

**Master's Dissertation/
Trabajo Fin de Máster**

**CLIL METHODOLOGY IN
PRIMARY SCHOOL AS A
MEANS OF FOSTERING
COOPERATIVE
LEARNING**

Student: Sánchez Cubo, Ana

Supervisor: Dr. Piotr Romanowski

Department: English Philology

July, 2021

TABLE OF CONTENTS

1. INTRODUCTION	4
2. THEORETICAL FRAMEWORK	4
2.1. CLIL	4
2.1.1. <i>CLIL core features</i>	7
2.1.2. <i>The benefits of CLIL</i>	8
2.2. Cooperative learning.....	9
2.2.1. <i>Principles of cooperative learning</i>	9
2.2.2. <i>Types of cooperative learning</i>	10
2.2.3. <i>Cooperative classroom: types of learning structures</i>	11
3. DIDACTIC PROPOSAL	12
3.1. Justification.....	12
3.2. Contextualization.....	13
3.3. Objectives	13
3.3.1. <i>General objectives</i>	14
3.3.2. <i>Area objectives</i>	15
3.3.3. <i>Didactic aims</i>	15
3.4. Key Competences.....	16
3.5. Contents	17
3.5.1. <i>Subject contents: Natural Science</i>	17
3.5.2. <i>Subject contents: Arts & Crafts</i>	18
3.5.3. <i>Linguistic contents</i>	18
3.6. Evaluation criteria, indicators and learning standards	19
3.7. Timing.....	21
3.8. Methodology.....	21
3.9. Attention to diversity	22
3.10. Sequence of activities	25
3.11. Texts, activities, and pictures of each activity	35
3.12. Evaluation and instruments	53
4. CONCLUSION	59
5. REFERENCES	60

Abstract

The purpose of this paper has been to analyze how the CLIL (Content and Language Integrated Learning) approach fosters cooperative learning methodology in Primary Schools. The proposal is for students of the fifth year of Primary Education. A CLIL didactic unit based on cooperative learning is presented to be carried out in a Natural Science and Arts and Crafts class. Moreover, in order to cater for diversity, student centered methodologies, such as Multiple Intelligence Theory or project- based learning among others, have been taken into account.

The preliminary information presented in this document has been gathered through literature reviews and research carried out in relation to these two terms, the CLIL methodological approach and cooperative learning. The second part of this paper presents the didactic proposal and the unit itself.

Resumen

El objetivo de este trabajo ha sido analizar cómo la metodología AICLE (Aprendizaje Integrado de Contenidos y Lenguas Extranjeras) es un medio para fomentar el aprendizaje cooperativo en Educación Primaria. La propuesta es para estudiantes de quinto de Educación Primaria. En este documento se presenta una unidad didáctica basada en el método AICLE y en el aprendizaje cooperativo para ser llevada a cabo en el área de Ciencias Naturales y Educación Artística. Además, para atender la diversidad, se han tenido en cuenta otras metodologías centradas en el estudiante como la Teoría de la Inteligencias Múltiples o el aprendizaje por proyectos entre otras.

La primera parte del documento ha sido realizada revisando la literatura existente e investigando la relación entre el enfoque metodológico AICLE y el aprendizaje cooperativo. La segunda parte de este trabajo presenta la propuesta didáctica.

Key words: Cooperative learning, 4Cs curriculum, Content and language integrated learning, autonomy, scaffolding, positive feedback.

1. INTRODUCTION

We live in a society in which the dominant values are individualism and competitiveness. Students are used to being compared with their peers and they want to stand out because of the social pressure in which they are involved. From this perspective, the necessity of including cooperation can be observed, not only between students, but also between teachers and students and among teachers themselves.

Cooperative learning has been introduced in many schools during recent years as a successful way of improving learners' competences. In this case, it will be used to foster students' learning of a foreign language through Content and Language Integrated Learning (henceforth, CLIL). By creating a meaningful and cooperative context, our students can learn language in a natural way without even noticing it.

In this Master's dissertation I would like to show the potential connection between these two terms. Firstly, I have made a literature review devoted to CLIL and cooperative learning to know more about them. Then, putting everything together to transform the theory into reality, a didactic proposal has been presented.

2. THEORETICAL FRAMEWORK

2.1. CLIL

There are a lot of CLIL definitions in the literature. But one of the most accepted and widespread is the one provided by Marsh & Langé (2000: 2), in which CLIL is defined as an umbrella term used to refer to “a dual-focused education approach in which an additional language is used for the learning and teaching of both content and language”, highlighting the essential combination of these two aspects of learning.

According to Pokrivčáková et al. (2015), CLIL methodology offers teachers the possibility of fostering the students' use of language skills with the purpose to benefit both content and language.

CLIL is an umbrella term (Mehisto, Marsh and Frigols, 2008) that can be considered easy to adapt to the context in which it is implemented; so, different educational approaches can be found using it, varying in scale.

The distinction between CLIL and another bilingual approach is that CLIL methodology is “the planned pedagogic integration of contextualized content, cognition,

communication and culture into teaching and learning practice” (Coyle et al., 2010, p. 6). This is called by Coyle (2007) as the 4C’s framework (cf. Fig. 1).

Following the same author, in order to plan a CLIL lesson, teachers should combine the following elements (Coyle et al. 2010: 6; Pérez Cañado, 2016):

Content: related to knowledge and skills progression connected with the educational curriculum.

Communication: the use of language to learn and interact. In CLIL lessons, language is not the final objective, but the vehicle.

Cognition: it refers to the thinking skills that students must develop by understanding content and making their own interpretation.

Culture: is related to the cultural understanding and global citizenship. It allows students to be more aware of others and themselves.

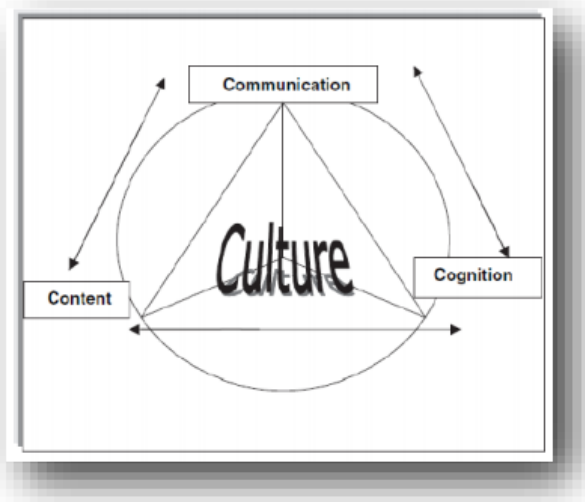


Fig 1. The 4Cs Framework for CLIL (Coyle, 2007, p. 551, as cited in Pérez Cañado, 2016b, p. 5)

Moreover, regarding **cognition**, it is important to differentiate between **LOTS** (lower order thinking skills) and **HOTS** (higher order thinking skills). A cognitive progression in CLIL activities should exist considering Bloom's Taxonomy (cf. Fig.2). This taxonomy was created by Bloom and Krathwohl in 1956 and later revised by Anderson and Krathwohl (2001).

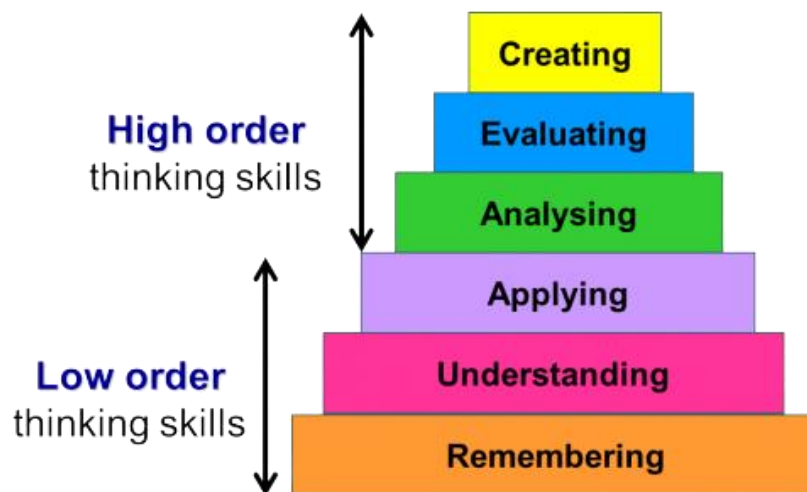


Fig. 2: Bloom's Taxonomy revised by Anderson and Krathworhl (2001). Source: <https://natalialzam.wordpress.com/2018/03/05/gender-stereotypes-in-education-edpuzzle-and-blooms-taxonomy/>

As for the second element, **communication**, different types of language must be developed by students in bilingual education. As Cummins (1999) claims, **BICS** (Basic Interpersonal Communication Skills) and **CALP** (Cognitive Academic Language Proficiency) exist. BICS refers to the development of conversational fluency in the target language and CALP is described as the language used in academic situations.

Besides, Coyle, Hood & Marsh (2010) stated another language classification, in which language in CLIL is divided into: language **of** learning, language **for** learning and language **through** learning (cf.Fig.3):

- Language **of** learning: is the language that learners need to acquire the specific contents of the subject.
- Language **for** learning: is the language needed to work in a CLIL environment.

- Language **through** learning: is the language generated in the process of learning.

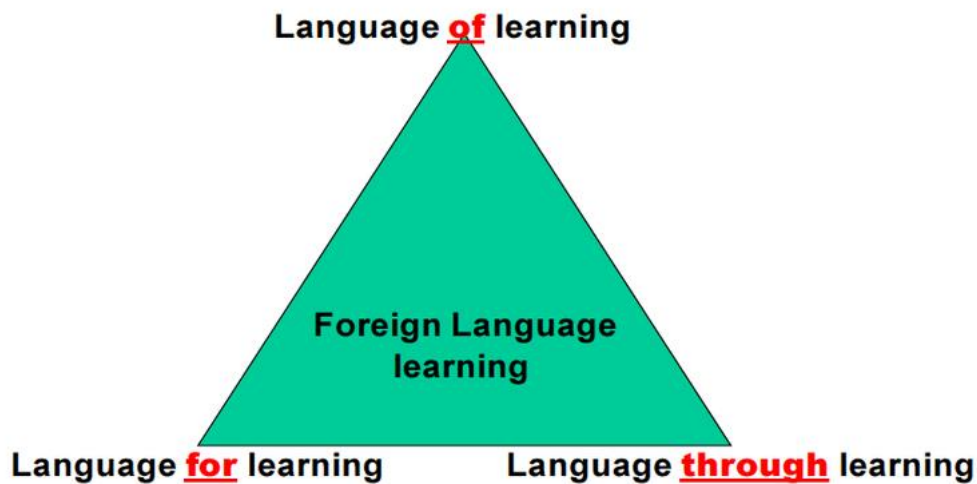


Fig.3: The Language Triptych (Coyle, Hood and Marsh, 2010)

2.1.1. CLIL core features

According to Mehisto, Marsh and Frigols (2008:29-30), CLIL has some characteristics that can be considered the nature of this methodology. They provide a useful tool for teaching and learning a foreign language. The following CLIL features can be highlighted:

CLIL has a **multiple focus** since it integrates various subjects in which language and content learning are supported. The teaching-learning process is organized through cross-curricular themes and projects in which collaboration between teachers acquire relevance in order to establish common methodological and pedagogical criteria.

Scaffolding is one of the most useful techniques in CLIL. It helps students to move progressively towards better understanding and eventually, the learner will become more autonomous in the learning process. It is essential to promote creative and critical thinking in our students by engaging them in meaningful activities that challenge them.

Authenticity is another key aspect of CLIL. In order to achieve it, frequent connection between learners' reality and learning should exist, considering students' interests.

Another important feature is the creation of a **safe and enriching learning environment**, developing students' confidence in learning content through language by making use of routine activities and using student- centered methodologies in which learners have access to authentic learning materials.

We cannot forget to talk about **active learning** in which students are the centre of each lesson, teachers act as guides favouring the learning process. Moreover, this trait is a key element in cooperative work, which is one of the main aims of our didactic proposal. In this sense, **cooperation** is the last but not least feature mentioned in this section. It involves all the different stakeholders (CLIL and non- CLIL teachers, parents, authorities, local community, etc.) in learning about CLIL and the way of supporting students.

