

Master's Dissertation/
Trabajo Fin de Máster

HOW THE USE OF DIFFERENT MATERIALS CAN CONTRIBUTE TO THE MOTIVATION OF STUDENTS IN THE AREA OF NATURAL SCIENCES IN THE 4TH GRADE OF PRIMARY EDUCATION. DIDACTIC PROPOSAL.

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ABSTRACT:

The main objective of this MA Dissertation is to collect information on different materials and active methodologies that promote student motivation in the classroom. This is an in-depth analysis of the different materials that can be included in the classroom to facilitate the teaching and learning process of our students. A large number of materials are offered, both didactic (flashcards, posters, worksheets, realia, etc.) and technological (Kahoot, Educaplay, Wordwall, etc.). This is also an investigation of two active methodologies that promotes student motivation as they require their participation. The methodologies included are Project-Based learning and CLIL. With the inclusion of these two methodologies, students learn the contents of a subject through a foreign language. At the same time, students will be exposed to a real situation that they will have to solve. All these aspects will be reflected in a didactic proposal that includes 10 sessions. The subject is Natural Sciences and the course is 4th year of Primary Education.

Key words: CLIL, active methodologies, Project-Based Learning, materials, ICTs, motivation.

RESUMEN:

El objetivo principal de este MA Dissertation es recoger información sobre diferentes materiales y metodologías activas que sirven para promover la motivación de los alumnos en las aulas. Este trabajo realiza un profundo análisis de los diferentes materiales que se pueden incluir en las aulas para facilitar el proceso de enseñanza y aprendizaje de nuestros alumnos. Se ofrecen una gran cantidad de materiales tanto didácticos (flashcards, posters, worksheets, realia...) como tecnológicos (kahoot, Educaplay, Wordwall...). También este documento investiga dos metodologías activas que también promueven la motivación del alumno ya que requieren su participación. Las metodologías incluidas son Project-Based learning y CLIL. Con la inclusión de estas dos metodologías el alumnado aprende contenidos de una asignatura a través de una lengua extranjera. A la vez, los alumnos serán expuestos a una situación real que tendrán que resolver. Todos estos aspectos se verán reflejados en una propuesta didáctica que incluye 10 sesiones. La asignatura es de Ciencias Naturales y el curso es 4º de Educación Primaria.

Palabra clave: AICLE, metodologías activas, Aprendizaje basado en proyectos, materiales, TIC, motivación.

TABLE OF CONTENTS

1. INTRODUCTION.....	1
2. JUSTIFICATION.....	2
3. THEORETICAL FRAMEWORK.....	3
3.1. Motivation.....	3
3.2. Materials.....	3
3.2.1. Didactic Materials.....	4
3.2.2. ICTs and Digital Materials.....	5
3.3. New active methodologies.....	7
3.3.1. CLIL (Content and Language Integrated Learning)	7
3.3.2. Project-Based Learning.....	8
4. DIDACTIC PROPOSAL.....	9
4.1. Justification.....	9
4.2. Contextualization.....	10
4.3. Objectives.....	11
4.4. Competences.....	13
4.5. Contents.....	15
4.6. Timing.....	16
4.7. Methodology.....	17
4.8. Materials and resources.....	18
4.9. Lesson plan.....	19
4.10. Attention to diversity.....	30
4.11. Evaluation.....	31
5. CONCLUSION.....	33
6. BIBLIOGRAPHICAL REFERENCES.....	36
7. APPENDIXES.....	38

1. INTRODUCTION

The main aim of this Masters Dissertation is to develop a Didactic Unit for the fourth year of Primary Education in the area of Natural Sciences through the First Foreign Language (English) for the academic year 2022/2023. The title of this unit is 'Human nutrition and diet' and it is composed of 10 complete sessions as it focuses on the contents and on developing the communicative competence of the students through listening, speaking, reading and writing. During the different sessions, aspects such as the different human systems, health, food, nutrients will be introduced through ICTs, didactic materials and bearing in mind their motivation. **Order 15th January 2021** states that is necessary to involve the students in interactive environments in their community in order to facilitate the learning process. Finally, the unit will rely on a final product in which the students will link together all the concepts learnt during the sessions. For this reason, project-based learning is one of the methodologies included in this unit. All this will be carried out in accordance with current laws. The current law in education is LOMLOE, although in this academic year 2022/2023 it is only implemented in odd-numbered years. For even courses, the curricular development is the one included in RD 126/2014 and in the Order 15th January 2021 (which is still the one that emerged with LOMCE).

The other technique used is the CLIL approach that presents an umbrella of different methodologies in which content is presented through a foreign language. Why is it so important to communicate in different languages nowadays and especially English? We can say that English can be found virtually everywhere. Food packets, instructions on how to use objects and devices or even talking to visitors from other countries about a variety of topics are just examples where English is inserted and utilized in our daily routines. **Harmer (2015)** sees the importance of being able to speak English as a global phenomenon spoken by a large percentage of the worldwide population. This situation has curricular implications in our current Education system, given that **Order 15th January 2021** invests in the development of students' communicative competence as the students' ultimate goal for the Foreign Language area in Primary Education. This term is defined by **Hymes (1972)** as the ability to use the language in a fluent way.

For this reason, in order to learn both the contents of Natural Sciences and a foreign language at the same time, different materials will be used. This will lead to increased motivation of the pupils and therefore to quality learning.

2. JUSTIFICATION

The idea of carrying out this work comes when the author realised that the pupils' motivation plays an essential role during the teaching and learning process. Motivation is the attitude that students take towards something, in this case, towards learning the contents of Natural Sciences through a foreign language. There are many ways to promote motivation which are included throughout the didactic unit, such as the use of materials, the methodology implemented and the role of the teacher.

Firstly, when a teacher spends time with students in the classroom she/he will realise that if she/he introduces a wide variety of materials, she/he will get several benefits. Among them is that students learn better because they are more motivated so the contents are acquired in the long term. This author cannot conceive of a class without the use of materials. These are usually digital materials, although also didactic materials such as stories, flashcards or puppets. Using different materials makes the lessons more attractive, so the motivation of the pupil increases.

Secondly, the role of the teacher also influences pupils' motivation. Today's teachers are very different from the authoritarian teachers who used traditional methodologies. As **Harmer (2015)** points out, the teacher nowadays adopts different roles throughout the teaching process. The teacher is an organiser, as she/he plans the classes, prepares the materials, chooses the methodology to be used, organises the materials, among other aspects. She/he is also a participant, as although the students are the protagonists, the teacher serves as a resource. Encourager is another role she/he takes on, as she/he ensures the inclusion of all students and motivates them to achieve the objectives. Finally, the teacher also takes on the role of monitor, correcting mistakes and giving feedback to students. All these roles contribute to promoting motivation thus providing a more effective education.

Finally, a fundamental aspect is the methodology. These must be active methodologies so that the student plays an active role in the learning process. Traditional methodologies do not promote motivation because the teacher is the protagonist. With the new methodologies, students are at the centre of education, so their participation is essential for the sessions to develop effectively.

For all these reasons, the intention of the didactic unit developed in this dissertation is that the students feel highly motivated. To do so, there is a wide variety of didactic and digital materials. In addition to including active methodologies, the sessions are engaging and dynamic.

3. THEORETICAL FRAMEWORK

In this section, we will go deeper into different fundamental concepts that this work deals with, such as student motivation, the materials used in the classroom and the use of new active methodologies.

3.1. Motivation

Gardner's (1985) definition of motivation encompasses the combination of effort, desire and positive attitudes towards the acquisition of the target language. Attitudes reflect an evaluative response towards a specific point of reference and are typically influenced by an individual's personality, family background, and society.

Attitudes and motivation of students is fundamental to the teaching and learning process. There are some theories of language acquisition that demonstrate this:

For instance, **Krashen's (1978)** monitor model posits that attitudes and motivation have the most significant impact on language acquisition. The learner's level of motivation functions as an emotional filter for language. Similarly, **Ellis (1997)** suggests in his Integrative Theory of L2 learning that only learners who have a positive affective inclination towards learning the L2 are likely to benefit from instruction. Finally, **Gardner's (1985)** socio-educational model emphasizes the crucial role that attitude and motivation play in second language learning and acquisition contexts.

In a student-centered approach, learners' needs, interests, attitudes, and motivation towards learning English are prioritized. Hence, it is imperative for teachers to identify the sources of motivation that promote FL learning.

Skehan (1991) outlines four primary sources of motivation: teaching and learning activities, results, accomplishments (or setbacks), learners' internal motivation and self-determination, and extrinsic motivation, which is closely associated with new methodologies like gamification and flipped classrooms.

3.2. Materials

Teaching materials play a crucial role in the teaching profession and significantly impact the relationship between teachers, learners, and language. The responsibility of planning, searching

for, or creating suitable materials for classroom use falls on the teacher, making them a pivotal figure.

Oxford and Crookall (1990) recommend incorporating a variety of techniques and resources into teaching practices, as scientific research in neurodidactics highlights that children have diverse learning rhythms and styles. Therefore, it becomes the teacher's responsibility to offer a broad range of options to cater to different learning needs.

While some educators prefer to develop their own materials, many others must choose textbooks as their primary teaching and learning tool. However, selecting an appropriate textbook from the extensive range available and adapting it to meet their specific needs can prove challenging so, many use the textbooks as one of their many resources and create supplementary materials tailored to their needs and vision.

The materials that can be included in the classroom can be classified in different ways. Here they will be classified between didactic materials and ICTS.

