
4. Don't worry. It's not really a problem. > Well, it is _____ (<i>my from view point of</i>)
5. Management are giving the smokers their own room. > At last. They've _____ (<i>the seen light</i>)
6. What exactly does he want us to do? > I don't know. Ask him again _____ (<i>It's very not clear</i>)
7. So you add these figures to those and that's how you get this total. > Ah, now _____ (<i>what I mean you see</i>)

Activity four. Use the following expressions to complete the sentences below:

a. in a rut	e. light at the end of the tunnel
b. coming or going	f. go our separate ways
c. short-cut to success	g. on the road to recovery
d. side-tracked	h. taken off

1. I've been doing the same job for 15 years. I think I'm _____ I need a change.
2. I've got so much work on my desk. I'm really confused. I don't know whether I'm _____
3. It's been a very difficult year, but I'm happy to say there now seems to be some _____
4. Our partnership didn't last. In the end we agreed to _____
5. Hard work, long hours, and lots of worry. When you are trying to build up a business, I'm afraid there's no _____
6. I'm feeling much better now thanks. I'm well _____
7. Sorry it took so long. I got _____
8. She's getting frustrated. Her career hasn't really _____ yet.

Activity five. There is one word missing from each of the following idioms:

1. It's _____ hands on deck.
2. We're all in the _____ boat.
3. This is _____ territory.
4. We'd better wait for the storm to _____
5. Don't _____ the boat.
6. You'll get to know the _____ very quickly.
7. It's good to have you _____ board.
8. No bank will _____ out a company with old product and no future.

Unit 6. Metaphorical Competence: spoken and written English (formal discourses).

Activities to instruct metaphorical competence.

Activity one. Read the texts from the Newspaper *The Times*, point out the metaphorical expressions and discuss the meanings. Discussions will take place in groups of two participants first; then, after 5 minutes, the entire class will discuss the paragraph together.

Text 1

[Christmas flights hit by airport walkouts](#)

Hundreds of thousands of passengers will have their Christmas and new year plans ruined as airport border staff walk out this month. Airlines are being told by officials to cancel up to 30 per cent of flights on strike days to prevent chaos in airport arrival halls, The Times has learnt.

Text 2[Green groups furious after coalmine is approved](#)

Michael Gove has approved the first deep coalmine in 30 years, despite calls from environmental activists and Labour to turn down the project. The levelling-up secretary's planning approval for the mine in Cumbria comes after two years of opposition. Critics said that it would increase emissions and 85 per cent of the coking coal would be exported to produce steel. Lord Deben, chairman of the climate change committee, said the scheme was "absolutely indefensible". Alok Sharma, who was president of the Cop26 climate conference in Glasgow last year, has said that the approval would damage Britain's international reputation. Ed Miliband, the shadow climate minister, said that the mine was a "terrible idea" from an economic and environmental perspective.

Activity two. Listen to current news from BBC News and discuss possible metaphorical expressions. The teacher plays the link; students listen to the 1-minute-long news; participants discuss the spoken discourse in groups of two first; then, the entire class expresses their opinions about the possible metaphorical expressions found.

Listening 1

<https://www.bbc.com/news/av/10462520>

Activity three. Watch, listen and read the 2-minute-long report about a scientific topic and discuss possible metaphorical expressions that appear in the technical description of the news.

Listening 2

[Mangrove forests: How 40 million Australian trees died of thirst – BBC News](#)

Activity four. Watch, listen and read the 1-minute-long report in which a professional tennis player is interviewed. In groups, discuss possible metaphorical expressions that appear in the sports section of this newscast.

Listening 3

<https://www.si.com/si-wire-rio/video/2016/08/15/andy-murray-reminds-reporter-serena-and-venus-exist>

Unit 7. Metaphorical Competence: an aeronautical context Activities to instruct metaphorical competence (aeronautical texts).

Activity one. Read the technical text and point out the metaphorical expressions in this aeronautical narrative. After the first reading, there will be class discussions in English where the whole group comments on possible metaphorical expressions found and contributes to providing potential meanings within the aeronautical context. Thus, the participants are exposed to metaphors from aviation texts in which metaphors need to be identified, and explained in plain language, such as: “There is not one silver bullet that is going to improve big aircraft efficiency”.