2.1.2. The benefits of CLIL

According to Çekrezi (2011:3822-3823) there are many advantages of the CLIL approach. These could be summarized as follows:

Due to the connection of each lesson with students' reality and applying language in real contexts, learners experience a high level of **motivation** by using this approach.

Language learning occupies the centre of curriculum, as a result of its integration with other subjects.

Meaningful contexts, in which students acquire the foreign language unconsciously in a natural way without even realising. The anxiety provoked by the study of the L2 is reduced in this type of environment. Students gain confidence and they are not only cognitively engaged but also affectively.

CLIL students have more time of exposure to the foreign language. Consequently, one of the main assets is **time saving**. In fact, students are expected to obtain better results than those who follow a traditional language class.

Due to the integration of the foreign language in different subjects, a **variety of teaching methods** exist. Students learn the language and content at the same time and teachers are integrating language activities and content ones in each lesson enriching the teaching -learning process in this way.

2.2. Cooperative learning

Since in education, students must be actively engaged in learning experiences to guarantee meaningful learning, cooperative learning is considered one of the most effective methodologies to ensure this (Johnson & Johnson, 2018).

Cooperative learning has been defined by many authors. This document presents the definitions most widely used.

Casal (2006) indicates that Cooperative Learning “promotes interaction” and facilitates the “development of cognitive and personal growth.” This learning method is suggested by the same author as a way of catering for diversity because individual differences among students are addressed.

“Cooperative learning is the instructional use of small groups so that students work together to maximize their own and each other's learning” (Johnson, Johnson & Smith, 2014:88).

Cooperative Learning is explained by Olsen & Kagan (1992: 8) as a “group learning activity organized so that learning is dependent on the socially structured exchange of information between learners in groups and in which each learner is held accountable for his or her own learning and is motivated to increase the learning of others”.

At this point it is important to establish a differentiation between *cooperative learning* and *collaborative learning*. Collaborative work is a learning method in which a group of students work together simultaneously, to learn something, to reach the same goal, etc. Sometimes the teacher is not aware of what the results will be beforehand. However, cooperative work is a teaching method in which a small group of learners work on an assigned task that has been previously designed by the teacher who knows the possible outcomes. Each of the students has a specific role (Navarro, 2018: 13).

2.2.1. Principles of cooperative learning

Some definitions of cooperative learning have been presented, however what can be considered as cooperative learning? In response to this question, Jacobs (2004) highlights the following principles:

- 1. Heterogeneous Grouping.** In cooperative learning tasks student groups must be formed mixing some variables such as sex, social class, personality, etc.
- 2. Collaborative Skills** are the ones needed to work with others. There is a necessity of teaching learners this type of skill because nowadays it may not be commonly acquired by for most of the students.
- 3. Group Autonomy.** Sometimes teachers try to interfere when some groups of students who are experiencing difficulties doing their tasks. However, it is part of their job to leave learners to find their own solution to foster their autonomy.
- 4. Maximum Peer Interactions.** By using this type of learning, in which groups of 2-4 students cooperate, it is undenied that peer interactions are maximized, but that does not necessarily mean quality in this synergy. At this point, the cooperative skill previously mentioned acquires a fundamental role.
- 5. Equal Opportunity to Participate.** In traditional settings the opportunities of participation are low in comparison with cooperative learning in which many ways of fostering equal participation among group members exist.
- 6. Individual Accountability.** Each student has something to share with the rest. In this sense, cooperative learning provokes individual responsibility and desire to learn from others.
- 7. Positive Interdependence.** Students must feel they need each other in a positive way, to achieve their goals. This can be interpreted as the weakest points of some are helped by the strongest points of others and vice versa.
- 8. Cooperation as a Value.** The more learners use this type of learning, the more they will feel its value. This feeling should be expanded not only in the class group but also in the whole school community. For instance, in service-learning projects (Kinsley & McPherson, 1995), working together, learners offer a service while they are engaging in learning linked to their curriculum.

2.2.2. Types of cooperative learning

The integration of different types of cooperative learning groups is necessary to talk about a cooperative classroom. Following Johnson and Johnson & Holubec (1999) there are three types of cooperative groups depending on their purpose and application:

Formal Cooperative Learning Groups

In this kind of group, the learning of a specific content is pursued. Students work together to complete a task. The duration can vary from one class period to several weeks. The teacher must state the aims, make important decisions about the group, clarify the purpose of the task, guide and assist the learning process and evaluate students' achievement to let them know how to improve.

Informal Cooperative Learning Groups

The maximum duration of this type of group is a class session, they are provisional. The students are assembled for a particular activity such as an exposition, a movie, a presentation, etc. Students are cognitively engaged and integrating new information.

Cooperative Base Groups

These can be categorised as long-term groups in which the components are stable. The interaction among them is constant to achieve the daily tasks. They provide a context in which students can support each other in academic as well as in other aspects of their lives.

2.2.3. Cooperative classroom: types of learning structures

According to Johnson & Johnson (1978) cited by Pujolás (2004) and Pastor (2011) there are different types of learning structures considering students' expectations and the main objective of the lesson. Three main groups of learning structures exist (Table.1).

Learning Structure	Individualistic	Competitive	Cooperative
Sub-structure Of the activity	<ul style="list-style-type: none"> - Individual work, not competitive. - There is no group work Collaborative help is unusual 	<ul style="list-style-type: none"> - Individual and competitive work. - Group work is rejected. - Collaborative help has no sense. 	<ul style="list-style-type: none"> - Individual and cooperative work. - Group working is essential and collaborative help is promoted.
Sub-structure of the reward	<ul style="list-style-type: none"> - The student achieves his/her goals regardless of whether the class group accomplishes the goals or not. 	<ul style="list-style-type: none"> - The student achieves his/her goals, only when the rest of the class does not reach them. 	<ul style="list-style-type: none"> - The student achieves his/her goals only when the rest of the group reaches them.
Sub-structure Of the authority	<ul style="list-style-type: none"> - The teaching and learning process and the curriculum management is developed by the teacher, who does not care about class interaction. 	<ul style="list-style-type: none"> - The teaching and learning process and the curriculum management is developed by the teacher, who may promote competition amongst the students or not. 	<ul style="list-style-type: none"> - The teacher shares with the class the teaching and learning process as well as the curriculum management. S/he promotes the class interaction.

Table 1. Types of learning structures. Pastor (2011) adapted from Pujolás (2009)

3. DIDACTIC PROPOSAL

3.1. Justification

We live in a society in which some students are becoming individualist and sometimes they find it difficult to work in teams because they consider that they work better alone. However, in education it is essential to promote cooperative learning as a great strategy to carry out the different tasks of any unit.

Due to this, the activities and tasks proposed are mainly based on cooperative learning and, of course, the CLIL approach. It has been designed to be worked in a Natural Science and Arts and Crafts class. The topic chosen is “The five senses”.

The unit includes the development of concepts, procedures and attitudes that will make the student aware of the importance of their organs and how they function receiving data from the environment and reacting to it.

Curiosity, interest, and respect towards oneself and towards others are promoted through an active methodology throughout the unit.

The activities are designed to work progressively, going from less demanding to more demanding or challenging allowing the students to offer the best version of themselves.

3.2. Contextualization

The didactic unit has been designed for the bilingual school “Platero Green School” located at Calle Baja, 23 in El Palo, Málaga. With more than 40 years of experience, its educational offer ranges from the age of 2 to 16 and hence, it covers various stages of education: Infant Education, Primary Education and Secondary Education.

The group consists of 14 girls and 11 boys aged 10-11, situated on the lower half of the socioeconomic scale. The teaching timetable is from 9am to 2pm Mondays to Fridays. Meetings of teaching teams, co-ordination, tutorship, staff meetings and extracurricular activities, are held on Monday and Tuesday afternoons.

The school, amongst other teaching facilities has:

- A music room, laboratory
- A room for audition and language
- Two computer rooms
- A staffroom
- Two art rooms
- A library

Regarding plans and educational projects, the following can be highlighted:

- An attention to diversity genre project (coeducation)
- An encouraging reading project
- A bilingual project
- A multiple intelligence project
- A “School Place of Peace” Project

3.3. Objectives

The objectives are defined in the Royal Decree 126/2014, 28th February 2014. This establishes the basic curriculum of Primary Education as the goals that the student

must achieve by the end of the educational process, as a result of teaching-learning experiences intentionally planned for this purpose.

3.3.1. General objectives

The general stage objectives refer to what students are expected to develop after the learning process, during the whole stage of Primary Education.

The Royal Decree 126/2014, 28th February 2014 also established the stage objectives. The following aspects will be used in the proposal teaching unit:

- a) To know and appreciate the values and norms of coexistence, learn to act in accordance with them, prepare for the active exercise of citizenship and respect the human rights, as well as the pluralism of a democratic society.

- b) To develop individual and teamwork habits, effort and responsibility in their studies, as well as self-confidence, critical sense, personal initiative, curiosity, interest and creativity in learning, and entrepreneurial spirit.

- f) To acquire in at least one foreign language the basic communicative competence that allows them to express and understand simple messages and to develop themselves in everyday situations.

- h) To know the fundamental aspects of Natural Science, Social Science, Geography, History and Culture.

- i) To initiate the use of Information and Communication Technologies to learn, by developing a critical attitude to the messages they receive and develop.

- j) To use different representations and artistic expressions and start building visual and audio-visual proposals.

3.3.2. Area objectives

AREAS	AREA OBJECTIVES
NATURAL SCIENCE	<p>O.CN.3. To recognize and comprehend basic aspects of the functioning of the human body, by both establishing relationships with the possible consequences for individual and collective health, and by evaluating the benefits of having a healthy lifestyle by doing physical exercise, having a personal hygiene and a balanced diet, and showing an attitude of acceptance and respect for individual differences to improve the quality of life.</p> <p>O.CN.6. To participate in workgroups putting into practice values and attitudes typical of scientific thinking, promoting the entrepreneurial spirit, developing one's own sensitivity and responsibility to the individual and collective experiences.</p> <p>O.CN.7. To understand the importance of scientific progress, to value its impact and significance in improving the daily lives of all people and in the progress of society.</p>
ARTS & CRAFTS	<p>O.EA.5. To maintain an attitude of personal and collective search, by integrating perception, imagination, sensitivity, inquiry, and reflection to realize or enjoy different artistic productions.</p>

Table 2. Area objectives

3.3.3. Didactic aims

This unit of work contributes to the previously mentioned general and area objectives that are proposed for Primary Education in Spanish educational laws. According to Bloom's taxonomy (1956), the following specific aims have been established in terms of capacities. At the same time, the connection between specific objectives and key competences have been specified.

1. To understand the importance of our senses, by learning their functions (learning to learn).

2. To put specific vocabulary into practice, showing understanding of the different uses of our senses (linguistic communication, learning to learn).
3. To analyse hygienic daily routines and compare them with other cultures (cultural awareness and cultural expressions- digital competence- citizenship and social competences).
4. To develop quality output in both language and content, as a result of an active and cooperative learning process (learning to learn- linguistic communication- citizenship and social competences- sense of initiative and entrepreneurship).
5. To successfully engage in cooperative learning activities (learning to learn and citizenship and social competences).

3.4. Key Competences

The combination of skills that a student must acquire during their time at school is structured in the current curriculum in Spain in the shape of key competences (Navarro, 2018:12). The key competences are described in the Order ECD/65/2015, 21st January 2015. The Primary curriculum refers to seven key competences which are addressed throughout this unit:

Linguistic competence (LC, henceforth)

A variety of activities working with reading, writing, listening, conversing, and speaking skills are proposed in the unit. The various presentation styles of the tasks help pupils to gain confidence when speaking in public.

Mathematical competence and basic competences in Science and Technology (MCST, henceforth).

Activities involving counting, making calculations, formulating and testing hypotheses, recording and analysing results are included throughout the unit.

Digital competence (DC, henceforth).

The unit contains ICT tasks for pupils to complete. Some of the activities are thought to encourage them to use digital tools for developing their work.

Learning to learn (LL, henceforth).