3.2.1. Didactic Materials

Decisions regarding didactic materials should be made only after establishing the content and evaluation criteria. **Brewster, Ellis and Girard (2002)** establish some pedagogical reasons for using didactic materials:

- Differentiated materials facilitate the teacher in addressing individual needs and catering to diverse learning styles.
- By providing personalized attention and reinforcement activities, teachers can enhance student engagement and motivation, resulting in more enjoyable and participative learning experiences.
- Incorporating a variety of didactic materials, such as visual, auditory, or kinaesthetic, aligns with Gardner's theory of multiple intelligences and allows teachers to cater to different learning styles.
- Visual materials serve to establish the context immediately and enhance the students' comprehension and retention.
- Effective use of materials can help make learning activities more memorable, leading to improved retention and recall of the concepts learned.

Furthermore, teaching materials used in class must be in accordance with the didactic elements stated in the current law (**LOMLOE** in Spain). Didactic materials and resources should be

adapted to the age, interests and the linguistic level of students, they should promote learning, meaningful tasks and communicative activities. Finally, materials should be motivating, and they must contribute to global and cross-curricular learning.

Some didactic materials that can be included in our classes are the following ones:

- **Realia:** According to **Berwald (1987)**, it consists of different objects and artefacts of a culture such as newspapers, magazines, films, etc. that can be used to learn the foreign language. These materials are not created for the purpose of teaching but offer a variety of written and oral messages that can be used in the classroom. The advantage of including realia in classes is that it contains current language on different topics and focuses on grammar and vocabulary.
- **Worksheets:** it is a paper-based material that is created by the teacher and photocopied to provide every student with a copy. The aim of this material is to practice or reinforce contents. They promote autonomous learning as students can work on their own. The ideal design should start with clear and simple instructions and enough space to write answers down. Moreover, it must be attractive for students.
- **Flashcards:** **Thornbury (2002)** establishes that are cards that usually contain words or pictures and are used to facilitate the learning process. They can be used either to learn new words or to review them. **Scrivener (2006)** points out different uses, such as to teach meaning, to give a visual image, to tell a story, to practise grammatical structures, to work on pronunciation, to play different games and activities and to always insist on referring to the images in full (if not basic) sentences.
- **Wallcharts or posters:** **Coskun and Eker (2018)** highlight that these are resources that include a combination of text and images and are ideally attractive and colourful. The main objective is to catch the students' attention and while presenting information to them. They also add to a motivational educational environment for the students.

3.2.2. ICTs and Digital Materials

Kent and Facer (2004) define ICT in education as the use of Information and Communication Technology, including computers, communication tools, and other resources that facilitate teaching, learning, and various educational activities. Nowadays, living in the digital age, there is a wide variety of digital resources, platforms and activities that can be introduced in the classroom. In addition, it is important to bear in mind that digital resources attract the attention

of students and motivates them. Moreover, **Erben, Ban and Castañeda (2009)** point out different advantages:

- They give students individual attention, pointing out inconsistencies and guiding them to the more appropriate answers.
- They make learning more fun and entertaining.
- Interaction is on the computer, so all four communication skills are developed.
- By offering a wide variety of resources, it is easy to adapt them to learners' needs.
- Some content that can be considered boring and too repetitive for learners in paper form, digitally is presented in a way that motivates learners.
- Many digital resources promote and develop learners' creativity.
- Students who miss synchronous classes can complete the activities at asynchronistically.
- They help teachers as there are ready-made resources and platforms that give the correction directly to the students.

While there are many advantages to using new technologies, **Erben, Ban and Castañeda (2009)** point out some drawbacks. Technical difficulties that may arise during the course of the lesson are a major disadvantage. This includes the internet not working, websites or apps that have been prepared not working, computers not working... these are factors that do not depend on us teachers.

Therefore, when we use new technologies in class we have to take some things into account, for example, to have planned and ensure the correct functioning of the apps and web pages before starting the class. Another thing to keep in mind is to always have a plan B in case what we have planned does not work.

There are a wide variety of programmes and apps that teachers can use with students. Each has its own function. Here are some of the different apps that can be interesting to include in the classroom. In order to use these programmes, it is recommended that teachers use interactive board, computers, laptops, tablets and cameras:

- **Videos:** Youtube (a variety of topics as well as songs) or PowtToon (students can create videos and animated presentations).

- **Classroom management:** platforms on which students can follow the teaching-learning process in an engaging way as well as communicate and interact with each other, such as Moodle, Edmodo, Blogs or Google Classroom.
- **Quizzes and questionnaires:** focus on game-based learning through quizzes, tests, challenges, etc. and a wide variety of content can be worked on. The most popular are Kahoot, Bambozzle and Plickers (students use a printed card).
- **Interactive worksheets:** these are different worksheets in which learners reinforce what they have learnt. In addition to offering instant assessment for learners, it also offers self-assessment for learners. The simplest and easiest app for this is liveworksheets.com.
- **Educative platforms:** a wide variety of games such as crossword puzzles, matching games, memory games, true or false, etc. are found so students can work on the contents of the unit in an engaging way. On these platforms ready-made games are included, although there is also the option of creating them. Educaplay, Wordwall, Learningapps are some examples of these educative platforms.
- **Apps to create materials:** Canva (posters, flashcards, presentations...) or Genially (animated presentations).

3.3. New active methodologies

Throughout the history of teaching, different methodologies have been used. Traditionally, the teacher was the main protagonist of the class; it was a learning process based on memorization using books. Nowadays, the studies show that learning is most effective when the protagonist of the class is the student. In addition, many teachers now focus on meaningful learning, that is to say, making sure that the lessons include what the student experience in real life. Finally, a wide variety of materials are now used to facilitate the teaching and learning process. Two new and active methodologies are Content and Language Integrated Learning (CLIL) and Project-based learning.

3.3.1. *CLIL (Content and Language Integrated Learning)*

CLIL, as defined by **D. Marsh (2002)**, is an educational approach that emphasizes the use of an additional language for both teaching and learning content and language skills. The guiding principles of Content and Language Integrated Learning include the idea that all teachers are language teachers. Moreover, the benefits of CLIL include enhanced cultural awareness,

internationalization, language proficiency, preparation for academic and professional pursuits, and increased motivation.

The application of CLIL methodology is commonly used in bilingual education programs in schools. The fundamental principles of CLIL maintain that language serves as a tool for learning subject matter and for communication in the target language. The language used in CLIL instruction is determined by the subject being taught.

A successful CLIL lesson, as outlined in the 4Cs curriculum, combines elements of content progression, communication through language, cognitive skill development, and exposure to diverse perspectives. In a CLIL lesson, all language skills are integrated, and production tasks are focused on subject matter to facilitate the recycling of both content and language.

For a successful implementation of this methodology in Primary Education it is necessary to include some essential aspects. As teachers, we have to keep in mind that the main goal is not to develop nativelike competences, but to achieve functional competence. For this reason, it is not necessary for teachers to be native speakers, but they must know perfectly well how this methodology works and how to implement it. In other words, they must know the contents of the subject to be taught and have a sufficient level of the foreign language to be able to communicate with the students. Another fundamental aspect is the involvement of learners, as they must play a very active role during the sessions and be motivated. In terms of methodology, CLIL leaves traditional methods behind and introduces innovation in the classroom, so cooperative work and project-based learning are essential. Materials are another key aspect, as they must be adapted to the learners and be related to their real life.

3.3.2. Project-Based Learning (PBL)

According to **Moss and Van Duzer (1998)**, this methodology organises learning around projects. Projects are complex tasks that involve challenging questions or problems, problem-solving, decision-making or investigate activities. This approach gives students the opportunity to work relatively autonomously over extended periods of time. Projects culminate in realistic products or presentations. **Lightbrown and Spada (1999)** highlight that this method involves goals that focus on the interaction, in other words, the use of language in a real context.

Task is defined by **Nunan (2006)** as an activity in the classroom that engages students in comprehending, directing, creating, or communicating in the target language, while their focus is on utilizing their knowledge of grammar to convey meaning.

Thomas and Mergendoller (2000) suggest five criteria for project-based learning:

- PBL projects are central
- Projects involve questions and problems
- Students engage in constructive investigation
- Students are driven by students. Their participation is essential.
- Projects are realistic and related with real world.

To successfully implement a PBL project, five key factors should be taken into consideration:

- Curriculum considerations should be addressed.
- A well-organized time frame is essential.
- Adequate materials should be provided to support deep understanding and engagement.
- Collaboration: Students should be given opportunities to develop collaboration skills.
- Real-world connection: Projects should have meaningful connections to the real world.

4. DIDACTIC PROPOSAL

Once we have presented the theoretical framework with different authors, it is time to introduce the didactic proposal taking into account all the above mentioned.

4.1. Justification

The title of the topic is called 'Human Nutrition and Diet', so the topic deals with contents related to vital functions, the different human systems, diet, health, etc. The choice of this topic is due to several reasons, but at the core, the interests, characteristics and needs of the students are taken into account.

This topic has been chosen because, to begin with, it is content that appears in the educational law, so it is content that our students are required to learn.

Furthermore, it is an important topic for the students as they are getting to know their own bodies. They learn the functions and how their own body works every day. By using attractive materials and an effective methodology, it can be a very interesting and motivating subject for students.

Also, this theme is fundamental as it deals with essential topics such as healthy habits and eating a balanced diet. It is useful for students to learn the importance of a good diet and healthy habits to include in their routine from an early age.

4.2. Contextualization

C.E.I.P. José Hurtado, is situated in the 'Realejo' neighbourhood, which is part of Granada's historical centre. It was constructed during the late 1950s and is the sole state school in the area, as there are four other charter schools. The school is located on the main street of the neighbourhood, which has a considerable amount of traffic owing to the numerous small businesses located there. The adjacent streets are primarily residential. The surrounding area offers several public facilities, including the Modern Language Centre, the Faculty of Architecture, the 'Alhambra' theatre, and a health centre.