How the future of electric aircraft lies beyond the engines

By Kerry Reals6 September 2019

Electric propulsion for large commercial aircraft remains a very distant prospect. But with environmental concerns putting pressure on aviation, manufacturers have turned their attention to electrifying functions other than propulsion – the objective being to reduce CO2 emissions by designing new aircraft that are “more electric” than their predecessors.

Compared to hydraulic systems, electric alternatives are lighter, easier to install and maintain and often draw less power from the main engines. Switching landing gear controls from hydraulic to electric, for example, could potentially reduce fuel burn by as much as 10% on future twin-aisle aircraft – although most experts believe such savings will probably be in the single digits.



Trent 1000: Rolls-Royce sees potential to cut fuel burn with shift away from hydraulics

Aviation Images/Shutterstock

"In very general terms, the difference between a traditional aircraft and a more-electric aircraft for an engine manufacturer is the quantity of bleed air the airframe requires from the engine compared to the level of electrical power extracted via the generators," wrote Kevin Daffey, head of electrical power and control systems at Rolls-Royce, in a paper on the subject for the Institution of Engineering and Technology.

"You don't need to have a more-electric engine just because you have a more-electric aircraft. However, how the change in bleed air and electrical power extracted affects the engine does need to be understood, as does the option of a more-electric engine."

While there has been much talk about the potential for small all-electric or hybrid-electric aircraft, there is no medium- or even longer-term solution on the horizon for larger models. Alan Newby, director of aerospace technology and future programmes at R-R, says that while he sees "little opportunity for electric propulsion" for widebody aircraft, "more-electric solutions may offer benefits".

"Batteries will be the barrier," says Newby, adding that while there have been some developments in the battery technology, "there is an awfully long way to go" before electric propulsion on larger aircraft becomes a possibility. However, "that's not to say we can't have more electric content on those aircraft", he adds.

Hervé Blanc, vice president and general manager at Safran Electrical & Power, agrees that "electric propulsion for large commercial aircraft is clearly a long way into the future". Even for narrowbodies, Blanc does not believe that all-electric propulsion will be possible before 2050. But, he says, the technologies already exist to electrify "all systems except propulsion".

"When we talk about more-electric aircraft we are talking about functions except propulsion that could move from a hydraulic to an electrical solution," says Blanc. "For example, we were the first in the world to develop an electric thrust inverter on the [Airbus] A380 – the standard solution is hydraulic. This is a large system that we have demonstrated can be actuated by electrical energy instead of using hydraulics."

Safran is developing a similar, smaller-scale system for the Comac C919, which Blanc says is "close to certification".

Another example cited by Blanc is the electric braking system developed for the Boeing 787 by Safran Landing Systems. This, he says, is "clearly another demonstration of how an electric solution can efficiently replace a hydraulic solution".

In a description of the electric braking system on its website, Safran says: "Since electricity largely replaces hydraulics, both brake installation and maintenance are easier. Plus, it's a 'plug and play' system: for these electric brakes to operate, you just have to connect a wire between the actuators and the electronic control unit, and connect this unit to the aircraft's electrical system."



A380s feature Safran-developed electric thrust reversers

Michael Probst/AP/Shutterstock

Safran is also working to switch landing gear actuators from hydraulic to electric power. For extraction, retraction and steering Blanc says "it makes a lot of sense to imagine an electrical solution".

"By removing this significant hydraulic system at the front part of the aircraft you save a lot of weight and cost by replacing it with a wire that will drive electric actuators of the nose landing gear," says Blanc.

Safran has demonstrated the technology but, he adds, "the question we always discuss with the airframers is – does it makes sense in terms of cost to move from a hydraulic to an electrical system?"

Because these solutions require "significant changes to significant parts of the aircraft", they are aimed at future aircraft models rather than the retrofit market. "It is much easier to do on a new aircraft, but it all depends on what the airframer is targeting. Very often [electrical systems are] lighter, but they can be more expensive because hydraulic solutions are very, very mature whereas electric solutions are new. But maintenance costs are much lower than with hydraulic solutions," says Blanc.