The methodology used in this unit helps pupils to become more independent learners by guiding them through a series of staged processes. They will gradually gain the confidence they need to work more independently, with less guidance from the teacher.

Initiative and entrepreneurship (IE, henceforth).

The step-by-step approach to learning helps students to develop initiative and look for creative solutions to problems they have identified. Sometimes, they also perform tasks that encourage entrepreneurial skills.

Cultural awareness (CA, henceforth).

Pupils will learn about cultural values from different places and eras, and they can compare and contrast them with the ones in our society today.

Social and civic competence (SC, henceforth).

Students will develop this competence during all the unit by working cooperatively with the rest of their classmates in the proposed tasks in which they must express and discuss their ideas and establish agreements always respecting each other's opinion.

3.5. Contents

The contents are defined in the Order of 17 March 2015, as the set of knowledge, skills, and attitudes that contribute to the achievement of the objectives of each teaching and educational stage and to the acquisition of competences.

3.5.1. Subject contents: Natural Science

BLOCK 1: "Initiation to scientific activity"

- 1.3. Elaboration of experiments following the different steps of the scientific method.
- 1.4. Making hypothesis and elaboration conjectures about studied facts.
- 1.5. Development of the scientific method.
- 1.6. Development of skills in the management of different sources to seek and contrast information.
- 1.9. Interest in taking care of the presentation of papers in a printed format or through digital media, maintaining basic guidelines.

- 1.11. Planification of individual and teamwork.
- 1.14. Curiosity about working in a team in a cooperative way, appreciating the dialogue and respecting others' opinions as essential tools. Development of empathy.
- 1.15. Development of scientific thought.

BLOCK 2: “The human being and health”

- 2.1. Identification of the human body, cell functions, tissues, organs and systems. Anatomy and Physiology.
- 2.2. Identification of vital functions in humans. Interaction function, nutrition function and reproductive function.
- 2.11. Development of identity and personal autonomy in the planning and execution of actions and tasks.

3.5.2. Subject contents: Arts & Crafts

BLOCK 2: “Artistic expression”

- 2.1. Elaboration and creative realization of visual productions as an expression of feelings (individually or in groups), by using elemental techniques (dot, line and planes) and everyday materials from their environment.

3.5.3. Linguistic contents

Communication is an essential point of any CLIL program, in fact it is one of the C's proposed by Coyle (2007). In the following table the contents that are related to communication have been presented by using the Language Triptych (the language of, for and through learning) developed by Coyle, Hood and Marsh (2010).

Language of learning	Language for learning	Language through learning
<i>Key vocabulary:</i> auditory nerve, Braille, cartilage, cochlea, cones, eyeball, inner ear, iris, lens, membrane, molecules, mucous membranes, nerve endings, olfactory, optic	Present tenses (affirmative and question sentences). Past tenses. First conditional tenses. Ways of expressing agreement/disagreement. Modal verbs: can, could,	Students should be able to express the main ideas about the topic. This type of language is difficult to anticipate because it occurs while applying the unit.

nerve, organs, outer ear, papillae, perceive, peripheral, pupils, receptors, retina, rods, sensitivity, temperature, tympanic membrane, vibrations.	must... Frequency adverbs: often, sometimes, never... Basic linking words: because, but, although...	
---	--	--

3.6. Evaluation criteria, indicators and learning standards

Evaluation is an essential element of any teaching and learning process. This term has been defined on many occasions. According to Bachman (1990:54) “evaluation comprises essentially two components: (1) information, and (2) value judgments, or decisions. The relevant information to evaluation can be either qualitative (non-measurement) or quantitative (measurement).”

The evaluation criteria, indicators and standards of learning are established by the Order of 4 November 2015 and the Royal Decree 126/2014, 28th February 2014.

It is necessary to distinguish each term:

- **Evaluation criteria:** it is the specific reference to assess students’ learning. It describes what they want to evaluate and what they must achieve in terms of competences and knowledge.
- **Standards of learning:** they are the specifications of the evaluation criteria that allow the definition of the learning outcomes. They specify what the students’ knowledge should be, and what they should be able to do in the subject.
- **Indicators:** they derive from the evaluation criteria and they let us know the extent to which the students are managing to develop the proposed criteria or capacities.

Table 3. Evaluation criteria, indicators and key competences

NATURAL SCIENCE		
EVALUATION CRITERIA	INDICATORS	KEY COMPETENCES
C.E. 3.1. To obtain information, make predictions and establish hypothesis about facts and natural phenomena, working cooperatively in experiments and simple experiences, communicating, and analysing the results obtained through the preparation of reports and projects, thus, allowing to solve problematic situations.	C.N. 3.1.1 C.N. 3.1.2	LL LC MCST IE
C.E. 3.2. To know the location, shape, structure and functions of some cells and tissues, of the main organs, apparatus, and systems, which intervene in vital functions, establishing a relationship between them and assessing the importance of acquiring and practicing healthy habits (personal hygiene, food balance, physical exercise and rest) giving examples of possible consequences for health, personal development and other repercussions on our way of life.	C.N. 3.2.1 C.N. 3.2.5	SC LL
ARTS & CRAFTS		
EVALUATION CRITERIA	INDICATORS	KEY COMPETENCES
C.E.3.6. To demonstrate the application and knowledge of the different techniques, materials and instruments within a group project respecting the diversity of opinions and creations.	E.A.3.6.1.	IE LL SC

3.7. Timing

The proposal unit has been divided into 11 sessions of 45 minutes each. The first eight sessions correspond to the subject of Natural Science and the last three will be carried out as part of Arts and Crafts subject.

A description of each session and activities can be found below:

Natural Science

- Session 1: *Activating prior knowledge.*
 - Activity 1: “Let`s talk about our senses” (20 min).
 - Activity 2: “My opinion is important” (25 min).
- Session 2: *Guiding understanding.*
 - Activity 3: “We become experts” (45 min).
- Session 3: *Focusing on language.*
 - Activity 4: “Hot potato” (45 min).
- Session 4: *Focusing on language and content.*
 - Activity 5: “Feed the worm” (45 min).
- Session 5: *Focusing on speaking.*
 - Activity 6: “Guess what it is” (20 min).
 - Activity 7: “Taboo” (25 min).
- Session 6: *Focusing on language and reading.*
 - Activity 8: “News!” (45 min).
- Session 7 & 8: *Elaborating.*
 - Activity 9: “Mini chefs” (1h 30 min).
- Session 9,10 & 11: *Creating.*
 - Activity 10: “Mock-ups” (2h 15 min).

3.8. Methodology

Methodology is defined by the Royal Decree 126/2014, 28th February 2014 as “the set of strategies, procedures and actions organized and planned in a conscious and thoughtful way that has the aim to facilitate the learning and to reach the objectives proposed”.

The methodology and the teaching techniques developed by the didactic unit have a theoretical background based on constructivism and the cooperative work methodology, following the well-known five principles: positive interdependence, individual accountability, face to face interaction, interpersonal and small group skills, and group processing (Johnson et al., 1994).

Constructivism is based on the idea that “people actively construct or make their own knowledge, and that reality is determined by your experiences as a learner” (Elliott et al., 2000:256).

Moreover, the didactic proposal will consider the seven pedagogical goals of constructivist environment (Honebein, 1996) such as:

1. To provide experience with the knowledge construction process (students determine how they will learn).
2. To provide experience in and appreciation for multiple perspectives (by engaging students in activities that enable them to find different solutions to problems).
3. To embed learning in realistic contexts (authentic tasks).
4. To encourage ownership and a voice in the learning process (student-centered learning).
5. To embed learning in social experience (cooperation).
6. To encourage the use of multiple modes of representation, (video, audio text, etc.)
7. To encourage awareness of the knowledge construction process (reflection, metacognition).

In general terms, the methodology used allows students to be the real actors in the teaching- learning process and it is focused on their interest and needs.

3.9. Attention to diversity

Diversity cannot be ignored in the classroom but it needs to be promoted. In this proposal, attention to diversity has been set up following the ideas of the Decree 97/2015 (chapter V), Order of July 25th/2008 and Instructions of March 8th/2017.

According to Martínez (2011), attention to diversity constitutes an effort that requires aligning resources, policies, and people, to a common philosophy. This

philosophy is based on the social interest of inclusive education and its fundamental character is emphasised in order to favour equality in society.

Diversity in the classroom does not just improve social skills, it can also have an impact on academic results. It improves critical thinking skills and encourages academic confidence.

The didactic proposal includes a variety of activities adapted to students' interests and motivations; they fulfil Gardner's Multiple Intelligences Theory (2011). Teachers play an essential role in the development of strategies for attention to diversity. They need to identify the intellectual profile of each student in order to enhance their future opportunities.

In figure 5 we can see a summary of the descriptions for the eight intelligences as presented in Davis Christodoulou, Seider & Gardner (2011:6-7).

INTELLIGENCES	DESCRIPTION
Linguistic	An ability to analyse information and create products involving oral and written language such as speeches, books, and memos.
Logical - Mathematical	An ability to develop equations and proofs, make calculations, and solve abstracts problems.
Spatial	An ability to recognize and manipulate large-scale and fine-grained spatial images.
Musical	An ability to produce, remember, and make meaning of different patterns of sound.
Naturalistic	An ability to identify and distinguish among different types of plants, animals, and weather formations that are found in the natural world.
Bodily- Kinesthetic	An ability to use one's own body to create products or solve problems.
Interpersonal	An ability to recognize and understand other people's moods, desires, motivations, and intentions.
Intrapersonal	An ability to recognize and understand his or her own moods, desires, motivations, and intentions.

Fig. 4. Gardner's eight intelligences (Davis, Christodoulou, Seider & Gardner 2011: 6-7)

The following ideas to support weaker students and offer extension activities for stronger students will be considered in the didactic proposal:

Reinforcement activities	Extension activities
<ul style="list-style-type: none"> - Give students time to discuss answers before giving feedback to the class. - If it is a gap fill activity, supply the words with a few extras. - Let students make notes before the speaking activity begins. - Give students time to rehearse and gather their ideas before a role play or discussion. - Pair or group weaker students with stronger students. 	<ul style="list-style-type: none"> - Ask students to justify / defend their opinions. - Ask early finishers to write new vocabulary up on the board with definitions. - Write their opinion / a short summary of the text. Write questions about the text. - Give creative tasks that students can do at their own level.

Table 4. Reinforcement and extension activities (Own elaboration)

3.10. Sequence of activities

SESSION 1: Activating prior knowledge (Natural Science)

Activity 1: Let's talk about our senses!	
Activity	Thinking skills
Learners and teachers brainstorm on a topic and make a spider diagram together.	Remembering, ordering and classifying.
Language focus	Language skills
Vocabulary	Speaking and writing
Time	Scenario
20 minutes	Classroom
Resources	Methodology
<ul style="list-style-type: none"> - 5 whiteboard markers - 5 small whiteboards 	Cooperative learning groups and the whole group.
<p>Procedure:</p> <ol style="list-style-type: none"> 1. The teacher tells the students the new topic “The five senses” and writes it in the middle of the classroom’s board. S/he asks them to call out ideas or words which they already know related to the topic. 2. The teacher helps student to remember more words by making some questions such as <i>And what do we use for...? What about...?</i> 3. After writing all the words on the board without order, the teacher creates groups (4-5 students) and asks them to write the words on their small whiteboards, organizing in a spider diagram (See example. Fig. 5). 4. Students present their diagrams to the rest of the class. 	

**Activity 2:
My opinion is important**

Activity	Thinking skills
KWL (know, want, learn) grid. Ogle, D. (1986).	Recalling, predicting
Language focus	Language skills
Note- taking, prediction	Writing (notes) and speaking
Time	Scenario
25 minutes	Classroom
Resources	Methodology
<ul style="list-style-type: none"> - 25 KWL charts (Fig.6) - Pencils, rubbers, pens, and Tipp-Ex 	Individual work, cooperative learning groups and the whole group.

Procedure:

1. The teacher gives the students a KWL chart that they must complete individually first.
2. In the first column learners write what they already know about the topic. In the second, what they want to know about it and in the third column what they have learned, this one will be completed in the last session.
3. In groups (4-5 students) learners create a KWL chart with the common knowledge and inquiries and share it with the rest of the class to discover the strongest and the weakest points about the topic.