The majority of residents and students' families in the neighbourhood belong to the middle-class. The school's most notable characteristic is the diversity of its pupils' social and cultural backgrounds. There are as many as ten different nationalities represented in the student body, with some children born abroad and others who moved to Spain and are not yet proficient in Spanish. Most pupils and their families reside in the surrounding areas, while some parents choose this location for their children because it is conveniently located near their workplaces.

The school has two classes at each level, and currently has a total of 302 students and 23 teachers, resulting in an average of 20 students per class. A notable 87% of the teaching staff are permanent, providing a great advantage in terms of continuity for long-term progress tracking and assessment, leading to more effective learning. The school building is composed of an antique and a modern section, and the facilities are spread between two floors. On the first floor is administration and management, the caretaker's office, canteen, guidance team room, teachers' room, gymnasium, three pre-school education classrooms and two first-year classroom, plus toilets for teachers and pre-school pupils.

On the second floor there are 8 Primary education classrooms, therapeutic pedagogy and speech therapy classroom, library, multipurpose room for the development of different workshops and religion classes, services for pupils and Primary school teachers.

Regarding the **target group**, this didactic proposal is directed to a group of 24 students in the 4th grade of Primary Education of which 10 are males and 14 are females. The age group of 8, 9 and 10 years is featured by some aspects that constitute their state of psycho-development. According to **Piaget**, the students are in "Concrete Operational" stage, where they use logic to reach conclusions.

The target group is homogeneous since there are not significant performance gaps between students. However, there are two students who present specific educational needs related to the

achievement of the established aims and the acquisition of key competences. A student with specific difficulties in reading (dyslexia) and another with high intellectual capabilities, are discussed in the section concerning attention to diversity. Apart from that, there are two stronger students and three weaker ones.

A good relationship between families and school is fundamental to the success of lessons since both have the same objective: the integrated development of the student. This can only be achieved by being on the same page educationally. In this school, families are generally involved both in the school and in their children's education. From the school there is a wide variety of ways to maintain families involved in the educational process: school council, parents' association, class delegate and the collaboration in the school complementary and extracurricular activities.

Moreover, many ways will be used to maintain an active communication with the families: iPasen, individual tutorials, information meeting at the beginning of the course, Google Classroom and the agenda.

4.3. Objectives

Objectives can be categorized into three types, from the most general to the most specific. All the objectives are related since the didactic objectives are directly contributing to the Foreign Language and Natural Sciences stage goals. Furthermore, both must be addressed, in the long run, to the accomplishment of the general stage goals.

- **General Stage Goals**

These goals are defined as what students must complete by the end of Primary education. It embraces 14 objectives although this unit will focus on the following four:

- b)** Develop habits of individual and teamwork, of effort and responsibility in study, as well as attitudes of self-confidence, critical sense, personal initiative, curiosity, interest and creativity in learning, and entrepreneurial spirit.
- f)** Acquire in at least one foreign language the basic communicative competence that will enable them to express and understand simple messages and to cope in everyday situations.
- h)** Show knowledge of the fundamental aspects of Natural Sciences, Social Sciences, Geography, History and Culture.

i) Be initiated in the use, for learning purposes, of Information and Communication Technologies, developing a critical spirit in relation to the messages they receive and elaborate.

- **Natural Sciences and Foreign Language Stage Goals**

The Andalusian curriculum establishes area stage goals in the *Order 15th January 2021*. These objectives are the general abilities that students need to accomplish in a specific area, in this case, Natural Sciences and Foreign Language area.

Natural Sciences area

3. Recognise and understand basic aspects of the functioning of the human body, establishing a relationship with the possible consequences for individual and collective health, valuing the benefits of acquiring healthy daily habits such as physical exercise, personal hygiene and balanced nutrition for an improvement in the quality of life, showing an attitude of acceptance and respect for individual differences.

5. Participate in work groups putting into practice values and attitudes of scientific thought, encouraging an enterprising spirit, developing their own sensitivity and responsibility towards individual and collective experiences.

8. To use information and communication technologies to obtain information, as a learning tool and to share knowledge and to value their contribution to the improvement of living conditions of all people, as well as to prevent risk situations derived from their use.

First Foreign Language area

1. Listen to and understand messages in a variety of spoken interactions, using the information conveyed to carry out a variety of concrete tasks related to their experience.

2. Express themselves and interact in simple and common situations, using verbal and non-verbal procedures and attending to the rules of communicative exchange in order to respond with sufficient autonomy and in an appropriate, respectful, cooperative and correct manner in everyday situations.

3. Write texts for a variety of purposes on topics previously dealt with in the classroom and with the help of models.

4. Read comprehensively a variety of texts, related to their experiences and interests, in order to extract general and specific information with a previous purpose.

5. Learn to use with progressive autonomy all the media available to them, including new technologies, to obtain information and to communicate in the foreign language.

- **Didactic Objectives**

The following objectives are designed by teachers and address the abilities students should be capable of at the end of a Didactic Unit. They should be achieved during the learning-teaching process and students must know about them:

Regarding content objectives:

- To describe the main vital functions of human beings.
- To differentiate between the four types of nutrition systems
- To identify the parts and process of each nutrition system (digestive, respiratory, circulatory and excretory systems).
- To distinguish nutrients and their function (energy-producing foods, body-regulating foods and body-building foods).
- To classify habits into healthy and unhealthy.

Regarding language objectives:

- To use vocabulary related to the parts of the body, diets and habits.
- To describe with the third person singular the processes of nutrition systems.
- To use appropriate/standard grammatical structures to explain the processes of nutrition systems.
- To interact using appropriate/standard grammatical structures and vocabulary.
- To participate in different communicative situations.

4.4. Competences

The *Order 15th January 2021* defines the term ‘competence’ as the ability to respond to complex demands and carry out diverse tasks adequately. In addition, they are necessary since they involve combined practical skills, knowledge, motivation, ethical values, attitudes, emotions and other social and behavioural components to accomplish an effective action. This didactic proposal will contribute to the development of the following ones:

- **Competence in Linguistic Communication**

It consists of the knowledge of the language and its use in different communicative situations. This competence is developed through oral and written activities such as games, oral presentations, conversations...

- **Digital Competence**

This competence is related to the correct and safe use of information technologies to achieve work-related and learning objectives. It will be developed through the use of digital whiteboard, laptops, Kahoot, websites...

- **Learning to Learn Competence**

It focuses on the learner's own motivation to learn, and on the management of the learning process. It will be developed by using non-verbal communication, dictionaries, reflecting activities about their own learning process...

- **Social and Civic Competence**

It is the knowledge and attitude towards society. It also involves interaction with other people, adopting attitudes of respect and tolerance towards other cultures. In this didactic unit will be achieved by working in groups and with interaction activities.

- **Sense of Initiative and Entrepreneurship Competence**

It focuses on turning ideas into action, such as planning, managing knowledge, solving or making choices in order to achieve a goal. Worked through the creation of final products, individual work...

- **Cultural Awareness and Expression Competence**

It concentrates on knowing and understanding another culture with an open and respectful attitude. Students learn cultural differences in what can be considered a healthy diet and lifestyle with the aim of becoming more open to and tolerant of what other cultures consider appropriate ways to live in healthy and contributive manner.

In the **RD 126/2014** states that for an efficient acquisition of the competences, teachers must design integrated learning activities and tasks that allow pupils progress towards the learning outcomes in more than one competence at the same time.

4.5. Contents

Contents refer to the set of knowledge, abilities, skills and attitudes that contribute to the achievement of objectives and to the development of competences. The contents that are included during this Didactic Unit are stated in the ***Order 15th January 2021.***

- **Natural Sciences**

Block 2. Human beings and health

2.1. The human body and how it functions: apparatus and systems. Use of images, graphs, drawings, programmes and apps on the anatomy of the human body.

2.2. Identify the vital functions in the human being. Relational function (sense organs, nervous system and locomotor system), nutritional function (respiratory, digestive, circulatory and excretory systems).

2.4. Identify and adopt certain healthy habits: varied diet, personal hygiene, physical exercise and daily rest.

- **First Foreign Language**

Block 1. Comprehension of oral texts

1.1. Can identify and understand the essential information in very short, simple spoken texts on familiar, concrete topics (instructions, directions, requests, notices).

1.5. Can identify and recognise familiar vocabulary related to personal identification, gender, parts of the body; clothing, family and friends; school and class; pets and other animals; activities of daily living; elements of artistic heritage in his/her environment; the house and its outbuildings; new communication and information technologies.

1.7. Use of syntactic-discursive structures to establish oral interactions, affirmative, exclamatory, negative sentences; expression of logical relations: conjunction, position: 1st and 2nd person singular, verb tense, aspect, capacity, quantity, prepositions and adverbs.

Block 2. Production of oral texts

2.1. Practice clear oral messages according to given models.

2.2. Can give simple presentations and descriptions on a familiar, everyday topic.

2.4. Participate in simple, short conversations using correct vocabulary and pronunciation.

Block 3. Comprehension of written texts

3.1. Comprehension of different types of texts (notes, posters, timetables, menus, tickets) with visual aids and known vocabulary.

3.3. Distinguish types of comprehension (general meaning, essential information, main points) of stories or short messages supported by paratextual elements (letters, postcards, email, SMS).

Block 4. Production of written texts

4.1. Can produce short, simple texts on paper or electronically.

4.6. Use of related vocabulary in written texts.

4.6. Timing

This is the first unit in the area of Natural Sciences. Therefore, this unit will be developed at the beginning of the first trimester. In total there are 10 sessions. The contents will be divided as follows:

Lesson 1	The vital functions
Lesson 2	The digestive system and digestion
Lesson 3	The respiratory system and respiration
Lesson 4	The circulatory system and circulation
Lesson 5	The excretory system and excretion
Lesson 6	Diet
Lesson 7	Health and hygiene of the nutrition function
Lesson 8	Creation of the final product
Lesson 9	Creation of the final product
Lesson 10	Presentation of the final product

4.7. Methodology

Methodologies refer, according to the *Royal Decree 126/2014*, to the teacher's planned strategies, procedures and actions aimed at enabling the student learning and the achievement of objectives. **Dewey's (1966)** principle of complementarity leads to the conclusion that the best idea in choosing methodologies is produced by combining and integrating them effectively.