Combining hydraulic and electrical systems is also a possibility, so that "instead of a complete hydraulic system, you could have a closed-loop hydraulic system that's driven by an electrical system", says Blanc. "We have the technology for a fully electrical function or a combination of hydraulic and electric for any type of aircraft, but the final guy that decides is the airframer."

In addition to the weight savings associated with swapping from hydraulic to electrical power – which could be as much as 30%, according to Blanc – the power intake from the engine is also reduced because hydraulic energy is drawn from the

main powerplant. He estimates that fuel burn on a typical large commercial aircraft could fall by 5-10% as a direct result of this reduced power intake.

R-R is taking a two-tiered approach to electrification in civil aerospace: an evolutionary, incremental strategy and a revolutionary, disruptive path. Replacing mechanical and hydraulic systems with electrical solutions falls into the former category. R-R points to the no-bleed electrical systems architecture on the 787 – on which its Trent 1000 is an engine choice, alongside the GE Aviation GENx – as being a key first step on the more-electric aircraft journey.

Generators mounted on each 787 engine provide half a megawatt of power per engine. This is augmented by two additional generators attached to the auxiliary power unit (APU). The electrical power generated is used to drive functions such as air-conditioning and wing anti-ice systems.

R-R is examining a number of other more-electric configurations that could potentially be applied to large commercial aircraft in the future. These include an electrical starter generator, various electric accessories, multi-shaft power extraction and transfer, and the possible elimination of the accessory gearbox. The latter could be achieved by integrating the electrical generator, power storage and power distribution systems.

Any changes, however, will "probably" follow a "staged approach", whereby "we go to two generators externally mounted and then embed them", says Newby. "We've got to satisfy ourselves that we've got the maturity of the technology before we start embedding it," he adds.

He points out that while some of these steps could "allow us to do some clever things" – such as use the power generated to enhance the relight envelope – it is not a case of simple substitution. Rather, realising such benefits requires optimisation of the entire fuel system.

Newby predicts some of the more-electric elements under consideration at R-R may enter service at "the back end of next decade". "It doesn't require an awful lot of new technology – we've got the underpinning technology already," he says. Newby also believes that more-electric developments will likely result in a single-digit reduction in fuel burn on future large aircraft.

"We're working out whether it will be low single digits or high – up to 5% probably, depending on the configuration," he says. "This is not an insignificant benefit". Another manufacturer researching electric systems that it believes could "revolutionise" aviation is Liebherr Aerospace. The company announced earlier this year that three of its project teams had embarked on more-electric research and development initiatives. Liebherr is looking at using electrical energy for flight control, landing gear actuation, air conditioning and ice protection.

The actuator work is being conducted in Lindenberg, Germany, where Liebherr says its engineers are "working to find out how these kinds of hydraulic systems can be replaced by electro-mechanical or electro-hydrostatic systems in the future". This could be supplied by a central, electro-hydraulic power pack with a 540V DC supply, the company says.

Liebherr tests its more-electric technologies on a demonstrator platform known as E-WING. "At E-WING we're using five test benches to test and monitor various options for controlling actuators, such as conventional hydraulic, electro-hydraulic

and electro-mechanical," says Stefan Pufe, director of research and technology at Liebherr's Lindenberg site.

In Toulouse, Liebherr is working to optimise two main electrical systems for the environmental control system and the wing ice protection of the leading edge. The goal is to "reduce the weight and fuel consumption of the more-electric aircraft to achieve significant reductions in CO2 and nitrogen oxide emissions".

Echoing Blanc's view that more-electric enhancements are aimed at future aircraft rather than being a retrofit option for existing models, Liebherr says: "More-electric aircraft technologies require a whole new generation of aircraft. Just replacing state-of-the-art equipment with an electrical version will not lead to an advantage. "In most cases, this would rather add weight compared to today's systems. Pairing more-electric technology with a new power generation and distribution architecture is the only promising way to use its advantages efficiently."