SESSION 2: Guiding understanding (Natural Science)

<i>Activity 3: We become experts.</i>	
Activity	Thinking skills
Expert groups	Comparing, contrasting, and reasoning.
Language focus	Language skills
Asking and answering questions	Speaking and reading
Time	Scenario
45 minutes	Classroom
Resources	Methodology
<ul style="list-style-type: none"> - 5 different texts (smell, sight, taste, hear and touch), one for each group (Figures 7-11) - Worksheets with questions (Fig.12) 	Cooperative learning groups and the whole group.
<p>Procedure:</p> <ol style="list-style-type: none"> 1. The teacher divides the class into groups of five. S/he gives one text and questions to each group telling students that all of them are different. 2. Learners need to know that all the answers will not be in the text, and they must work as a team to try and solve them. 3. Students must acknowledge that they must take notes because later they will be working in another team. 4. The teacher divides the class again into new groups so that each group is made up of one learner from each of the five original groups. 5. Since each group member has worked on a different text, the new cooperative group should know all the different answer to complete the questions by sharing their knowledge from the different texts. 	

SESSION 3: Focusing on language (Natural Science)

<i>Activity 4: Hot potato!</i>	
Activity	Thinking skills
The teacher asks some questions about the unit while a student holds a “hot potato” (a balloon which is being blown up using a foot pump). The aim of this activity is to revise vocabulary from activity 3.	Creative thinking, evaluating.
Language focus	Language skills
Vocabulary	Listening, writing, and speaking.
Time	Scenario
45 min	Classroom
Resources	Methodology
<ul style="list-style-type: none"> - Balloons - Foot pump 	Cooperative learning groups and the whole group.
<p>Procedure:</p> <ol style="list-style-type: none"> 1. The teacher divides the class into 5 groups (4-5 students). 2. Each group must elaborate on five different questions about the unit, these will be the ones used by the teacher to develop the game. 3. The groups are situated in 5 different lines and numbered from 1 to 5. 4. To start the game, the teacher gives one balloon connected to the foot pump to student 1 from group A and asks him/ her a question while s/he is blowing up the balloon. If the learner answers correctly, s/he passes the balloon to the first classmate in group B and so on until the balloon has been passed along all the students. 5. If the balloon explodes, the person who is holding it at that moment is eliminated. 6. Groups must work cooperatively to avoid the elimination. The group that has most members wins. <p>The following video can be watched for better understanding of the activity: https://www.youtube.com/watch?v=VcNnP3HeRpc</p>	

SESSION 4: Focusing on language (Natural Science)

<i>Activity 5: Feed the worm!</i>	
Activity	Thinking skills
The final objective is to create a long “worm” by finding the adequate definition for each word.	Remembering, understanding and creative thinking.
Language focus	Language skills
Vocabulary	Reading, listening, and writing.
Time	Scenario
45 min	Classroom or playground (to have more space)
Resources	Methodology
7. 10 colourful cardboards (2 for each group) 8. Scissors 9. 25 pencils and rubbers	Cooperative learning groups and the whole group.
<p>Procedure:</p> <p><i>First part of the activity:</i></p> <ol style="list-style-type: none"> Students are divided into 5 groups (4-5 pupils). By using the words from the glossary of the unit and the ones from the previous activities, students must create at least ten cards. Each card is divided in two, one part has a word and the other has a definition of a different word (See example Fig.13). Once all students have elaborated their own card, the game begins. <p><i>Second part of the activity:</i></p> <ol style="list-style-type: none"> The teacher mixes the cards and gives each group a set of cards. Each group can read their own ones but not the rest. The game starts with a student reading out loud one of the definitions and placing the card on the floor. The rest of the groups must pay attention to find the word that has been defined and place it next to the other card and read the next definition. The game is not finished until all the definitions have been completed. <p>Variation: The teacher can also use the example provided if s/he does not have enough time to create the game with the students.</p>	

SESSION 5: Focusing on language/ speaking (Natural Science)

<i>Activity 6: Guess what it is.</i>	
Activity	Thinking skills
Feely box, the aim of this activity is to discover the hidden object by working cooperatively.	Predicting
Language focus	Language skills
Asking and answering questions.	Speaking and listening.
Time	Scenario
20 min	Classroom
Resources	Methodology
-Box - Blindfold - Multiple objects to guess	Cooperative learning groups and the whole group.
<p>Procedure:</p> <ol style="list-style-type: none"> 1. The teacher divides the class into 5 groups (4-5 students). 2. S/he cuts holes in the sides of five shoeboxes or other small boxes. 3. S/he places an item inside each box and invites a student from each group to put his/her hands in the holes and describe the object using only his/her sense of touch. 4. The rest of the students from each group must guess the object that his/her classmate is describing. The first group that guesses a greater number of objects would be the winner. 5. It is important that students ask and answer questions accurately. They can make use of linguistic structures for <i>describing objects, defining things, giving opinion, or making hypothesis</i> (Fig.14). 	

Activity 7: Taboo

Activity	Thinking skills
Taboo, the aim of this game is to review the vocabulary by working cooperatively and competing amongst teams.	Recalling and creative thinking
Language focus	Language skills
Vocabulary	Speaking and reading
Time	Scenario
25 min	Classroom
Resources	Methodology
<ul style="list-style-type: none"> - Taboo cards (Fig. 15) - Timer 	Cooperative learning groups and the whole group.

Procedure:

1. The teacher divides the class into competing teams. Each group has 4-5 students. Teams are labelled as A, B, C, D. Group A vs B and C vs D.
2. They must choose a “clue-giver” (a student who must go and sit with the other team, so that s/he can keep an eye on the other student while s/he gives the clues to their teammates) and a “checker”. The role of the “clue- giver” will alternate with each team's turn, so that everyone gets a chance.
3. The team that is not giving the clues puts one player in charge of the timer.
4. The “clue- giver” turns a card over so that their teammates cannot see the words s/he is looking at and describes it using single words making sure s/he does not say the **taboo** words.
5. If his/her teammates guess the word within 60 seconds, they win one point, and s/he takes another card. If the word is not guessed before time runs out, or a taboo word is mentioned, the team loses one point.
6. The team that has obtained more points would be the winner.

SESSION 6: Focusing on language (Natural Science)

<i>Activity 8: News!</i>	
Activity	Thinking skills
Cooperative reading. The aim of this activity is to understand and work cooperatively on an article about the five senses, making students aware of their importance of cooking.	Understanding and synthesising
Language focus	Language skills
<ul style="list-style-type: none"> - Vocabulary - Present simple tenses 	Reading and listening
Time	Scenario
45 min	Classroom
Resources	Methodology
<ul style="list-style-type: none"> - 6 Chromebooks - Link with the adapted news (Fig.16) 	Cooperative learning groups and the whole group.
<p>Procedure:</p> <ol style="list-style-type: none"> 1. The class is divided into groups of four students (student 1, student 2, student 3, student 4). 2. Student 1 reads aloud the first paragraph to students 2, 3, and 4. 3. Students 2, 3, and 4 should actively listen to what student 1 is reading. 4. Once student 1 has finished reading, the student 2 is in charge of explaining, commenting or summarizing what student 1 has read. 5. Students 3 and 4, who have also listened carefully, decide if what has been explained, commented, or summarized by student 2 is correct or not. In case of disagreement, they give their opinion and expose it for later evaluation. 6. Learner 2 is now in charge of reading the next fragment and student 3 is in charge of explaining it. 7. Students 4 and 1 are the ones who decide if it is well explained or not. Students 2 and 3 can also give their opinion after what has been said by students 4 and 1. 8. The process is repeated until all students have read, explained, and evaluated each of the parts of the text. 9. They answer together the questions about the text (Fig.17). 	

SESSIONS 7 & 8 (Natural Science)

<i>Activity 9: Mini chefs</i>	
Activity	Thinking skills
<p>The final products of this activity are different dishes (fruit salad, cod salad, poke bowl...).</p> <p>The aim is to elaborate them by students putting their new knowledge into practice and interpreting the recipes (Fig.18).</p> <p>These recipes can be also found in the following link: https://view.genial.ly/609ead48163eb00dc4755f0a/interactive-content-activity-8-five-senses</p>	<p>Creative thinking, organizing, planning, and elaborating</p>
Language focus	Language skills
<ul style="list-style-type: none"> - Vocabulary - Imperative for instructions 	<p>Reading</p>
Time	Scenario
<p>1h30 min (2 sessions of 45 min each)</p>	<p>Classroom/cafeteria</p>
Resources	Methodology
<ul style="list-style-type: none"> - 6 Chromebooks - Ingredients for the recipes - 25 forks - 25 knives - 8 bowls 	<p>Cooperative learning groups and the whole group.</p>
<p>Procedure:</p> <ol style="list-style-type: none"> 1. For this activity, the groups are the same as for n°8 “The news”. 2. Students must access the link provided by using the Chromebooks, each group has one of them. 3. Each member of the group must have a role (station chef, kitchen helpers...). 4. Once all the members know their role, they must choose between the proposed recipes. 5. The groups must elaborate the dish following all the steps that appear in the document. 	

SESSIONS 9,10 & 11 (Arts and Crafts)

<i>Activity 10: Mock-ups</i>	
Activity	Thinking skills
The final products of this activity are mock-ups of the five senses. Each group is in charge of elaborating one of them.	Identifying, creating thinking, and applying,
Language focus	Language skills
Present tenses, descriptive language.	Speaking and writing
Time	Scenario
2h 15 min (3 sessions of 45 min each)	Classroom
Resources	Methodology
<ul style="list-style-type: none"> - Playdough with various colours - Papers - Toothpicks - Coloured card - Pencils and rubbers - Marking pens 	Cooperative learning groups and the whole group.
<p>Procedure:</p> <ol style="list-style-type: none"> 1. Students are divided in 5 groups (4-5 learners). 2. The teacher assigns a sense to each team; each group elaborates a different one. 3. The teacher shows them some examples (Annex 10) to guide them. Although they are free to make the mock-ups without copying the examples by using the materials provided. 4. After making the mock-ups they must label the main elements of them. For example: if students have “sight” they should label, the iris, the pupil, the eye layers... 5. Each group must do an oral presentation for the rest of the students. The teacher will assess it by using the specific rubric (Fig.19). 	