Order 15th January 2021 establishes some methodological orientations to bear in mind in the teaching-learning process, such as the use of learner-centred approach (introduce topics related to students' live and interests), the promotion of oral interaction, the use of ICT (it can be used to reinforce contents, to create final products and to search for information) and the introduction of cooperative work (the creation of group mixing weaker, stronger and average students).

Moreover, the methodology is closely linked to the seating arrangement. As CLIL and Project-based learning will be implemented, the most appropriate seating arrangement is grouped desks. CLIL methodology recommends groupings of three students. On the contrary, many project-based structures recommend groups of 5-6 students. During the sessions, students will be grouped in threes. For the creation of the final product, two groups of three will be joined together to make a group of six students. Groupings facilitate social interaction among students and cooperative learning. Furthermore, it is a motivational tool for students (**Larrivé, 2005**). In the target group there are 24 students, therefore, depending on the method used, the groups of students will be a mix of stronger, weaker and average skills both in language and other types of skills needed to complete the projects.

In section 3.3, the main methodologies to be implemented in this didactic proposal are explored. In addition, the advantages of each one has been proposed. In general terms, project-based learning is a methodology based on completing a final product, so that all grammar, vocabulary and content are related to the final product. On the other hand, CLIL is the teaching of content through a foreign language. In this didactic proposal the contents will be from the area of Natural Sciences and the foreign language will be English.

The final product of this didactic unit consists of the construction of a model of each human system using materials and even recycled materials. Each group will be assigned a nutrition system to make a model. The students will also have to perform a role-play simulating a hospital ward. The role-play consists of a patient arriving in the ward and saying what hurts her/him. The general doctor will refer the patient to the appropriate corresponding specialist. When the patient arrives at the next doctor, the patient says what hurts and the doctor explains how the

nutrition system that hurts her/him works, the parts that form it, the process it goes through and the changes s/he has to make to take care of her/his body. For this role-play, students will divide themselves in the following manner: one will be the patient, one the general doctor, one the digestive system specialist, one the respiratory system specialist, one the circulatory system specialist and one the excretory system specialist. If the CLIL approach is used, two groups will combine to effectuate the role-play section. Part of the evaluation will stipulate that all students participate.

Finally, at the end of each session a tool is used to recall information or perform simple tasks quickly. According to **Fields (2020)**, the methods and strategies used are called 'heuristics' and serve to make decisions and solve problems using minimal mental effort. This helps students to become more aware of their learning and to develop critical thinking.

The tool we use at the end of each session is called 'Question Continuum' and helps to create a bridge for our students to reach higher level thinking. This tool consists of different questions that go from heuristics to deepening the students' thinking. That is, the first questions are simple, superficial and easy to answer. As we progress, the questions require a deeper understanding of the knowledge acquired and are more complicated to answer. This tool helps to build students' knowledge as the first questions are of lower levels of thinking than the last ones.

One of the great advantages of the Question Continuum tool is that it is very easy to use for both teachers and students. It also activates different levels of thinking (lower and higher).

4.8. Materials and resources

As mentioned in section 3.2., **Oxford and Crookall (1990)** suggest that the inclusion of a wide variety of materials throughout the teaching and learning process is beneficial for learners. For this reason, different teaching and digital materials throughout the units are included. It is very important for teachers to know the characteristics, needs, learning styles and level of the students in order to offer the most appropriate materials.

On the one hand, some didactic materials are included that are considered to be manipulative materials that help students to assimilate knowledge in a more meaningful way. The materials included throughout this unit are the following:

- Flashcards (to learn and review the vocabulary).
- Poster (to work the nutrition systems)
- Mock-up (digestive system)

- Worksheets (to review the contents. For example, wordsearch, mindmap, bingo sheet, peer-assessment sheet...)
- Realia (real food to introduce nutrients)
- Blackboard (to play games)

Also, throughout the unit I have introduced the use of different digital apps are included both for the creation of materials, such as Canva, and to review the contents with my students. The apps used in this unit are:

- | | |
|-----------------|-----------------|
| • Learning apps | • Quizizz |
| • Educaplay | • Liveworksheet |
| • Bamboozle | • Wordwall app |
| • Mentimeter | • Plickers |
| • Youtube | • Kahoot |

As can be seen, different digital activities are used. Some include the digital screen and others the computer. The use of these interactive activities makes the student more motivated with the contents and makes learning faster and more effective.

4.9. Lesson Plan

LESSON 1 - THE VITAL FUNCTIONS		
Objectives	• To become familiar with the vocabulary related to vital functions. • To know and distinguish the organs, apparatus and systems that perform vital functions.	
Warm-up	To introduce the topic, first the title of the topic will be shown and, using the Mentimeter app, the students will digitally share ideas of the contents they think are in the unit. In this way, a cloud of ideas created by the students will be generated on the digital whiteboard. From there, the contents that will be developed on in the unit are verbalised and the final product is clarified. In this way the students are motivated from the beginning of the unit (10 minutes).	
Main	Scaffold and then watch a Youtube video about vital functions (5 minutes).	
	Complete an interactive worksheet created by liveworksheets (15 minutes).	

Wrap up	Review the vocabulary of the unit by playing memory games with flashcards made by the teacher. This game consists of turning all the flashcards upside down and in turns the students find the pairs. The pairs consist of one flashcard with the word written on it and the other flashcard with a picture. The flashcards, which have been created by the teacher using Canva, will be printed out and laminated. An example of the flashcards can be seen in Annex 1 (15 minutes).	
Reflection	Use the Question Continuum (see Annex 16) to present students with lower and higher order questions so that they process and personalize information from the lesson. Some examples of questions are as follows (5 minutes): • Is the interaction function a vital function? • Which are the three vital functions? • Who is in charge of digesting food? • Where is the sense of touch located? • Why can we smell?	
Resources and materials	Digital materials: Mentimeter app, video from Youtube and an interactive worksheet (liveworksheet). Didactic materials: Flashcards	

LESSON 2 – THE DIGESTIVE SYSTEM AND THE DIGESTION

Objectives	• To understand the importance of the function of digestion. • To recognise the parts of each part of the digestive system. • Be able to describe the process of the digestive system.	
Warm-up	Review through brainstorming the vital functions and present the digestive system by using a poster. The poster has been created through Canva and consists of different cards with different information. The students find the name of the digestive system, the function and the image among all the cards. The cards will be stuck on the class poster. The poster can be seen in Annex 2 (5 minutes).	
Main cycle	Scaffold and watch a Youtube video about the digestive system (5 minutes).	
	After watching the video, students will locate and paste the parts of the digestive system on the model (Annex 3) (10 minutes).	

	Then, students will complete sentences using the Wordwall app focusing on grammar (parts of the digestive system) and grammar (third person singular) (15 minutes).	
Wrap up	At the end of the class, the cooperative ‘pass the paper’ technique to revise and work on vocabulary is used. In groups students write as many words as possible related to the digestive system in groups. One student in the group will write a word when the teacher indicates, then pass the paper to the classmate on the right. They write another word and so on. The group that writes the most words correctly wins the game (10 minutes).	
Reflection	Use the Question Continuum (see Annex 16) to present students with lower and higher order questions so that they process and personalize information from the lesson. Some examples of questions are as follows (5 minutes): • Is the digestive system responsible for getting the nutrients we need? • What is the first step in the digestion process? • Who is in charge of transforming food into mush? • Where are faeces formed? • Why is the digestive system important?	
Resources and materials	Digital materials: video from Youtube and Wordwall app. Didactic materials: Poster and the mock-up of the digestive system.	

LESSON 3 - THE RESPIRATORY SYSTEM AND THE RESPIRATION

Objectives	• To show knowledge of the importance of respiration. • To recognise and locate the parts of the respiratory system. • To understand the respiration process.	
Warm-up	Review the content of the previous session on the digestive system. Students will have to sort the sentences of the digestive system process into groups of three. The activity has been created with learningapps (10 minutes).	
	Present the respiratory system by completing the poster (Annex 2). The students have to find the name of the respiratory system, the function and the image among all the cards (5 minutes).	

Main Cycle	Scaffold and watch a Youtube video on the respiratory system. This video is about the respiratory system, the parts and the process (5 minutes).	
	Students use the information they have learned from the video to participate in the demonstration of the process of inhalation and exhalation using a model created with materials such as a water bottle and a balloon. See image in Annex 4. (5 minutes).	
	Students differentiate between the inhalation and exhalation process. They classify the steps into inhalation and exhalation and then order them so that they make sense. They will do this through a game created by wordwall (10 minutes).	
Wrap up	At the end of the session, students use a worksheet (Annex 5) to complete a word search to review vocabulary. The worksheet has been created by Canva (10 minutes).	
Reflection	Use the Question Continuum (see Annex 16) to present students with lower and higher order questions so that they process and personalize information from the lesson. Some examples of questions are as follows (5 minutes): • Are inhalation and exhalation part of the breathing process? • What is the process in which the diaphragm contracts? • Who connects the trachea to the alveoli? • When does exhalation occur? • Where are the lungs located? • Why is the respiratory system important?	
Resources and materials		Digital materials: Learningapps app, Youtube video and wordwall app. Didactic materials: respiratory system mock-up, poster and a worksheet.