Anyone hoping for an emissions-free electric twin-aisle aircraft in the foreseeable future is likely to be disappointed. However, a series of incremental improvements mean tomorrow's widebodies look set to be more electric and more fuel-efficient than today's models.

As R-R's Newby observes: "There is not one silver bullet that is going to improve big aircraft efficiency. It's going to be a combination of factors."
Source: Flight International

Activity two. Students are asked to reproduce the metaphors seen in the text to explain other topics within the aeronautical context; therefore, a corpus of technical metaphorical expressions is retained and learnt, developing metaphorical competence.

Unit 8. Metaphorical Competence Development. Activities to foster metaphorical competence.

Activity one. Kahoot. Interactive game in which students compete against each other in order to retain the metaphorical expressions learnt and foster metaphorical competence.

<https://create.kahoot.it/details/a37849b6-f65e-4b61-b17e-e89d2bedfd08>

Activity two. Fill-in-the-gap exercise based on aeronautical phraseology from the text seen in the previous unit. Choose the correct word from the box.

Distant pressure turned head burn single bleed level

Electric propulsion for large commercial aircraft remains a very _____ prospect. But with environmental concerns putting _____ on aviation, manufacturers have _____ their attention to electrifying functions other than propulsion – the objective

being to reduce CO2 emissions by designing new aircraft that are “more electric” than their predecessors.

Compared to hydraulic systems, electric alternatives are lighter, easier to install and maintain and often draw less power from the main engines. Switching landing gear controls from hydraulic to electric, for example, could potentially reduce fuel _____ by as much as 10% on future twin-aisle aircraft – although most experts believe such savings will probably be in the _____ digits.

"In very general terms, the difference between a traditional aircraft and a more-electric aircraft for an engine manufacturer is the quantity of _____ air the airframe requires from the engine compared to the _____ of electrical power extracted via the generators," wrote Kevin Daffey, _____ of electrical- power and control systems at Rolls-Royce, in a paper on the subject for the Institution of Engineering and Technology.

Activity three. Escape Room (Appendix I). The game has been created by the researcher of this study and is based on aeronautical phraseology extracted from different sources. See appendix C for a full view of the interactive game, and the Grand Finale.

<https://docs.google.com/forms/d/1AIJxS-RX2a6m1c62tCazRcTJt9YI3HWDS0lF1tFhlk/edit>

The Grand Finale is based on each participant’s score consisting of a scale of points obtained that directs them to a different location to end the game; each questions reports one point with a total of 11 points. Those students who obtain between 1 and 4 points have LMC; those from 5 to 7 have MMC; and finally, those who obtain between 7 and 11 points have HMC.

Appendix I: Escape Room (own creation)









ESCAPE ROOM // FLIGHT 282
By Mariló Camacho-Díaz
(own creation)