3.11. Texts, activities, and pictures of each activity

Activity 1:

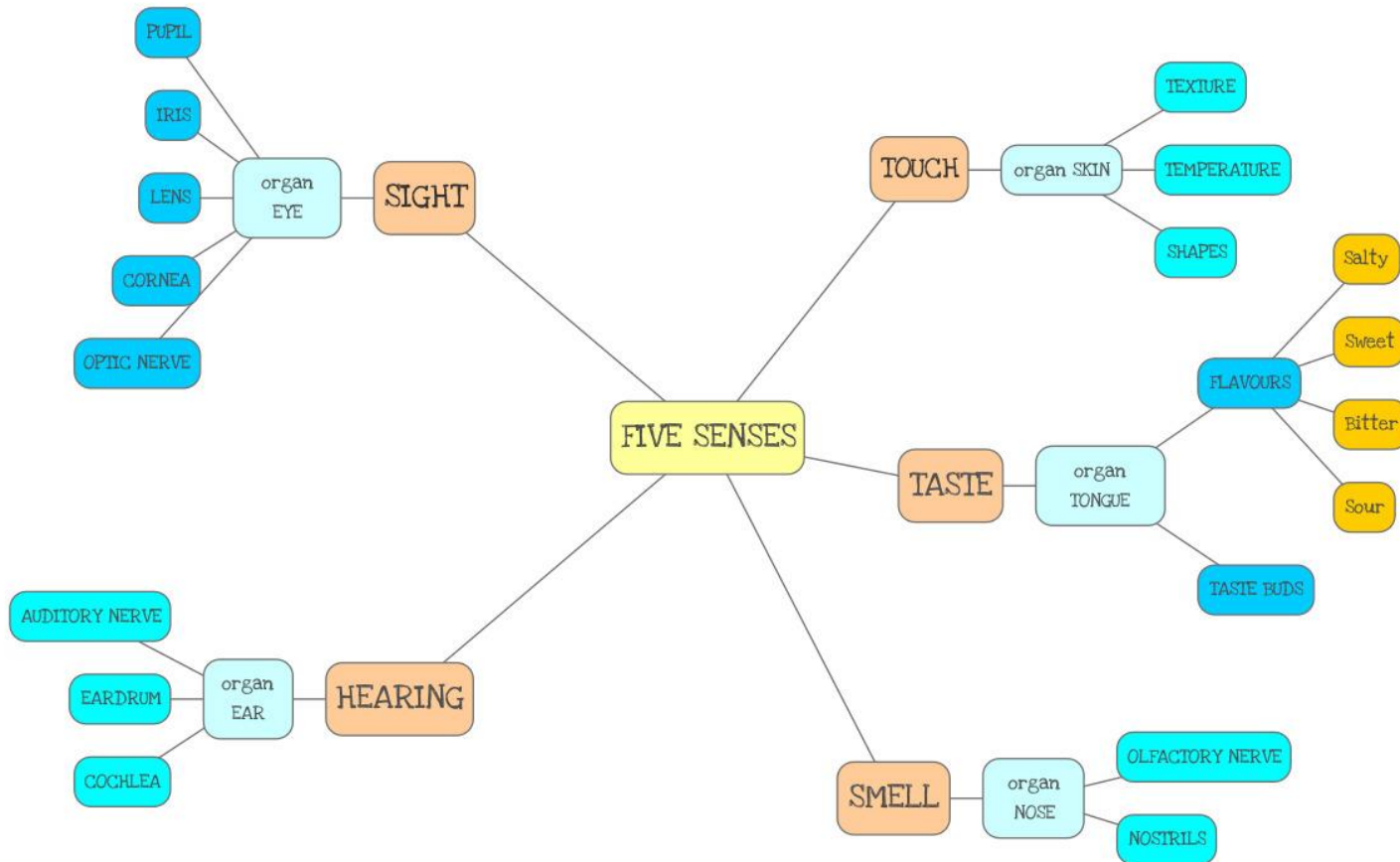


Fig. 5. Spider diagram. (Own elaboration)

Activity 2:

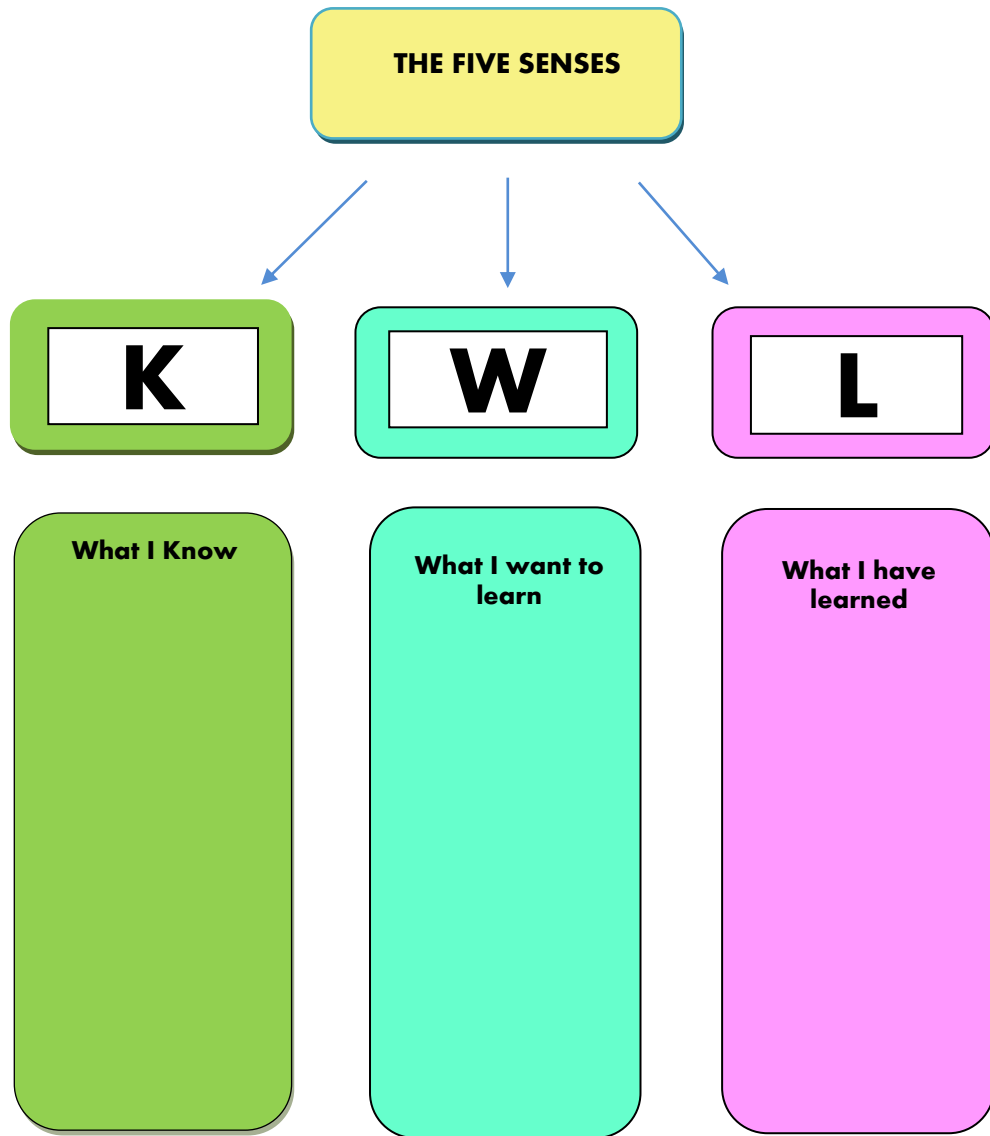


Fig. 6. KWL Chart (chart taken from Ogle, 1986)

Activity 3:

Text A

SIGHT

How do the eyes work?

The **eyes** are complex organs that detect light so we can see the world around us. The main part of the eye is the **eyeball**. It has several parts:

- ❖ The **iris** is **at the front of the eyeball**. Light enters the eye through the *pupil*, a **small hole in the centre of the iris**.
- ❖ The **pupil** expands and contracts depending on the amount of light it receives.
- ❖ The **lens** changes shape to **focus the image**.
- ❖ The **retina**, **at the back of the eyeball**, contains the receptor cells. They capture the stimulus and send signals along the optic nerve to the brain.

The eye also has auxiliary structures that help it to move and protect it. These include: **eyelids**¹, **eyelashes**², **eyebrows**³, **eye muscles** and **lacrimal glands**, which produce tears.

Glossary:

Eyelid: either of the pieces of skin above and below the eye that cover it when you **blink** or close the eye.

Eyelashes: one of the hairs growing on the edge of the **eyelids**.

Eyebrow: the line of hair above the eye.

Resource:

<https://www.oxfordlearnersdictionaries.com>

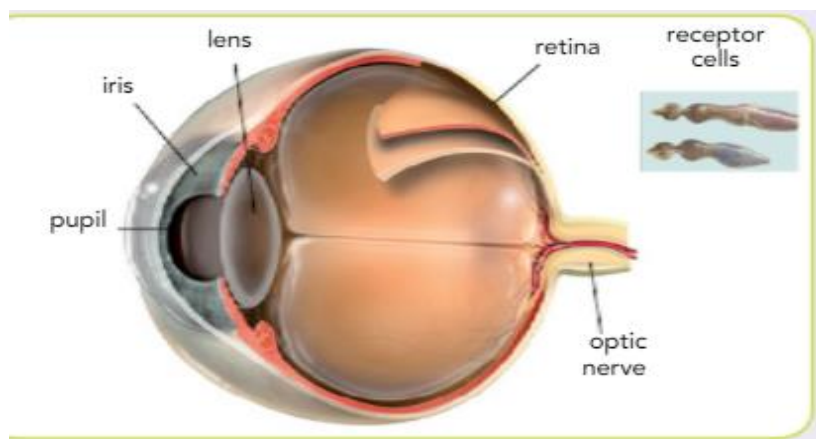


Fig. 7. Text and picture of sight (picture and text adapted from Scott & House, 2019, p. 50)

TEXT B

HEARING

How do the ears work?

The **ears** are complex body **organs that detect sound** vibrations and enable us to hear. Sound vibrations are also very **important** for **balance**. There are three main parts of the ear:

Glossary:

Eardrum: the piece of thin tightly stretched skin inside the ear that is moved by sound waves, making you able to hear.

Ossicles: the smallest bones in the human body.

Cochlea: a small curved tube inside the ear that contains a small part that sends nerve signals to the brain when sounds cause it to vibrate

Resource:

<https://www.oxfordlearnersdictionaries.c>

- The **outer ear** has a visible part, called a **pinna**. It also includes the ear canal. This part of the ear captures sound vibrations.

- The **middle ear** is made up of a membrane, called an eardrum, and three small bones called the ossicles.

- The **inner ear** contains the cochlea, which has the receptor cells for hearing.

Sound vibrations travel down the ear canal to the **eardrum**¹. The eardrum and the **ossicles**² send the vibrations on to the **cochlea**³. The receptor cells in the cochlea capture the vibrations and

transmit the signal to the brain via the **auditory nerve**. The brain interprets the signals as sound.

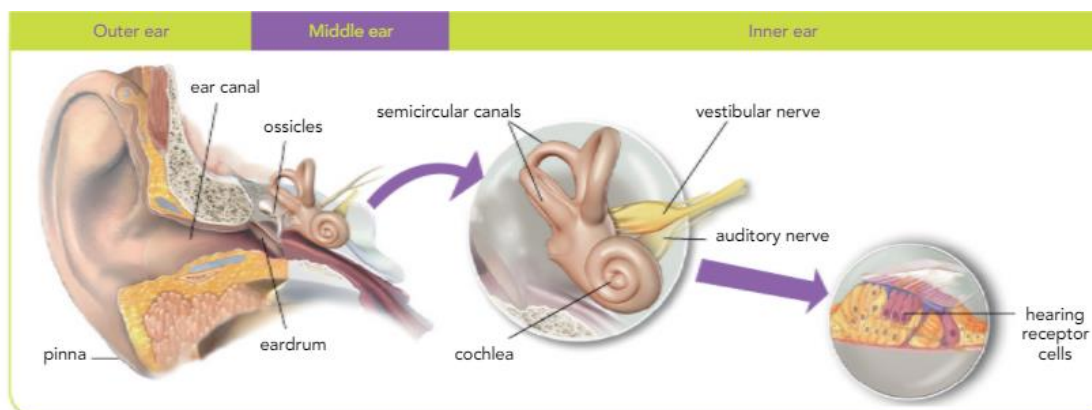


Fig. 8. Text and picture of hearing (picture and text adapted from Scott & House, 2019, p. 51)

TEXT C

SMELL

How does the sense of smell work?

The **organ** for smell is the **nose** which is made up of two holes called **nostrils**. When we breathe in, the air goes up our nose and into our **lungs**. Inside our noses are little hairs that catch any dirt or pollen before it reaches our lungs.

The **olfactory epithelium**¹ is inside the nose at the top of the **nasal passages**. It is covered in receptor cells that are sensitive to **odours**² in the air we breathe.

The receptor cells **capture information and send it to the brain** along the olfactory nerve. The **brain interprets the information as smells**.

Sometimes, our noses can become **sore**³ or runny. This can happen if you have allergies or a cold.

Our sense of smell works together with our **taste buds** to help us enjoy the food that we eat. Some scientists believe that our sense of sight can also affect our sense of smell. Some experiments show that when you close your eyes, you smell and taste a completely different flavour.

Curiosity: Bears have enlarged nostrils that give them a sense of smell five times better than ours.

Glossary:

Olfactory epithelium: contains special receptors that are sensitive to odour molecules that travel through the air.

Odour: a smell, especially one that is unpleasant

Sore: it is painful, and often red, especially because of infection.

Taste buds: are sensory organs that are found on your tongue and allow you to experience tastes that are sweet, salty, sour, and bitter.