LESSON 4 - THE CIRCULATORY SYSTEM AND CIRCULATION

Objectives	• To understand the importance of the circulation. • To recognise the parts of each part of the circulatory system. • To show knowledge of how the heart works and how to take a pulse.
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Warm-up	Review the contents of the previous session on the respiratory system through a game. Treasure Hunt is the name of the game. Flashcards with pictures of the parts of the respiratory system will be hidden around the class. In turns and in groups students find all the flashcards. When they find a flashcard, they say the name of the body part. The team that finds the most flashcards wins (10 minutes).	
	Present the circulatory system by completing the poster (Annex 2). The students find the name of the circulatory system, the function and the image among all the cards (5 minutes).	
Main cycle	Scaffold and watch a Youtube video on the circulatory system. This video clarifies the importance of the circulatory system, the parts and the process (5 minutes)	
	After the video, the students build on knowledge assimilated in the video by playing 'Froggy jumps' (created by Educaplay) in groups using the digital whiteboard. This game consists of helping a frog to reach the shore. To do so, they will read the function of a part of the circulatory system and they will have to choose the corresponding part of the body (10 minutes).	
	To help students create an experiential environment of how the heart works (as explained in the video), they take their pulse in groups of three. They complete a table (Annex 6) where they will take their pulse for one minute at rest, after one minute of exercise and after two minutes of exercise (10 minutes).	
Wrap	Students will finish by filling in the gaps in a text about the circulatory system and circulation. This exercise is created by learningapps (5 minutes).	
Reflection	Use the Question Continuum (see Annex 16) to present students with lower and higher order questions so that they process and personalize information from the lesson. Some examples of questions are as follows (5 minutes): • Are veins and capillaries part of the circulatory system? • What is the nutritional system that transports substances through the body? • Who carries the blood from the organs to the heart? • Where is the heart located, on the left or right side? • Why does the heart contract?	

Resources and materials	Digital materials: Learningapps app, video from Youtube and Educaplay app. Didactic materials: poster, flashcards and a worksheet with a chart.
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LESSON 5 – THE EXCRETORY SYSTEM AND EXCRETION

Objectives	• To show knowledge of the importance of excretion. • To recognise and locate the parts of the excretory system. • To understand the excretion process.	
Warm-up	Review the content of the previous session on the circulatory system. For this purpose, they will play a bamboozle in groups. The questions are about the parts of the circulatory system. Teams will earn points or lose points depending on which card they choose and whether they get it right or wrong (<i>10 minutes</i>).	
	Present the excretory system by completing the poster (annex 2). The students have to find the name of the excretory system, the function and the image among all the cards (<i>5 minutes</i>).	
Main cycle	Scaffold and watch a Youtube video about the excretory system (<i>5 minutes</i>).	
	After watching the video, students will play a guessing game using Plickers . The parts of the excretory system will be defined and they will have to choose between kidney, ureters, urethra and bladder (<i>5 minutes</i>).	
	Students will complete a worksheet (annex 7) containing different statements about the excretory system. Students have to write down whether these statements are true or false. If they are false, they have to write the corrected statement (<i>10 minutes</i>).	
Wrap up	To review the vocabulary of all the nutrition systems through a bingo. Students will be given a worksheet (annex 8) to fill in with the parts of the nutrition systems studied. Words will be said out loud, students will first try to make a line and then a bingo (<i>10 minutes</i>).	

Reflection	Use the Question Continuum (see Annex 16) to present students with lower and higher order questions so that they process and personalize information from the lesson. Some examples of questions are as follows (<i>5 minutes</i>): • Are the kidneys part of the excretory system? • What are the parts of the excretory system? • Who is in charge of collecting urine? • Where is urine produced? • How is urine formed?	
Resources and materials	Digital materials: video from Youtube, Bamboozle and Plickers. Didactic materials: Poster, Plickers cards, worksheet and bingo.	

LESSON 6 – DIET

Objectives	• To show knowledge of what nutrients are and what they are. • To differentiate between energy-producing, body-regulating and body-building foods. • To create healthy and balanced meals.	
Warm-up	Scaffold and then watch a Youtube video about the nutrients (<i>5 minutes</i>).	
	After watching the video, students will be introduced to real food. For example, a can of tunafish, an apple, water, nuts, etc. In groups they discuss their classification. This is then discussed with the whole class (<i>10 minutes</i>).	
Main cycle	The difference between energy-producing, body-regulating and body-building foods will be clarified. Students then classify the food in a game on the digital board created by learningapps (<i>10 minutes</i>).	
	In groups of three they should create a healthy and balanced meal including all the nutrients studied. They should then share it via a padlet . In the padlet there is a model of a healthy breakfast (<i>15 minutes</i>).	
Wrap	Finally, students complete a mind map (annex 9) of what they have studied in this unit (<i>5 minutes</i>).	

Reflection	Use the Question Continuum (see Annex 16) to present students with lower and higher order questions so that they process and personalize information from the lesson. Some examples of questions are as follows (<i>5 minutes</i>): • Do energy-producing foods include carbohydrates? • What is the type of food we use to grow and repair the body? • Where can we find vitamins and minerals? • What is a healthy diet? • Why should we eat body-regulating foods?	
Resources and materials	Digital materials: video from Youtube, Learningapps and Padlet. Didactic materials: Poster, real food and a mind map.	

LESSON 7 – HEALTH AND HYGIENE OF THE NUTRITION FUNCTION		
Objectives	• To distinguish between healthy and unhealthy habits • To show knowledge of measures to take care of each nutrition system • To create a poster with healthy habits	
Warm-up	Through a Kahoot , students will review all the content studied in this unit. The Kahoot will include questions on nutrition systems and diet (<i>10 minutes</i>).	
	The class will be divided into two. One half of the class will focus on unhealthy habits and the other half will focus on healthy habits. A habit will be said out loud and the students will have to determine whether it is healthy or unhealthy. When they decide, they go to the healthy or unhealthy zone (<i>5 minutes</i>).	
Main	In groups they create a poster where they include two healthy measures for each nutrition system. Therefore, in total there will be eight measures. They can use the computers to look for ideas (<i>20 minutes</i>).	
Wrap up	Present the poster to the class with the different healthy measures. During the presentations, students will complete a peer-assessment sheet (annex 10) (<i>10 minutes</i>).	

Reflection	Use the Question Continuum (see Annex 16) to present students with lower and higher order questions so that they process and personalize information from the lesson. Some examples of questions are as follows (<i>5 minutes</i>): • Is watching TV all day long a healthy habit? • Which habit is healthy for the digestive system? • Why should we shower every day? • What happens if I don't wash my hands before eating?	
Resources and materials	Digital materials: Kahoot and computers. Didactic materials: Poster, blackboard and peer-assessment sheet.	

LESSON 8 – CREATION OF THE FINAL PRODUCT

Objectives	• To create groups for the final product. • To make the mock-up of the different nutrition systems in groups. • To review the contents of the unit.	
Warm-up	The groups work in threes, following the recommendations of the CLIL methodology. For this reason, there are eight groups. For the creation of the final product, students will work in groups of six. To form the groups, eight cards about nutrition systems will be hidden by the class. In groups they move around the classroom to find a card. The card will show the nutrition system they have to work on. In addition, another group will have found the same card. With this game the groups are created and the nutrition systems are distributed (<i>5 minutes</i>).	
	Review the contents of the nutrition systems through a game created by Quizizz (<i>10 minutes</i>).	
Main cycle	Throughout the previous sessions, the students have been bringing in different recycled materials in order to create the nutrition systems. All the materials will be placed on a table and in groups they will have to create their own nutrition system. The teacher can give some ideas to facilitate the process of creating the mock-up (<i>20 minutes</i>).	

Wrap up	The different mock-ups will be shown to classmates at the end of the class. In addition, basic concepts will be reviewed in order to reinforce the content (10 minutes).	
Reflection	Use the Question Continuum (see Annex 16) to present students with lower and higher order questions to review information from the lesson. Some examples of questions are as follows (5 minutes): • Are there four nutrition systems? • Which one is responsible for getting the nutrients we need? • Who pumps blood throughout the body? • Where are the gastric juices located? • Why do we sweat?	
Resources and materials	Digital materials: Quizizz app. Didactic materials: Recycled materials and mock-up.	

LESSON 9 – CREATION OF THE FINAL PRODUCT

Objectives	• To work on intonation for conversation. • To create and practise the conversation for the final product following a model. • To reflect on one's own learning.	
Warm-up	A model of a conversation will be presented to the students. This model (annex 11) will serve as a guide to create their conversation for the final product (5 minutes).	
	The intonation of the questions will be worked on with the model. A digital roulette wheel will also be used to show the intonation to be used. The intonation will depend on the emoticon on the roulette wheel (10 minutes).	
Main cycle	Students will create the conversation following the model. Each group will have to change some things in the model to make it more original (15 minutes).	
	Students will practise conversation in groups for the presentation in front of the class (10 minutes).	

Wrap up	The teacher will be listening to the students throughout the session, but it is at the end of the class that the teacher will give general feedback and things that can be improved (5 minutes).	
Reflection	Use the Question Continuum (see Annex 16) to present students with lower and higher order questions in order for them to reflect on their participation in the conversation. Some examples of questions are as follows (5 minutes): • Do you think you play a key role in the final product? • What aspect do you think you can improve? • How do you think you can improve? • Why is this final product important? • What happens if the presentation in front of the class does not go as expected?	
Resources and materials	Digital materials: Wordwall app. Didactic materials: Conversation model worksheet.	