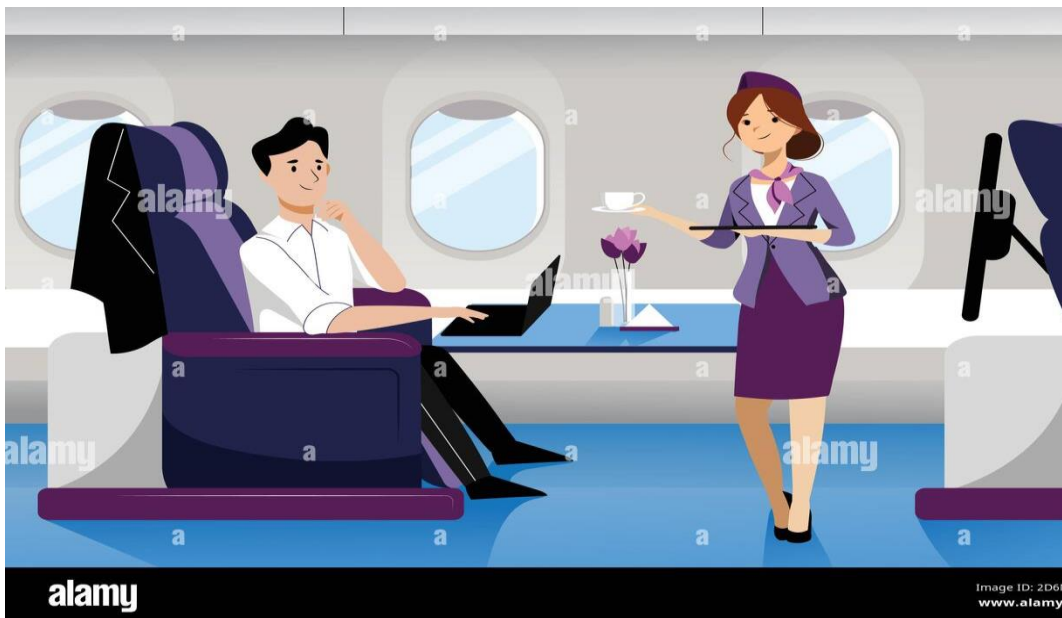
IBERIA 282 is a scheduled flight from Madrid Barajas bound to Riviera Maya, in the Yucatan Peninsula, Mexico. Captain Salvatierra and his crew are operating a Boeing 747-400 series with 2 pilots and 16 cabin crew. The duration of the long-haul flight will be 11 hours. The aircraft is a double-decker Jumbo Jet with 10 emergency exit doors plus four overwing exits and two window exits in the cockpit. The passengers are already boarding through the air bridge.

1) What is the metaphor used for an air route connecting two places that makes it possible for people or supplies to get to the aircraft?
 Answer: _____



Everything seems to be running on time with the First Officer Martínez going through the checklist with the Captain. She will be the flying pilot while the Captain will be the PNF and in charge of RT communications. Once the pilots have completed all the checks, instructed by Ground control on the take-off route and all the passengers are on board, the pilots authorise the crew to arm the doors, and are ready for the pushback.

- 2) A war metaphor has been used in the text. Can you spot it?
 Answer: _____



Iberia 282 takes off smoothly, and turns to heading switching to the auto-pilot as planned. The pilots relax and the cabin crew begin the service in the cabin. They are operating a full flight with 467 souls on board.

- 3) What is the metaphor used in this paragraph?
 Answer: _____



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Suddenly, as the aircraft is flying all in the wind across the Atlantic Ocean at cruising speed and altitude, a man with a shotgun rises from his seat and threatens a cabin crew. A second later, four more men stand up with guns and knives. Panic immediately erupts on the lower level of the Jumbo Jet, economy class. Meanwhile, the pilots are completely oblivious to the situation unfolding below. FYI: The Cockpit of a Jumbo Jet is located upstairs on the second level.

4) What is the aeronautical metaphor in this paragraph?

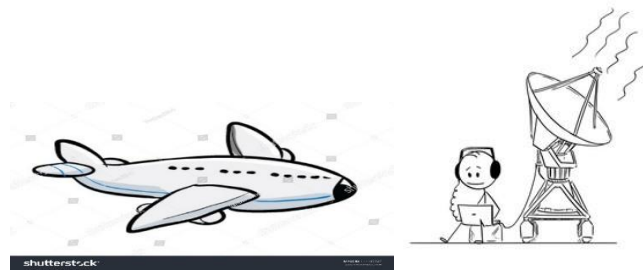
Answer: _____



One of the hijackers demands to see the Commander of the flight. The cabin crew being threatened with a knife, leads him to the cockpit through the stairs and knocks on the door. By then, the pilots have already been warned by two cabin crew who have hidden in the pressurised hold, that a hijacking scenario is taking place. The pilots refuse to open the door and seek immediate Close-Air Support (CAS). The refusal to open the door causes the hijacker to shout that there is a bomb on board, wreaking havoc on the first-class passengers on the upper level.

5) Spot the aeronautical metaphor here.

Answer: _____



The two cabin crew that remain unseen by the hijackers are performing a transmission from their secluded station to the cockpit under terrifying circumstances where two-way communication cannot be established from unknown reasons. However, it is believed that the commander can receive one-way communication.

6) What is the phraseology/ metaphor for one-way communication?