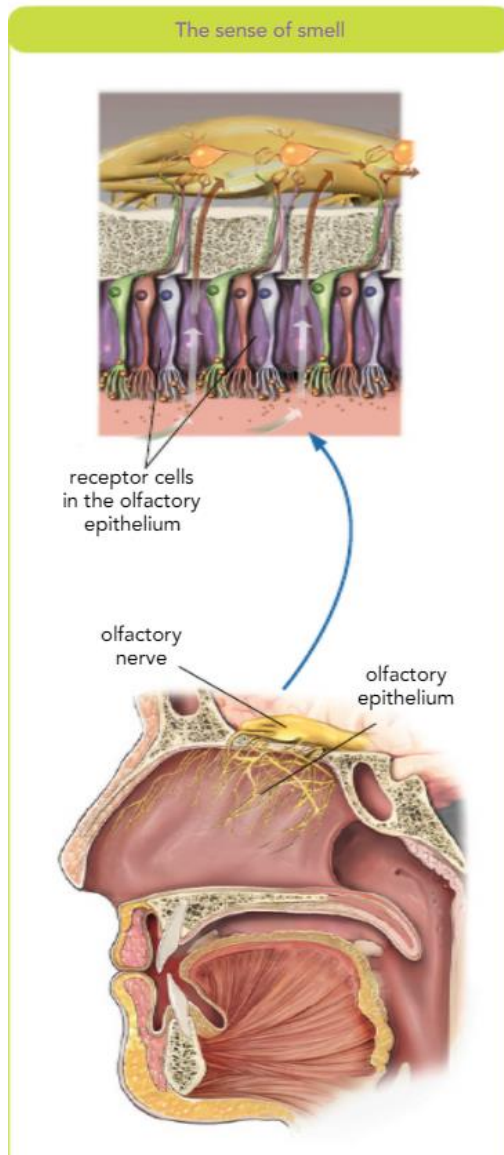


Fig. 9. Text and picture of smell (picture and text adapted from Scott & House, 2019, p. 52)

TEXT D

TASTE

How does the sense of taste work?

The main **organ** of taste is the **tongue**. The tongue is made up of groups of muscles. The tongue can move in all directions to eat and talk thanks to these muscles.

Glossary:

Taste buds: are sensory organs that are found on your tongue and allow you to experience tastes that are sweet, salty, sour, and bitter.

Gustatory: connected with tasting or the sense of taste.

Meaty: smelling or tasting like meat.

savoury: tasting of salt; not sweet.

Resource:

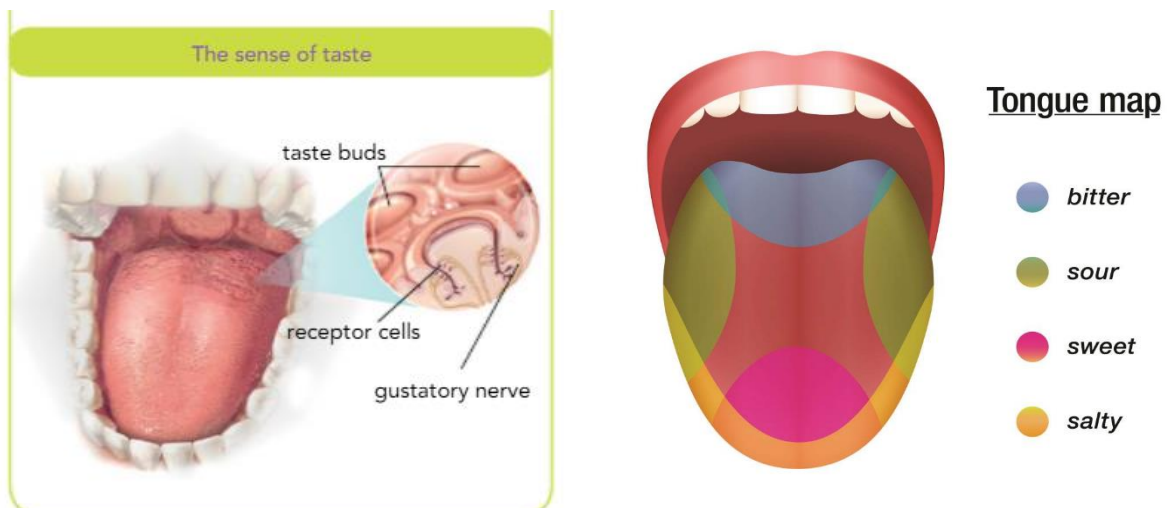
<https://www.oxfordlearnersdictionaries.com/>

About 10,000 **taste buds**¹ on the tongue make up the organ for taste. Receptor cells in the taste buds detect different flavours. They send the information to the brain along the **gustatory**² **nerve**. The brain interprets the information as flavours.

The four traditional tastes are **sweet, sour, salty, and bitter**. Sweet in the front of our tongue, salty and sour on the sides and bitter at the back. Umami is the most recently discovered taste. It is sometimes described as a

meaty³ or **savoury**⁴ taste.

Curiosity: In some countries, people eat animal tongues as part of their meal. Pig and cow tongue are popular in Chinese food.



Resource: <https://www.ripleys.com/weird-news/taste-buds/>

Fig. 10. Text and picture of taste (picture and text adapted from Scott & House, 2019, p. 52)

TEXT E

TOUCH

Skin is the body **organ** for **touch**. It is the biggest organ on our bodies. There are millions of cell receptors for touch in our skin. Some parts of **the body have more receptor cells than others**. Some parts of your skin have lost of these receptors, so they are very sensitive like your **fingertips** and lips. Other parts do not have that many so are not that sensitive like the skin on your arms.

Receptor cells send signals via the **spinal cord** to the brain using many different **sensory nerves**. **The brain interprets the signals as touch sensations**. The signals convey information about temperature, texture, pressure and pain.

When people lose another sense, they might use their sense of touch to replace it. For example, **blind** people can use their fingertips to read the little dots that make up the **Braille** alphabet.

Glossary:

Fingertip: the end of the finger that is furthest from the hand.

Spinal cord: the mass of nerves inside the spine that connects all parts of the body to the brain.

blind: someone who is not able to see.

Braille: a system of printing for blind people in which the letters of the alphabet and the numbers are printed as raised dots that can be read by touching them.

Resource:

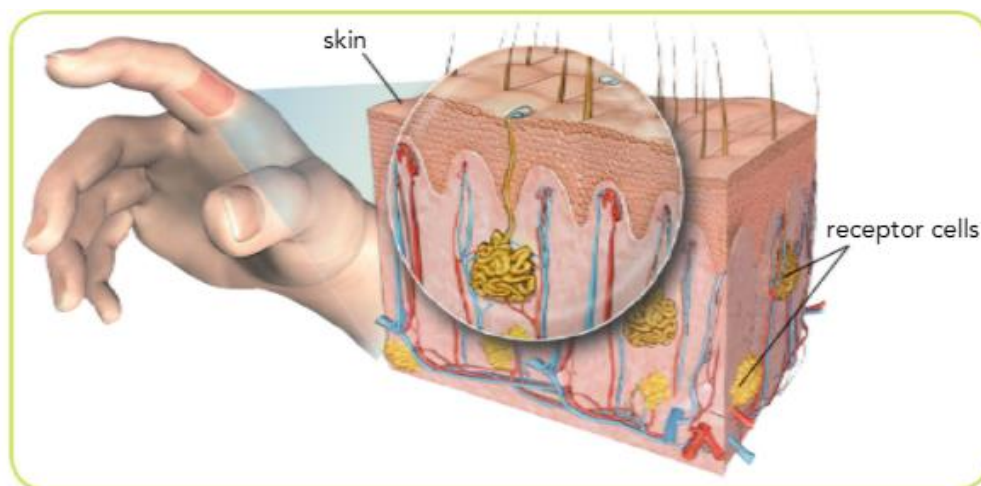


Fig. 11. Text and picture of taste. (picture and text adapted from Scott & House, 2019, p. 53)

QUESTIONS ABOUT THE FIVE SENSES

1. Name one body part that is more sensitive	2. What do we have inside our noses?	3. Which two senses are important when you eat?	4. What is the biggest organ in the human body?
5. What do blind people use to read instead of their eyes?	6. What do we have on our tongues?	7. What is the job of the hair inside our nose?	8. What are the four traditional tastes?
9. Where is the retina located?	10. What is the visible part of the outer ear called?	11. Which is the biggest organ in our body?	12. Why is a bear's sense of smell better than ours?

Fig.12. Questions about the five senses (Own elaboration)

Activity 5:

Something that is smooth and pleasant is...	fluffy
---	---------------



Something like cotton candy that is light and airy is...	unappetizing
--	---------------------



A food that <i>looks</i> like it tastes bad is...	silky
---	--------------



Something that feels slightly wet to the touch is...	gummy
--	--------------



Something that is sticky and soft	damp or moist
-----------------------------------	----------------------



When an object, such as a crystal, reflects light in a pleasant way, it is...	glowing
---	----------------



something that emits an unsteady light (like a candle) is...	sparkling or glittering
--	--------------------------------



Something that emits a steady light is...	flickering
---	-------------------



When something is a different colour from what it is supposed to be it is...	speckled
--	-----------------



When something has very small dots of a different colour, it is...	discolored
--	-------------------



when the colours are all mixed and not distinct, it is...	pale or pastel colours
---	-------------------------------



The opposite of vivid colour is...	mottled
------------------------------------	----------------



A place where there is very little light is...	drab
--	-------------



If something is easy to see, it can be described as...	dim
--	------------



Something that is colourless and rather ugly can be described as...	Clear or distinct
---	--------------------------



Fig.13. Feed the worm (Own elaboration)

Activity 6:

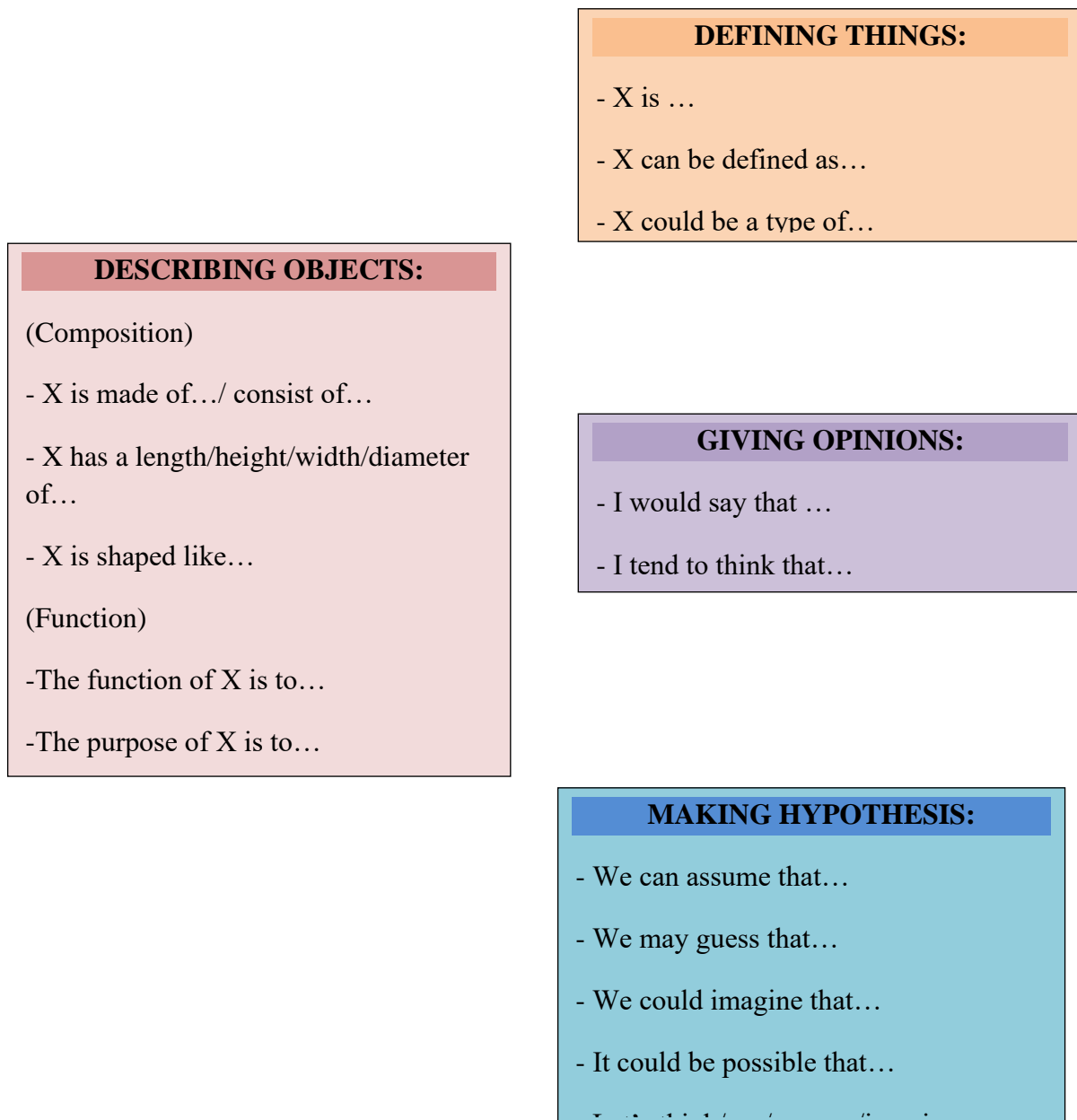


Fig. 14. Language structures useful for CLIL lesson (Taken from Llul et al. 2016)