LESSON 10 – PRESENTATION OF THE FINAL PRODUCT

Objectives	• To show the students the aspects to be assessed. • To make the final presentations • To carry out the self-assessment and peer-assessment. • To reflect on what has been learnt in this unit.	
Warm-up	Show students the rubric (Annex 12) to be used for assessment. Highlight aspects of both language and content (5 minutes).	
	Give students some tips for the final presentation, for example, look them in the eye, use gestures, speak loudly and clearly or pronounce all the words well (5 minutes).	
Main	Carry out the presentations. During the presentations, students will evaluate their peers with a target evaluation (annex 13). There will be four presentations in total as there are 24 students and the groups are of 6 (20 minutes).	

Wrap up	The teacher will give short general feedback after all presentations. Then the teacher will give more specific feedback to the group. The students will do a self-assessment (annex 14) and a group assessment (annex 15) in the meantime (15 minutes).	
Reflection	Use the Question Continuum (see Annex 16) to present students with lower and higher order questions in order for them to reflect on their learning process along the unit. Some examples of questions are as follows (5 minutes): • Did you like this unit? • Which aspect did you like the most and the least? • What did you find most difficult? • Why did you find it difficult?	
Resources and materials	Digital materials: digital board to present the rubric. Didactic materials: Target evaluation, self-assessment and co-evaluation.	

4.10. Attention to diversity

Gardner (2000) suggests teachers spend less time ranking students and more time helping them to identify their natural competences and gifts and cultivate them. There are hundreds of ways to succeed and many different abilities that can be included in evaluating achievement.

The Year 4 class is a mixed-ability class of 24 students with different characteristics, interests, learning strategies, proficiency levels in English, likes, motivations, intelligences, social and family conditions. The group of students is composed of (according to the competences needed to complete the projects), two stronger students, three weaker students, 17 average students and two students who present specific education support needs towards the achievement of the established aims and the acquisition of key competences. In two of the groups, a student with specific difficulties in reading (dyslexia) and another with high intellectual capabilities are included. In order to address this, the following two sections deal with general measures to be taken at classroom level and specific measures to be taken for pupils with special needs.

General measures are stated in the **Order 15th January 2021** to attend to diversity, such as the inclusion of cooperative tasks, different groupings (individual, pair and group work), a wide variety of materials and resources, visual support, graded activities (adapted to their level, needs, interests, motivations...) and flexibility with timing.

Specific measures for the child with learning difficulties are established in the ***Instructions 8th of March 2017***.

For the student with dyslexia, measures to be taken are to be flexible with punctuation and spelling mistakes, reduce reading and writing activities, prioritise oral assessment, use non-verbal communication as a support, check the student's understanding of written material and surround the student with classmates who have strong reading skills.

For the student with high intellectual abilities, measures to be taken are to give the opportunity to work individually or in group, stimulate curiosity through discovery techniques, enrichment through deepening, exploration or extension tasks and strategies, develop more empathy through social interactions, and use gamification as gifted students love being challenged.

4.11. Evaluation

It seems that evaluation is a simple and unimportant process until you discover how much information you can obtain during this process. The evaluation process can be very effective if it is carried out in the right way. During the evaluation process, very valuable information can be obtained such as whether the role of the teacher has been adequate, whether the proposed objectives have been achieved or information about the learning process of our students.

Moreover, the evaluation has to be adapted to the CLIL methodology, as it has been the method that has been implemented throughout the sessions. We as teachers often feel insecure in assessing CLIL methodology as there is often very little information. The following questions may help us to clarify the evaluation:

- **Why evaluate?**

There are many reasons for carrying out assessment. **Lane (1997)** states that in evaluation we find the needs that we as teachers have to cover in order to improve the teaching-learning process. It also increases students' motivation and builds their self-concept.

- **What are we going to assess?**

Usando la metodología CLIL tenemos que evaluar tanto el contenido como la lengua, ya que es un integrated approach. A la hora de evaluar la lengua, no solo tenemos que tener en cuenta aspectos como la gramática, el vocabulario o la pronunciación, tenemos que tener en cuenta la competencia comunicativa de nuestros alumnos. Es decir, que nuestros alumnos sepan utilizar la lengua en diferentes contextos.

- **When are we going to evaluate?**

Considering the current law, we can assume that in Primary Education, continuous and global assessment is recommended to monitor the learners' progress in their learning process. We must also consider the criterial and formative aspect of assessment. The evaluation process is directed to which extent students have achieved the acquisition of key competences and the attainment of general stage goals (established in RD 126/2014). Moreover, evaluation process is composed of three moments:

- Initial evaluation: first two weeks of the school year.
- Ongoing evaluation: units and projects.
- Final evaluation: end of the school year.

To carry out the evaluation the evaluation criteria as they contribute to the acquisition of key competences needs to be considered as they contribute to the development of Foreign Language and Natural Sciences goals.

- **How is it going to be evaluated?**

Harmer (2015) suggests that the use of a wide variety of assessment instruments is essential. Furthermore, **Order 15th January 2021** highlights that a proper attention to diversity involves the use of diverse evaluation procedures, techniques and instruments. The instruments that will be used to evaluate the learning process are:

- ICT: refers to the use of Kahoot, Plickers, liveworksheets...
- Worksheets: refers to the documents done by the students throughout the unit.
- Final product: it is created at the end of the unit and it is a written final product.
- Oral presentations: about their final products at the end of the unit.
- Register: refers to the teachers' checklists and anecdotal record. Also, it is included rating scales (rubrics). Rubrics will be an essential tool to evaluate students. These rating scales will be used to assess the final product and the oral presentation. The rubrics that will be used are in annex 12.

RD 126/2014 distinguishes three types of evaluation to provide a more comprehensive view of students' performances and engage them to raise awareness of themselves as active roles, their own weaknesses and strengths. The types are hetero-assessment (carried out by teachers), co-assessment and self-assessment.

- Self-assessment: is carried out by each student. Students reflect on their learning process. They do this at the end of the unit by colouring in a grid.
- Co-evaluation: students will evaluate their classmates. They will do it in two forms:
 - Peer-assessment: They do this after the poster's presentation and after the presentation of the role-play.
 - Group assessment: after the presentation of the final product the groups will reflect of their work.
- Hetero-assessment: it is carried out by teachers. Teachers evaluate students along the unit and at the end of the process with the instruments presented before.

To conclude, the teacher's self-evaluation must also be performed, as they are the main responsible figures for assessing their own teaching practice. Evaluating themselves during the learning process is fundamental to know the strengths that they can continue to use and the weaknesses that need to be improved. Self-evaluation is a sign of the desire to improve the role as teachers and to provide the best education for the students.

5. CONCLUSION

In conclusion, the importance of creating a learning process in which learners enjoy and feel motivated is essential. This can be achieved with the use of new methodologies and materials. For this purpose, at the beginning of this document, a theoretical section has been included that address aspects such as motivation, materials and active methodologies. Then a didactic proposal has been introduced with a contextualisation of the class group. Curricular elements have been included following the current regulations. A long list of didactic and technological resources has also been established. In addition, the methodologies used throughout the sessions have been dealt with. CLIL is an active methodology that is gradually being included in schools. It is very beneficial as it works on the content of a non-linguistic subject with the use of a foreign language. This makes it easier for pupils to develop the foreign language. On the other hand, the use of Project-Based Learning presents students with a complex situation. In addition to promoting problem-solving and critical thinking, it proposes real-life situations. After including the sessions dealing with Social Studies content through the foreign language, measures to work with diversity in the classroom are included. Finally, the assessment has been established. A very comprehensive assessment using a variety of instruments.

In general terms, the completion of this work has been satisfactory as the objectives set at the beginning were achieved. The main objective was to create motivating sessions that included a

wide variety of materials and the use of active methodologies such as CLIL. By doing this work this author has discovered many websites to create materials and activities that can make the work of teachers much easier. The importance of choosing specific methodologies is also evident, as it is the way to transmit the contents to the students.

Finally, it is imperative to mention what has been learnt in this Master's degree, such as getting to know CLIL methodology in depth. At the beginning of the course there were doubts about its benefits and effectiveness, however, because of how positively received this approach is, the hope is that this methodology will be introduced in all schools.

In order for CLIL methodology to be successful in the classroom, some aspects need to be taken into account. The main objective of this methodology is not for students to speak like native speakers, but to acquire a functional competence, that is, to make a functional use of the language. Another fundamental part is the students, as their active participation is necessary for the development of the sessions. It is also essential to offer and use different materials adapted to our students.

Moreover, teachers need to be trained. They do not have to be native speakers to implement this methodology but do need to know how CLIL works and how to apply it. In addition, they need to have knowledge of the content and language to deal with, having a level of English that allows them to establish communication with the students. They also need to work with the families and students beforehand so that they are aware of this approach, which is still a little unknown today. Last but not least, including CLIL in the classroom includes the involvement of the other teachers as well. There must be coordination between teachers. Coordination helps to ensure that everything is organised and also that teachers feel supported by each other.

This methodology, which has all the aspects to succeed in schools, is sometimes complicated to implement. For example, it requires trained, motivated teachers, a lot of time to invest, collaboration between teachers and creativity among other aspects. Moreover, for CLIL to bear fruit, it takes several years. The problem here is found in public schools in Spain. Many teachers change their postings every year, so the methodology does not have the same continuity. Another reason why CLIL is difficult to implement is that teachers need support from the government for both language and methodology training. For this approach to be implemented successfully, the government needs to invest in training for teachers, in materials and also in more human resources. Investing in education is building the future, as in the end, the training is for the benefit of the future professionals who will live in this world.

Aside from these challenges, CLIL is a very useful approach for students as it prepares students for real life. It promotes critical thinking and problem solving. It also helps to create a plurilingual society. For this reason, the hope is that CLIL will become more and more known and valued by societies around the world and especially in Spain. As a current teacher in a public school, I hope to do my bit to ensure that this methodology is implemented in the schools where I teach with all the knowledge I have acquired from this course.