Answer: _____



Captain Salvatierra, who is still in command of the air, relays all the information regarding the hijacking to the Airline Emergency Management Centre back in Spain. The commander is advised to listen to the hijackers' requests to find out what they want. The requirements are to divert to Venezuela; the hijackers are Venezuelan dissidents who plan to kidnap the passengers and crew for ransom; they also intend to sell the aircraft to finance the guerrilla against the dictatorship of Nicolás Maduro.

7) What is the aviation metaphor in this paragraph?

Answer: _____



Meanwhile, the flight continues to cross the Atlantic Ocean at a cruising speed of 1,000 km per hour, at a Flight Level of 330, still heading for its final destination in Mexico. At this stage, there are three possible scenarios: the first one is to divert to the alternate in Puerto Rico; the second one is to continue to Mexico; and the third one is to surrender and deviate into the jungle in Venezuela.

8) What is the aeronautical metaphor in this paragraph?

Answer: _____



First scenario: Puerto Rico, the Caribbean. The hidden cabin crew have warned the pilots in a blind transmission, that they have found the bomb in the undercarriage compartment and are trying to defuse it. The Emergency Management Centre in Spain is aware of it and will authorize the flight crew to divert to Puerto Rico, provided the bomb is neutralized, even though the hijackers remain in power.

9) What is the wheeled-structure metaphor here?

Answer: _____



Second scenario: The Yucatan Peninsula, Mexico. Captain Salvatierra will only arrive in Mexico as long as the hijackers have ceased their aggressive activity either of their own free will under the convincing power of the cabin crew' persuasion, or subdued by them, even though the bomb has not been neutralized. In that case, the commander will have to decide whether to lower the main landing gear, where the bomb is located, or to perform a wheels-up landing to prevent the bomb from exploding.

10) What is another name (metaphor) for a wheels-up landing?

Answer: _____



Third scenario: Canaima, Venezuela. The third option will only be authorized by the Commander of the flight, since the Captain is the highest authority on board, despite the fact that the aircraft has been taken over by terrorists. If all else fails, and neither the bomb has been defused or the hijackers have surrendered, then the aircraft will manoeuvre dangerously between the jungle and the flat-topped mountains of Canaima, where strong winds will push the aircraft sideways, forcing the pilots to perform a crab landing on a grass strip.

11) What is the aviation metaphor here?

Answer: _____

APPENDICES

Escape Room – Answers

Correct answers: each answer gets one point	
Question 1	Air bridge
Question 2	To arm the doors
Question 3	467 souls on board
Question 4	All in the wind
Question 5	Close-Air Support (CAS)
Question 6	Blind transmission
Question 7	Command of the air
Question 8	Flight level
Question 9	Undercarriage
Question 10	Belly landing
Question 11	Crab landing

Escape Room – Grand Finale

**ESCAPE ROOM // FLIGHT 282 -- OUTCOMES:
VENEZUELA (0 to 3 points = LMC)**



Welcome to Venezuela: after a dangerous landing on a grass strip in Canaima with the main landing gear lowered, Captain Salvatierra agreed with the leader of the hijackers that a complete evacuation must be carried out to avoid being killed by a possible bomb deflagration. The entire flight was evacuated down the slides and the passengers and crew did not put up any resistance. The 467 passengers and crew of Flight 282 were held captive in the jungle for 37 days, eating fish and fruit, and sleeping in hammocks, after which a full ransom was paid by the Spanish Government, contributing directly or indirectly to the guerrilla to overthrow President Nicolás Maduro.



PUERTO RICO (4 to 6 points = MMC)

Welcome to Puerto Rico: the bomb has been defused but the hijackers are still in power. The police at San Juan International airport have been advised of the situation and will deploy specialists to the scene for the following mission: first, to try to convince the gunmen to lay down their weapons and surrender; If this is not the case, the Puertorican authorities have informed Captain Salvatierra that there will be a face to face confrontation with the special police corp that will board the plane by force to capture the hijackers with the help of able-bodied passengers and crew. The battle on board the plane took place; passengers and crew helped, and the hijackers were arrested.