Activity 7:

NOISY

NOISE
LOUD
NEIGHBOURS

NOSTRILS

NOSE
SMELL
HOLES

FLAVOUR

TASTE
SWEET
FOOD

TONGUE

MOUTH
TASTE
TEETH

PUPIL

EYE
BLACK
IRIS

LAGRIMAL GLANDS

TEARS
EYE
CRY

BLIND

EYE
SEE
BRAILLE

FINGERTIPS

TOUCH
HAND
FINGER

SPINAL CORD

BRAIN
NERVES
COLUMN



Fig. 15. Taboo cards (Own elaboration)

Activity 8:

NEWS!

Click the icon to listen to the
new



To Become a Better Cook, Sharpen 1 Your Senses

Any experienced cook knows that there is much more to cooking than just taste. There is **touch** (**tapping**² the top of a pie to make sure it is completely firm), **smell** (**inhaling**³ the changing **scents**⁴ of the crust as it bakes), **sound** (listening to its heartbeat) and **sight** (watching for the juices to turn thick).

Learn to use all five senses in the kitchen and you will become a better cook, especially if you sharpen the ones that are **less associated with cooking: hearing, touch and smell.**



Resource from: Gretchen Ertl for The New York

Many of the **important cues**⁵ in any kitchen **have nothing to do with sight or taste**: knowing the feel of a rare steak versus a medium-well one; biting into pasta as it cooks to catch the brief, perfect moment between **chewy**⁶ and soft.

Recipes are **inherently**⁷ limited when it comes to **sensory**⁸ information.

That is why the best cooks learn to work *not just with their minds and their taste buds*, but also with all **their senses**.

Fig. 16. News about the five senses (Text adapted from:
<https://www.nytimes.com/2017/03/28/dining/to-become-a-better-cook-sharpen-your-senses.html>)

CHECK THE NEXT PAGE TO FIND THE GLOSSARY

Glossary

Sharpen: to make something sharper; to become sharper.

Tapping/tap: to hit something quickly and lightly.

Inhaling/inhale: to take air, smoke, gas, etc. into your lungs as you breathe.

Scent: the pleasant smell that something has.

Cue: an action or event that is a signal for somebody to do something.

Chewy: needing to be chewed a lot before it can be eaten.

Inherently: according to or because of the basic nature of something.

Resource: <https://www.oxfordlearnersdictionaries.com/>

Questions

1. Which senses are less related to cooking?

2. How can we use hearing while cooking?

3. When is the perfect moment to stop boiling pasta?

4. What is the aim of the text? Justify your answer.

Fig. 17. Questions about the news (own elaboration)

Activity 9:

Activity 9

Cooking with our SENSES

After reading the new "To become a better cook" you have learned the importance of our senses when we cook. Now it's time to put all our knowledge into practice.

Let's have fun!



Recipes

Each group must be formed by a chef de cuisine (head chef) chef de partie (station chef) and 2 or 3 kitchen helpers.

Choose your favourite

01	02	03	04	05
				
Cod salad	Fruit salad	Poke bowl	Fruit pizza	Owl muffins
+	+	+	+	+

Resource from: <https://www.campingarmanello.com/recetas-faciles-para-ninos-sin-fuego/>

Fig.18. Genially with recipes (Own elaboration)

Activity 10:

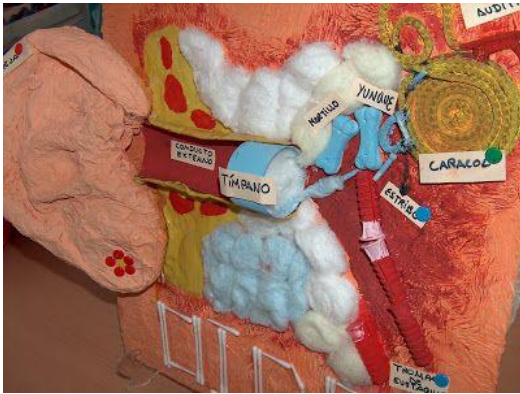


Fig.19. Examples of mock-ups (images obtained from Pinterest)

3.12.Evaluation and instruments

In the previous section the different activities, tasks and exercises that compose the didactic unit have been specified, and it is essential to clarify the evaluation methods that will be used to assess them.

As this is a CLIL unit of work, it is necessary to evaluate both the content and the language. It is important to apply a variety of tools to get a global picture of students' achievement.

The previously mentioned W's question worksheet will be used as a useful assessment tool in which students will express what they have learned.

The approach of assessment that will be used consist of putting pupils' interests first and encouraging them to take responsibility for their own learning (Genesee and Hayaman, 2016).

In this unit we use an integrated, multi-focused, authentic, and ongoing assessment, regarding content and language. In order to encourage work reflection and self-assessment, the students are going to use portfolios. It is vital that learners understand the purpose of the portfolio, how it will be used to evaluate their work, and how their grades will be determined (cf. table 5).

Moreover, a self-assessment rubric has been designed to allow students to assess their own progress by asking key questions about their learning process. Consequently, this process will help them to progress towards the development of their Learning to Learn competence, which is essential for the lifelong learning (cf. table 9).

Cooperative learning can be considered the unifying thread throughout the unit, for this reason there is a special rubric to assess how students have worked cooperatively (cf. table 7).

The proposed activities include oral presentations and the creation of mock-ups, among others. Students will also be evaluated by using two different rubrics that have been specially created for this purpose (cf. tables 6 and 10). In fact, the oral presentation can be considered the most important opportunity to evaluate language.

Teacher evaluation is also essential. It can be considered as a procedure to review his/her performance in the classroom and analyze it to provide constructive feedback for

the teacher's professional growth. A checklist has been designed to be completed by the teacher at the end of the unit (cf. table 8).

Table 5. A rubric to assess students' portfolio

	Excellent (4)	Good (3)	Satisfactory (2)	Needs improvement (1)
Content	Content is engaging, reflective and accurate.	Content is accurate.	Most of the content has been completed.	A lot of missing content. Effort put forth into content is minimal.
Organization	Information is presented in a neat, clear, and organized way that is easy to read.	Information is presented in a neat, clear, and organized way that is usually easy to read.	Information is presented in an organized way that is easy to read but may be hard to read at times.	Information appears sloppy and disorganized. It is hard to know what information goes together.
Reflection	Reflections reveals strong insights about what to improve and future goals.	Reflections shows some insights about what to improve and indicates reasonable goals for future.	Reflections show little insights about what areas to improve and lack goals for the future.	Reflections that are made do not improve the quality of the portfolio.
Creativity	Student uses his/her own ideas and imagination.	Student uses his/her own ideas most of the time.	Student uses some imagination.	Student does not use his/her own ideas or imagination.

Table 6. A rubric for oral presentation

RUBRIC	ORAL PRESENTATION			
Level descriptors	Excellent	Good	Average	Below average
Content	Content completely accurate. Student shows a deep understanding of topic.	Content mostly accurate, mostly on topic. Learner shows a good understanding of topic	Some information accurate but some off topic. Learner shows some understanding of topic.	Student shows no real understanding of topic. Some information not relevant.
Language (grammar)	Very few grammar mistakes. Sounds almost like a native speaker.	A few grammar mistakes, but they do not hinder presentation.	Grammar mistakes occasionally hinder presentation and make it unclear.	Grammar mistakes hinder communication and make presentation difficult to understand.
Presentation skills and dias	Captured the attention of the audience. Great variety and use of visual aids.	Interesting to watch. Used variety of visual aids effectively. Spoke clearly and confidently most of the time.	Sometimes interesting. Some visual aids. Speech sometimes unclear. There is eye contact and facial expression.	Information difficult to follow. Few visual aids. Speech often incomprehensible, and audience frequently lost interest.
Coherence and organization	Topic is clearly stated; examples are relevant; information in logical order and clear conclusion.	Most information is in a logical order. Some transitions choppy.	Concepts and ideas are loosely connected; lacks transitions and vague conclusion.	Presentation does not flow, no apparent logic to order the information and few conclusions.
Creativity	Very original presentation, content mostly original.	Some originality present; good variety of material presenting.	Presentation is one-sided and monotonous.	Presentation is repetitive; little or no originality.
Roles in group	All learners participate enthusiastically and equally, learners have clear roles that are performed effectively.	Most learners participate actively and share responsibility; roles not always clear or adhered to.	Half of learners participate actively and share responsibility; roles unclear.	One or two group members do most of the work; responsibility not shared and role non-existent.
Pronunciation volume and intonation.	Student expresses him/herself with correct pronunciation, intonation, and volume.	Student expresses him/herself with adequate pronunciation, intonation, and volume.	Pronunciation and diction are adequate, but intonation and volume could be improved.	Student is difficult to understand. Her/his pronunciation, diction and intonation are not adequate.

Rubric for oral presentation (rubric adapted from Dale & Tanner, 2012, p.191)





Table 7. A rubric to assess cooperative work

	Excellent (4)	Good (3)	Satisfactory (2)	Unsatisfactory (1)
Ability to cooperate in carrying out group tasks	Student performs very well as a group member all the time, demonstrating initiative and organization skills.	Student performs well as a group member most of the time, demonstrating initiative and support for other members.	Student sometimes performs well as a group member most of the time, demonstrating initiative and support for other members.	Student does not perform well as a group member at any time.
Collaboration with peers	Almost always listens to, shares with, and supports the efforts of others in the group. Tries to keep people working together.	Usually listens to, shares with, and supports the efforts of others in the group. Does not cause “problems” in the group.	Often listens to, shares with, and supports the efforts of others in the group but sometimes is not very participative.	Rarely listens to, shares with, and supports the efforts of others in the group. Is rarely participative.
Presentation	Active participate in the presentation of the results from the activities.	Participates in the presentation of the results from the activities.	Seldom participates in the presentation of the results from the activities.	Does not participate in presentation of the results from the activities.
Focus on the activities	Stays focused on the activities throughout the unit.	Stays focused on the activities throughout most of the unit.	Stays focused on the activities throughout only a portion of the unit.	Does not stay focused on the activities throughout the unit.

Table 8. A checklist to assess teachers' performance and improvement of the CLIL unit

	Grade of achievement			
	Not enough	Sometimes	Often	Always
Have I developed the teaching objectives?				
Have I integrated the 4 Cs?				
Have I provided the adequate scaffolding techniques?				
Have I exposed learners to sufficient samples of language in authentic use?				
Have I provided students with opportunities to produce language?				
Have I done an adequate use of the whole assessment tools?				
Has the timing of the teaching been appropriate?				