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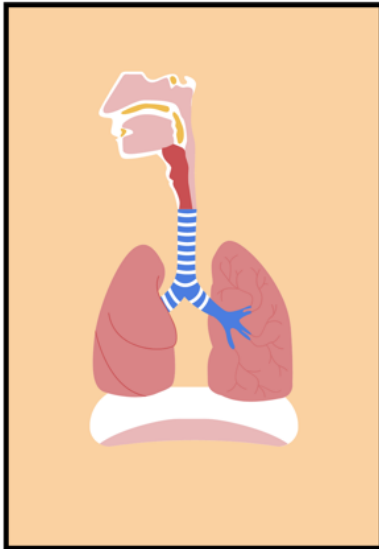
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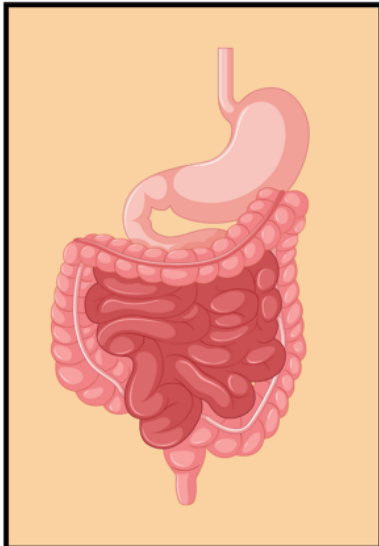
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7. APPENDIXES

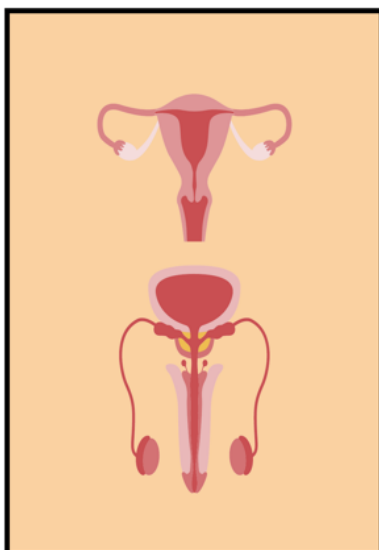
ANNEX 1 (lesson 1, wrap up)



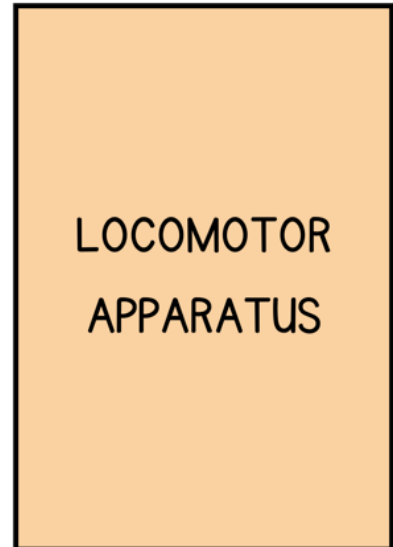
RESPIRATORY
SYSTEM



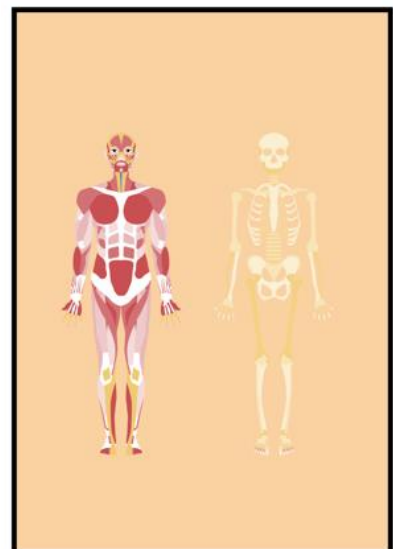
DIGESTIVE
SYSTEM



REPRODUCTIVE
APPARATUS



LOCOMOTOR
APPARATUS



ANNEX 2 (lesson 2, activity 1)

NUTRITION FUNCTION

DIGESTIVE SYSTEM	It is responsible for taking food in and transforming it to obtain the nutrients we need.	

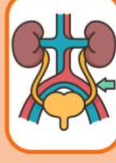
NUTRITION FUNCTION

DIGESTIVE SYSTEM	It is responsible for taking food in and transforming it to obtain the nutrients we need.	
RESPIRATORY SYSTEM	It is responsible for taking air into the body to extract oxygen and expel carbon dioxide.	

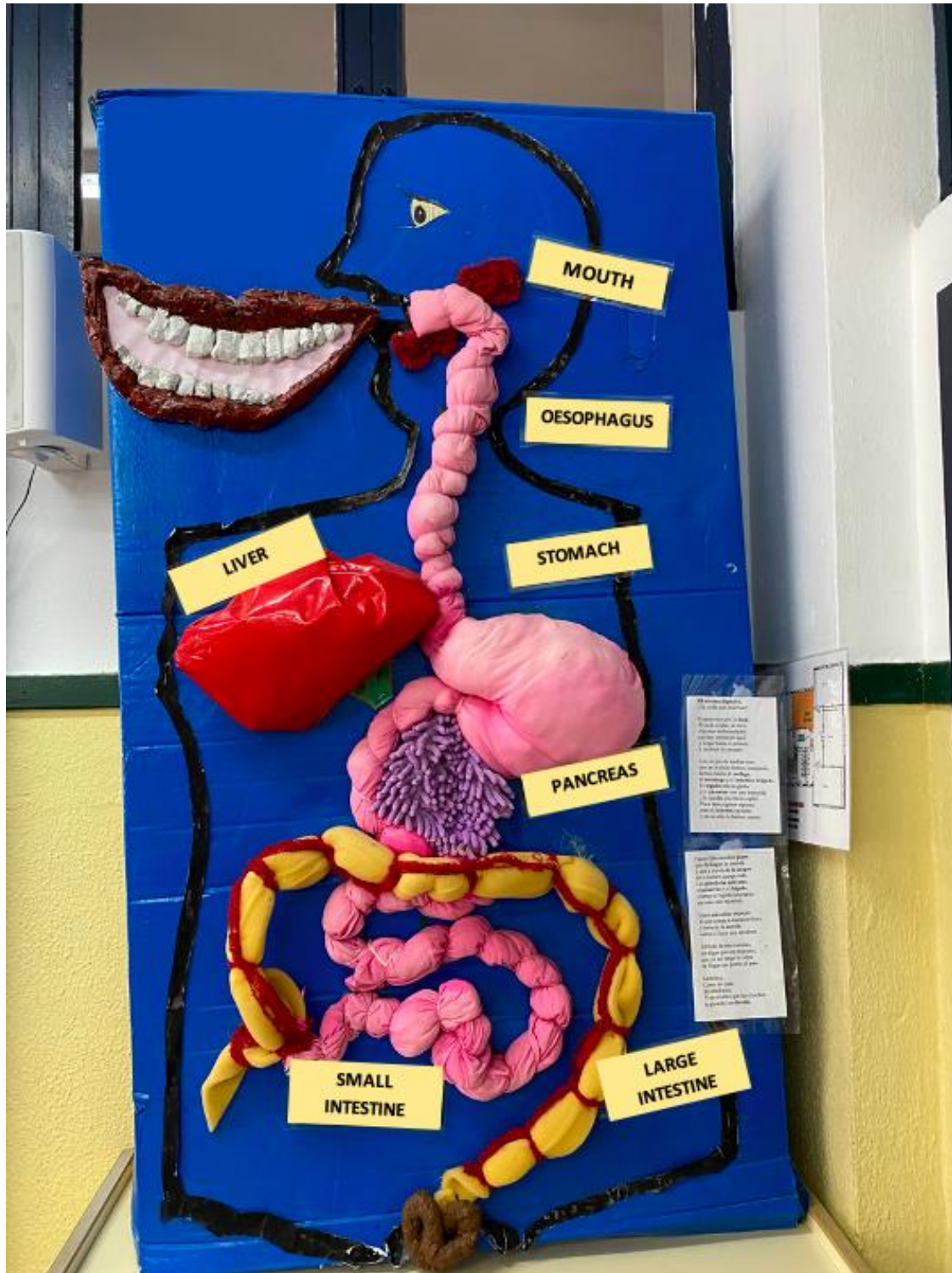
NUTRITION FUNCTION

DIGESTIVE SYSTEM	It is responsible for taking food in and transforming it to obtain the nutrients we need.	
RESPIRATORY SYSTEM	It is responsible for taking air into the body to extract oxygen and expel carbon dioxide.	
CIRCULATORY SYSTEM	It is responsible for transporting substances around the body.	

NUTRITION FUNCTION

DIGESTIVE SYSTEM	It is responsible for taking food in and transforming it to obtain the nutrients we need.	
RESPIRATORY SYSTEM	It is responsible for taking air into the body to extract oxygen and expel carbon dioxide.	
CIRCULATORY SYSTEM	It is responsible for transporting substances around the body.	
EXCRETORY SYSTEM	It is responsible for producing and expelling the urine.	

ANNEX 3 (lesson 2, main cycle)



ANNEX 4 (lesson 3, main cycle)



Leal, S. (23 May 2022). *Divertidísima maqueta casera DIY del sistema respiratorio para niños* [Photograph]. Guiainfantil.

<https://www.guiainfantil.com/ocio/manualidades/divertidissima-maqueta-casera-diy-del-sistema-respiratorio-para-ninos/>

NAME _____

RESPIRATORY SYSTEM

WORD SEARCH

Find the words listed below and mark them.