MEXICO (7 to 11 points = HMC)



Welcome to Mexico: Captain Salvatierra made a perfect landing with the full main landing gear deployed; the Emergency Services applied foam to the entire surface of the runway in use at Mérida International Airport, Mexico. The bomb had not been defused and neither the Special Anti-Hijacking Unit nor the flight crew wanted to risk the possibility of an explosion by performing a belly-landing. The hijackers surrendered thanks to the persuasion of a psychologist travelling on the flight and were arrested upon arrival. After the initial shock was over, the passengers enjoyed their holidays by the seaside, drinking Caipirihnas, Margaritas and Mojitos, telling the story of the ordeal of the hijacking to everyone who wanted to listen.

Appendix J: Tables to guide statistical questions about EG and CG

EG															
VARIABLES															
NOMBRES	Conciencia Metafórica (MA) (sobre 10)		Competencia Metafórica (MC) (Total sobre 25)							GÉNERO (M/H)	NÚMERO DE IDIOMAS QUE HABLA	TIEMPO EN EL EXTRANJERO (English-Speaking country) (Never=0; Seldom =1; Sometimes= 2; Every Summer= 3)	NIVEL CEFR DE INGLÉS (A1= 1; A2= 2; B1= 3; B2= 4; C1= 5; C2= 6)	MUSICAL EXPERIENCE Do you sing in English? (Never= 0; Rarely= 1; Sometimes= 2; Often= 3; Always= 4; Everyday= 5)	MUSICAL EXPERIENCE How often do you listen to songs in English? (Never= 0; Rarely= 1; Sometimes= 2; Often= 3; Always= 4; Everyday= 5)
	PRE-TEST	POST-TEST	PRE-TEST		POST-TEST		POST-TEST								
			Comprensión Escrita WC (sobre 15)	Producción Escrita WP (sobre 10)	Comprensión Escrita WC (sobre 15)	Producción Escrita WP (sobre 10)		TOTAL							
Meriem Abdelaziz Benouar	4	6	5	2	12	6	18	M	5	3	3	5	3	5	
Rocío Montalbán	7	8	11	4	10	7	17	M	3	5	3	3	3	3	
Victor Campos Casares	6	5	11	4	14	10	24	H	2	5	2	2	2	2	
Pablo Garcia Aragon	4	6	12	4	14	10	24	H	3	6	2	2	2	5	
Ángel Santos Magán	4	6	7	2	11	10	21	H	2	3	2	2	2	2	
Ángel de Andrés Fernández	3	1	10	3	9	7	16	H	2	4	1	5	5	5	
Andrea Puig Minaya	4	8	11	7	12	10	22	M	3	5	4	5	5	5	
Ana Guillamo Cobos	6	10	9	4	15	10	25	M	2	5	5	5	5	5	
César Nistal	4	8	7	2	8	8	16	H	2	4	2	3	3	3	
Diego González Pérez	5	5	7	1	9	2	11	H	2	3	3	3	3	3	
Ágata Sánchez López	5	5	8	2	7	5	12	M	3	5	5	5	5	5	
Gema	5	6	4	4	12	8	20	M	2	4	3	5	5	5	
Hugo Plaza	6	5	7	6	10	6	16	H	2	4	3	3	3	3	
Nerea	3	5	7	0	14	9	23	M	3	4	1	2	2	2	
Zaira Santana	6	8	9	7	12	7	19	M	2	4	3	5	5	5	
Diego Gallego Guerrero	5	9	6	2	13	10	23	H	2	4	1	2	2	2	
Sara Aybar	7	6	12	4	12	7	19	M	2	5	3	5	5	5	
Blanca Ruiz	6	7	9	6	10	10	20	M	3	5	2	5	5	5	
Carlos Solís-Vera	6	7	11	6	13	7	20	H	4	5	4	5	5	5	
Maria Heras Roldán	6	5	13	8	10	8	18	M	3	4	3	3	3	3	
José Mª	5	8	14	9	14	10	24	H	4	5	2	5	5	5	
Martín Montero Pizana	5	5	8	3	15	3	18	H	3	5	2	5	5	5	
Manuel Valentín Aragón García	5	6	11	3	12	3	15	H	3	4	3	3	3	3	
Lucas Leggat Berguño	5	8	10	5	14	4	18	H	2	4	2	3	2	3	
Sergio Basterrechea	6	8	10	9	13	10	23	H	3	5	3	4	3	4	
Aranxa García	4	7	8	6	11	7	18	H	2	4	3	3	3	3	
Jesus Barahona	5	9	11	9	14	9	23	H	2	4	4	5	4	5	