Table 9. A self-assessment rubric

				
I can explain the different senses and label their main elements.				
I organized my learning portfolio.				
I did all the activities and tasks proposed.				
I took all the required notes. I answered and worked on all classwork questions.				
I can work cooperatively in				

a team and give my opinion with respect.				
--	--	--	--	--

Table 10. A rubric to assess mock-ups

	Excellent (10-8)	Acceptable (7-5)	Needs improvement (4-1)
Overall appearance	The effort put into making the mock-up is clearly apparent.	The effort put into making the mock-up is satisfactory.	The mock-up lacks apparent effort and consideration of aesthetics.
Creativity	The final product is singular and unique.	The final product is like other existing ones.	The final product is a copy of others.
Cooperation	Learners show respect for one another's ideas and divide the work fairly.	Learners show respect for one another's ideas. The work is not fairly divided.	Learners argue most of the time. The work is done individually, and it is not fairly divided.
Oral presentation	Students present a comprehensive view of the topic (five senses) and the different elements of it.	Students provide good overview of the topic (five senses) and they can differentiate some of the elements of it.	Students do not present a comprehensive view of the topic (five senses) and do not present a conclusion.

4. CONCLUSION

In order to summarise I want to draw some conclusions from the initial objectives described in this work.

It can be observed that the implementation of the CLIL approach contributes to fostering cooperative learning. Sometimes students are not very receptive to studying content through a foreign language. Therefore, new methodological approaches, including cooperative learning through CLIL will motivate and improve learning outcomes of English and those of other subjects, in this case Natural Science and Arts and Crafts.

Cooperative methods seem to offer a perfect scenario to work on content and language while taking into consideration the different necessities of students and their pace of learning. Moreover, when working together, students learn to respect each other, and they learn to help their classmates when needed.

The groups that have been proposed to carry out the different activities and tasks are small enough for everyone to contribute. In fact, these cooperative learning groups can be considered a safe place where learners will participate actively, where they will become not only their own teachers, but also their peer teachers, a place where every member will be respected and all contributions will be valued, and also they will acquire new skills to overcome conflicts in their real lives.

Another advantage derived from this powerful learning environment is the increase of opportunities for personal feedback which does not often take place in large heterogeneous classes where teachers apply traditional behaviorist models. In cooperative learning groups there are more exchanges between the teacher and learners in their small groups.

In order to implement cooperative learning in our schools the role of the teacher is paramount in order to succeed. In fact, the teacher must receive special training in CLIL and cooperative learning. The teacher acquires a significant role because s/he is in charge of helping learners to construct their knowledge actively rather than just receiving information. This model transforms learners from passive recipients into active participants in the learning process.

According to Coyle (2006), learners' motivation in this CLIL environment is fostered by a motivated teacher, who encourages learners to work in cooperative groups using relevant content and increasing cognitive demands. Motivation is a driving force which empowers learners to perform tasks involving meaningful and demanding content irrespective of their linguistic level (Dörnyei, 2001). Furthermore, as the activities and tasks are attractive, enjoyable, and stimulating, students will sustain motivation. Besides, teaching strategies build students' self-confidence, and provide encouragement to achieve their goals (Dörnyei, 2001).

On the other hand, we need to teach our children not only contents and subjects, but also how to express and communicate with each other, since this is crucial in their personal evolution. Thus, according to European Union policy, CLIL seems to be the best scenario to deal with this linguistic necessity.

In conclusion, CLIL and cooperative learning prove to be the perfect combination since they follow the same objective to offer students the opportunity of being the protagonists of their own learning process and to prepare them to live in society respecting each other's opinions. Eventually, they will make the world a better place to live.

5. REFERENCES

- Bachman, L.F. (1990). *Fundamental Considerations in Language Testing*. Oxford: Oxford University Press.
- Bloom, B., Engelhart, M. D. & Furst, E.J. (1956). *Taxonomy of educational objectives: The classification of Educational Goals. Handbook I: Cognitive domain*. New York: David McKay Co.
- Casal, S. (2008). *Cooperative Learning in CLIL contexts: Ways to improve students' competences in the foreign language classroom. Cooperative Learning in multicultural societies: Critical reflections*. Conference January 21 – 22, 2008. Turin, Italy.
- Casal Madinabeitia, S. (2006). *Cooperative Learning. Essential glossary for the teacher*. Retrieved 16 February 2010 from <http://gretajournal.com/wordpress/wpcontent/uploads/file/15rev1.pdf>

- Çekrezi, R. (2011). CLIL and Teacher Training. *Procedia Social and Behavioral Sciences* 15. 3821–3825.
- Coyle, D. (2006). *Content and language integrated learning: Motivating teachers motivating learners*. Retrieved from <http://blocs.xtec.cat/clilpratiques1/files/2008/11/slrcoyle.pdf>
- Coyle, D., Hood, P. & Marsh, D. (2010). *CLIL. Content and Language Integrated Learning*. Cambridge: Cambridge University Press.
- Cummins, J. (1999). *BICS and CALP: Clarifying the distinction* (Report No. ED438551). Washington, D.C.: ERIC Clearinghouse on Languages and Linguistics.
- Dale, L. & Tanner, R. (2012). *CLIL activities. A resource for subject and language teachers*. Cambridge: Cambridge University Press.
- Davis, K., Christodoulou, J., Seider, S., & Gardner, H. (2011). *The Theory of Multiple Intelligences*. In Cambridge Handbook of Intelligence. R. J. Sternberg & S. B. Kaufman (eds.), 485-503. Cambridge/New York: Cambridge University Press.
- Dornyei, Z. (2001). *Motivational strategies in the language classroom*. Cambridge: Cambridge University Press.
- Elliott, S.N., Kratochwill, T.R., Littlefield Cook, J. & Travers, J. (2000). *Educational psychology: Effective teaching, effective learning (3rd ed.)*. Boston, MA: McGraw-Hill College.
- Gardner, H. (2011). *Frames of Mind: The Theory of Multiple Intelligences*. New York, NY: Basic Books (first published, 1983).
- Geneses, F. & Hayaman, E. (2016). *CLIL in Context. Practical Guidance for Educators*. Cambridge University Press.
- Honebein, P. C. (1996). *Seven goals for the design of constructivist learning environments. Constructivist learning environments: Case studies in instructional design*, 11-24.

- Jacobs, G. M. (2004). *Cooperative learning: Theory, principles, and techniques*. Paper presented at the First International Online Conference on Second and Foreign Language Teaching and Research.
- Jefatura del Estado. (2013). Ley Orgánica 8/2013, de 9 de diciembre, para la mejora de la calidad educativa. *Boletín Oficial del Estado*. Madrid, 10 de diciembre de 2013, núm. 295, pp. 1-62
- Jefatura del Estado. (2014). Real Decreto 126/2014, de 28 de febrero, por el que se establece el currículo básico de Educación Primaria. *Boletín Oficial del Estado*. Madrid, 1 de marzo de 2014, núm.52, pp.19349-19420.
- Junta de Andalucía. (2005). Acuerdo de 22 de marzo de 2005, del Consejo de Gobierno, por el que se aprueba el Plan de Fomento del Plurilingüismo en Andalucía. *Boletín Oficial de la Junta de Andalucía*. Sevilla, 5 de abril de 2005, núm.65, pp.8-39.
- Junta de Andalucía. (2006). Orden del 24 de julio de 2006, por la que se regulan determinados aspectos sobre la organización y el funcionamiento de los Centros Bilingües. *Boletín Oficial de la Junta de Andalucía*. Sevilla, 11 de agosto de 2006, núm.156, pp.11-15.
- Junta de Andalucía. (2011). Orden del 28 de junio de 2011, por la que se regula la enseñanza bilingüe en los centros docentes de la Comunidad Autónoma de Andalucía. *Boletín Oficial de la Junta de Andalucía*. Sevilla, 12 de julio de 2011, núm. 135, pp.6-19.
- Junta de Andalucía. (2014). *Recursos y material-Material AICLE*. Portal de Plurilingüismo. Retrieved from: <http://www.juntadeandalucia.es/educacion/webportal/web/portal-de-plurilinguismo/recursos-materiales/material-aicle>.
- Junta de Andalucía. (2015). Orden ECD/65/2015, de 21 de enero, por la que se describen las relaciones entre las competencias, los contenidos y los criterios de evaluación de la educación primaria, la educación secundaria obligatoria y el bachillerato. *Boletín Oficial de la Junta de Andalucía*. Sevilla. 29 de enero de 2015.

- Junta de Andalucía. (2015). Orden del 17 de marzo de 2015, por la que se desarrolla el currículo correspondiente a la Educación Primaria en Andalucía. *Boletín Oficial de la Junta de Andalucía*. Sevilla, 27 de marzo de 2015, núm. 60, pp. 9-696.
- Junta de Andalucía. (2017). Acuerdo de 24 de enero de 2017, del Consejo de Gobierno, por el que se aprueba el Plan Estratégico de Desarrollo de las Lenguas en Andalucía Horizonte 2020. *Boletín Oficial de la Junta de Andalucía*. Sevilla, 6 de febrero de 2017, núm. 24, pp. 10-57.
- Junta de Andalucía. (2019). Instrucciones del 15 de mayo de 2019, de la Dirección General de Ordenación y Evaluación Educativa, sobre la organización y funcionamiento de la enseñanza bilingüe para el curso 2019/2020. *Boletín Oficial de la Junta de Andalucía*. Sevilla, 24 de mayo de 2019, pp. 1-12
- Johnson, D.; Johnson, R. & Holubec, E. (1999). *El aprendizaje cooperativo en el aula*. Buenos Aires: Paidós.
- Johnson, D. W., Johnson, R. T., & Smith, K. A. (2014). *Cooperative Learning: Improving university instruction by basing practice on validated theory*. *Journal on Excellence in University Teaching*, v25 n3-4, 85-118.
- Kinsley, C. W., & McPherson, K. (Eds.). (1995). *Enriching the curriculum through service learning*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Martínez B. (2011). *Luces y sombras de las medidas de atención a la diversidad en el camino de la inclusión educativa*. *Rev. Interuniv. Form. Profr*, 70, 165–184. [Google Scholar]
- Marsh D. & Langé, G. (eds.). (2000). *Using Languages to Learn and Learning to Use Languages*. Finland: University of Jyväskylä.
- Mehisto, P., Marsh, D. & Frigols, M. J. (2008). *Uncovering CLIL. Content and Language Integrated Learning in Bilingual and Multilingual Education*. Oxford: MacMillan Publishers Limited.
- Navarro, M. (2018). *Student-centered methodologies and ICTs for CLIL teaching* [Master course, unit 1]. Jaén: University of Jaén.

- Pastor, M. (2011). *CLIL and Cooperative Learning*. Revista Encuentro. Universidad de Alcalá.
- Pérez Cañado, M. L. 2013. Introduction. *Revista de Lenguas para Fines Específicos* 19: 15-30.
- Pérez Cañado, M. L. 2012. CLIL Research in Europe: Past, Present, and Future. *International Journal of Bilingual Education and Bilingualism* 15(3): 315-341.
- Pujolàs, P. (2009). *Nueve ideas clave: El Aprendizaje Cooperativo*. (Ed.). Graó. Barcelona. Retrieved from https://dv.ujaen.es/goto_docencia_file_1164985_download.html
- Ogle, D. (1986). *K-W-L: A teaching model that develops active reading of expository text*. *The Reading Teacher*, 39, 564–570.
- Olsen, R. & Kagan, S. (1992). About Cooperative Learning. In C. Kessler (ed.), *Cooperative Language Learning: A Teacher's Response Book*, pp. 1-30. New York: Prentice Hall.
- Pérez Cañado, M. L. (2016). *What is CLIL? Bilingualism and CLIL* [Master course, unit 1]. Jaén: University of Jaén.
- Pokrivčáková, S., Babocká, M., Bereczky, K., Bodorík, M., Bozdoğan, D., Dombeva, L., & Zavalari, K. (2015). *CLIL in Foreign Language Education: E-textbook for foreign language teachers*. Nitra: Constantine the Philosopher University.
- Scott, K. B. & House, S. C. (2019). *Unit 3: Human Interaction*. In N. Krol (Ed.), *Natural Science 5. Digital Book-Teacher's Edition* (pp. 48-63). Madrid: Anaya.
- Tomlinson, B. (2002). *Materials development for language learning and teaching*. Cambridge: Cambridge University Press.