E	N	L	U	N	G	S	S	T	U
A	X	G	H	E	N	L	O	R	C
L	O	H	F	U	I	P	X	A	M
B	A	A	A	R	P	A	Y	C	D
K	A	R	T	L	A	U	G	H	X
M	B	S	Y	U	A	A	E	E	D
I	O	E	U	N	O	T	N	A	A
N	R	I	H	F	X	I	I	Y	V
I	N	H	A	L	A	T	I	O	N
B	R	O	N	C	H	I	J	J	N

- LARYNX
- NOSTRILS
- TRACHEA
- BRONCHU
- LUNGS
- OXYGEN
- INHALATION
- EXHALATION

ANNEX 6 (lesson 4, main cycle)

	STUDENT A	STUDENT B	STUDENT C
Resting heart beats			
Heart beat after one minute of exercise			
Heart beat after two minutes of exercise			

ANNEX 7 (lesson 5, main cycle)

NAME _____

THE EXCRETORY SYSTEM

ARE THE FOLLOWING STATEMENTS TRUE OR FALSE? IF THEY ARE FALSE, CORRECT THEM TO BE TRUE.

- The excretory system is the part of the body responsible for producing and expelling urine. True/False

- The digestive system consists of two kidneys, two ureters, the bladder and the urethra. True/False

- The kidneys are two brown-coloured organs. True/False

- The bladder is a rigid-walled reservoir. True/False

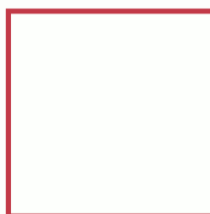
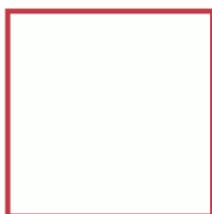
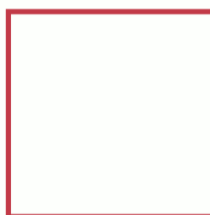
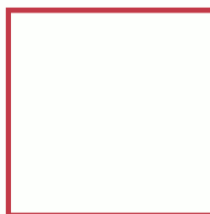
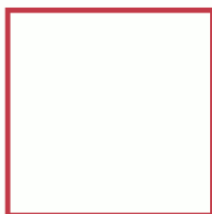
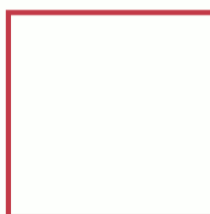
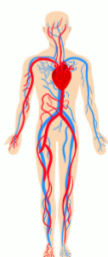
- We urinate through the bladder. True/False

- The ureters are two tubes that connect each kidney to the urethra. True/False

- The bladder collects urine. True/False

ANNEX 8 (lesson 5, wrap up)

BINGO

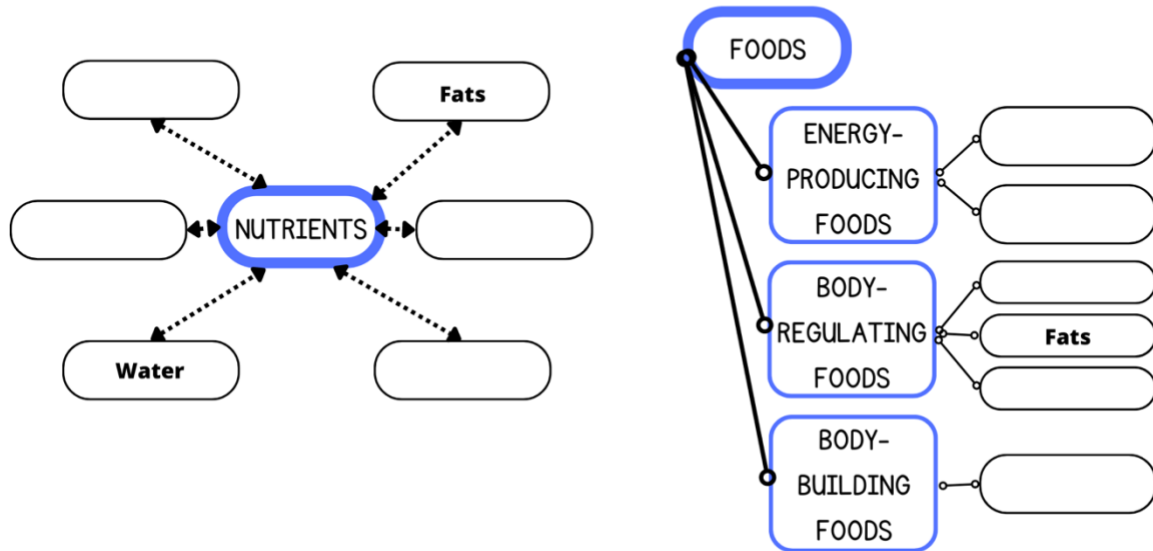


ANNEX 9 (lesson 6, wrap up)

DIET

DIET IS ALL THE DIFFERENT TYPES OF FOOD YOU CONSUME EACH DAY.

COMPLETE THIS MIND MAP



ANNEX 10 (lesson 7, wrap up)

Name: Group: Date:

How do you think your classmates' poster presentation is?

This is because:

.....

FINAL PRODUCT

GENERAL DOCTOR _____ RESPIRATORY SPECIALIST _____
PATIENT _____ CIRCULATORY SPECIALIST _____
DIGESTIVE SPECIALIST _____ EXCRETORY SPECIALIST _____

CONVERSATION

- Patient: Good morning, doctor! My throat hurts so much!
- General doctor: Let me see... where exactly does it hurt? Here? I think it might be a respiration problem! You will have to see the digestive specialist.
- Patient: Perfect! Thank you so much doctor!

-
- Patient: Good morning, doctor! My throat hurts so much!
 - Respiratory specialist: Let me see... I think it is related to respiration. This process starts with inhalation. The air enters, the diaphragm contracts and the lungs expand. Then comes the process of exhalation. The air comes out, the diaphragm relaxes and the lungs contract.
 - Patient: I didn't know respiration worked like that!
 - Doctor: Where exactly does it hurt? Because the respiratory system is composed by nostrils, larynx, trachea, bronchi and lungs.
 - Patient: It hurts right here!
 - Doctor: It may be the larynx. However, I will give you some tips on how to take care of your respiratory system. Always try to breathe through your nose, avoid inhaling fumes and dangerous substances. Finally, exercise to strengthen the muscles that control your breathing.
 - Patient: I will keep it in mind doctor! Thank you very much!

ANNEX 12 (lesson 10, warm-up)

		4	3	2	1
CONTENT	Knowledge	The learner demonstrates a sound knowledge of the concepts and content related to the subject matter and is able to apply them in different contexts in a creative and effective way.	The student has a solid knowledge of the concepts and contents related to the curricular subject and is able to apply them in different contexts.	The student has a basic knowledge of the concepts and contents related to the curricular subject but is not able to apply them in different contexts.	The student has not acquired the necessary basic knowledge of the concepts and contents related to the curricular subject.
	Solving problem	The student demonstrates an outstanding ability to solve problems related to the subject matter and is able to creatively apply acquired knowledge to solve novel and complex problems independently.	The student is able to solve complex problems related to the curriculum subject but requires some help from the teacher at times.	The student can solve simple problems related to the curriculum subject but has difficulties in solving more complex or novel problems.	The student is not able to solve problems related to the curricular subject, even with the help of the teacher.
	Application	The student demonstrates an outstanding ability to apply the concepts and content of the curriculum in different contexts and situations and is able to transfer knowledge to new or different situations independently and creatively.	The learner is able to apply the concepts and content of the curriculum subject in different contexts and situations and can transfer the knowledge to new or different situations with some help from the teacher.	The learner can apply the concepts and content of the curriculum subject in familiar situations but has difficulties in transferring the knowledge to new or different situations.	The student is not able to apply the concepts and contents of the curricular subject in different contexts and situations.

		4	3	2	1
LANGUAGE	Grammar	The learner makes good use of grammatical rules, making one or two mistakes, which facilitates comprehension.	The learner makes use of grammatical rules with few errors, which facilitates comprehension.	The learner makes little use of grammatical rules and makes some mistakes which make comprehension difficult.	The student does not make use of grammatical rules and makes many mistakes which make comprehension difficult.
	Pronunciation	The student has excellent pronunciation and is easily understood in conversation.	The student's pronunciation is generally understandable and clear.	The student has some pronunciation problems, which sometimes makes it difficult to understand the conversation.	The student's pronunciation is unintelligible and makes it very difficult to understand the conversation.
	Vocabulary	The student has an extensive vocabulary and uses words related to the subject matter.	The student has an adequate vocabulary and uses words related to the subject matter.	The learner has a limited vocabulary and uses few subject-related words.	The learner has a very limited vocabulary and uses a small number of subject-related words.

ANNEX 13 (lesson 10, main cycle)

PEER ASSESSMENT (evaluation target)



ANNEX 14 (lesson 10, wrap up)

SELF-ASSESSMENT

	3	2	1
Vocabulary related to this topic	I know how to use them in conversation	I know some words	I am learning them
The contents of this unit	I know how to use them in conversation	I understand them but I have not learned them	I am learning them
Final product of this unit	I think I have done a very good job	I think I could improve my work	I think I should have worked harder

ANNEX 15 (lesson 10, wrap up)

GROUP ASSESSMENT

	3	2	1
Vocabulary introduced	We have included many specific words	We have included some specific words	We have included few specific words
Contents introduced	We have included all the contents of this topic	We have included the contents of this topic	We have included few contents of this topic
Originality	We have done a very original job	We have followed the model	We have not followed the model
Conversation	It was smooth with very few mistakes	It was smooth with a few mistakes	Not smooth with a lot of mistakes

ANNEX 16 (Question Continuum)



Fields, D. L. (2020). *Volume 4. Phenomenon-Based Learning: Heuristics to Higher-Level Thinking: Using DOK tools in PhBL projects [Photograph]*.