CG														
NOMBRES	Conciencia Metafórica (MA) (sobre 10)		Competencia Metafórica (MC) (Total sobre 25)						GÉNERO (M/H)	NÚMERO DE IDIOMAS QUE HABLA	TIEMPO EN EL EXTRANJERO (English-Speaking country) (Never=0; Seldom =1; Sometimes= 2; Every Summer= 3)	VARIABLES		
			PRE-TEST			POST-TEST						NIVEL CEFR DE INGLÉS (A1= 1; A2= 2; B1= 3; B2= 4; C1= 5; C2= 6)	MUSICAL EXPERIENCE Do you sing in English? (Never= 0; Rarely= 1; Sometimes= 2; Often= 3; Always= 4; Everyday= 5)	MUSICAL EXPERIENCE How often do you listen to songs in English? (Never= 0; Rarely= 1; Sometimes= 2; Often= 3; Always= 4; Everyday= 5)
			Comprensión Escrita WC (sobre 15)	Producción Escrita WP (sobre 10)	Comprensión Escrita WC (sobre 15)	Producción Escrita WP (sobre 10)	TOTAL							
Mateo Espinosa Gallego Laura Conde Laura Alonso García Luis Abenia Jordi Javier Herranz Ángel R. Christian Hidalgo Lorite Alicia Del Amo García Gabriel Alonso Adrián María González Magán Victor Tania Ander Judith De Santiago Vicente María Alonso Ránila Álvaro Gude García Luis Giraldo Miguel Bailón Adrián Juanicotena César Giménez Lima German Ramon Albareda Montenegro Sara García Velasco Alejandro Fernández Ruiz Magdalena G. de San Miguel Pablo García Rueda	5	6	10	4	10	7	17	H	3	0	5	2	3	
	8	7	14	8	14	10	24	M	3	2	5	4	5	
	8	8	12	5	12	5	17	M	4	2	5	1	5	
	5	9	12	8	11	7	18	H	4	2	5	2	5	
	6	4	9	3	13	3	16	H	2	2	5	3	5	
	6	7	9	8	12	10	22	H	3	2	5	5	5	
	4	4	10	2	10	1	11	H	3	1	5	3	3	
	6	6	7	2	7	6	13	M	3	3	4	3	3	
	6	7	12	2	14	4	18	H	2	1	4	3	3	
	4	6	8	2	13	3	16	H	2	0	4	2	5	
	5	6	11	2	12	9	21	M	4	1	4	5	5	
	6	5	8	7	8	4	12	M	3	1	5	2	2	
	7	4	5	0	8	4	12	M	4	1	4	2	5	
	8	6	10	1	8	4	12	H	5	3	5	3	4	
	6	6	10	2	12	9	21	M	3	2	4	5	5	
	9	7	5	2	8	5	13	M	2	0	4	4	3	1
	5	8	9	0	8	1	9	H	2	1	4	4	1	5
5	9	9	0	13	8	21	H	2	1	1	5	1	1	
4	3	10	3	6	2	8	H	3	1	4	4	1	3	
5	3	13	2	14	1	15	H	3	2	2	5	2	5	
6	3	8	0	6	3	9	H	2	2	4	4	2	2	
5	6	11	0	10	0	10	H	4	3	3	4	5	5	
7	5	11	5	14	5	19	H	4	2	2	5	3	5	
6	8	12	2	12	1	13	M	3	1	1	5	3	3	
5	2	10	2	8	8	16	M	3	2	2	5	5	5	
7	5	11	7	12	4	16	M	4	0	0	4	2	5	
3	3	4	1	8	0	8	H	3	1	1	4	1	1	

