Centro de Estudios de Postgrado
Máster Interuniversitario en Enseñanza Bilingüe y AICLE

Universidad de Jaén

Universidad de Córdoba

Master's Dissertation/
Trabajo Fin de Máster

ICT AS A MEANS OF CONTENT AND LANGUAGE SCAFFOLDING IN THE CLIL PRIMARY CLASSROOM. A DIDACTIC PROPOSAL

Student: **Palma Moreno María José**

Supervisor: Dr. Magdalena Custodio Espinar

Department: English Philology

July, 2021

Abstract

The present Master´s Dissertation proposes a Didactic Unit in the area of Natural Sciences, aimed at the 3rd year of Primary Education. This proposal is based on the Content and Language Integrated Learning (CLIL) approach using ICT to scaffold the content and language learning process from different perspectives. In order to write the theoretical framework, numerous articles on the subject have been researched and read. About CLIL, an approach to learning content and languages in an integrated way by authentic, experiential and manipulative learning experiences. In such a learning context, scaffolding plays a very important role because it gives the teachers and the students the tools to work on the contents and the language and to be able to reach the knowledge and mastery of them. The digital competence is one of the key competences because the use of new technologies is crucial in the era in which we live as students are digital natives and we have to teach them to use these tools in a productive and successful way. In the second part of the work, the Didactic Unit presenting a model of integration of ICT in its CLIL scaffolding strategy is developed.

Key words:

CLIL, digital competence, cognition, interaction, scaffolding, ICT

Index

LIST OF TABLES

INTRODUCTION

Learning a language is a fundamental part of humanity that helps people to communicate with each other but, what happens when people from other cultures who do not share the same language try to communicate with each other? On these occasions, it is necessary to know a language that helps to facilitate communication between the two. The most common language learnt for this purpose is the English language. This knowledge of other languages has become even more accentuated with the incorporation of Spain into the European Union and with the arrival of people from other South American countries, Morocco, Romania, etc., creating a context of cultural exchange. In this Master's Dissertation, we will address the teaching of a second language such as English through the CLIL approach. David Marsh (2012), states that the term CLIL refers to situations in which a second language is used to teach subjects with the dual intention of simultaneous learning of the foreign language and content.

Another challenge we have to address in schools today is the use of ICT, as our students are digital natives and have to learn to use these tools in a successful way for their learning. We are aware that our students are familiar with the use of technological tools in their homes, they socialise in more immediate and intuitive communicative codes for them, especially in virtual media such as social network or games. The use of these tools in teaching makes them feel more confident and motivated due to the extraordinary mastery they have of them. If we transfer this to the teaching-learning process, it increases the motivation of our students, which leads us to think that something as important as learning a language together with the ability to use technology can considerably favour the acquisition of the language.

Another concept that will be analysed in this dissertation is scaffolding. The concept of the zone of proximal development (ZPD) was developed by Vygotsky and indicates the distance between what a child could do by himself and what he could do with the support or guidance of a teacher, thus reaching the zone of potential development.

In this Master's Dissertation we intend to combine these three concepts and use ICT in a Primary Education class in which we work under the CLIL approach

and we will use digital scaffolding as a teaching and learning strategy to improve students' content learning and language acquisition. Firstly, we will develop a theoretical framework where we will explain the most relevant concepts on these issues such as CLIL approach, ICT, and scaffolding. Then, we will make an analysis of the current digital tools likely to be used in the classroom. Finally, we will present a Didactic Unit for the area of Natural Sciences in a class of 3rd year of Primary School presenting the integration of ICT as a means of content and language scaffolding in the CLIL classroom.

1.WHAT IS CLIL?

Nowadays our society is marked by globalisation and multilingualism, so that being educated in a second language at the same time that content is studied is becoming increasingly popular and important. The CLIL (Content and Language Integrated Learning) approach was proposed by David Marsh in 1994, in order to provide young learners with these tools. Firstly, to know how to interact in a multilingual world where different languages are used in all contexts. Secondly, to learn to live in a world where collaboration between people and teamwork are essential to achieve goals. Finally, to know how to use new technologies to search for, verify and contrast information.

As Méndez and Pavón (2012) state, “CLIL is an innovative idea to promote the learning of foreign languages in monolingual environments”. This section explains and clarifies the most general aspects about the CLIL approach. According to Marsh (2012): *“*CLIL is a dual-focused educational approach in which an additional language is used for the learning and teaching of both content and language” (p.25).

CLIL emerges as an approach capable of responding to the demands of this new era and adapting to the needs of the new "digital native" learners, to help them improve their communicative competences: "this means that better access to language learning and learning methods for accelerating performance, are now crucial in many communities" (Coyle, Hood, & Marsh, 2010 p. 10). However, the definition of CLIL remains controversial because of the many ways in which the term is understood today. One of the most widely accepted definitions is: "It's a dual focused educational approach in which an additional language is used for the learning and teaching of both content and language" (Mehisto et al., 2008, p. 9). This definition perfectly captures the main characteristic of the CLIL approach, defining it as a dual approach in which the foreign language is used for teaching and learning content and language.

1.1 The core features of CLIL approach

In this section the most important features of the CLIL approach are reviewed. Firstly, one of the fundamental characteristics of CLIL is that it involves the use of a language other than the student´s mother tongue as a means of instruction and

learning at each educational stage and in different subjects, such as Science or Physical Education. In turn, the content of these subjects is used in language learning, which provides and facilitates understanding. In this line we rely on Mehisto et al., (2008): "The essence of CLIL is integration: language learning is included in content classes and content from subjects is used in language-learning classes" (p.11). From these words we can extract that it is not simply the learning of an additional language but learning through it. This is also supported by Coyle et al. (2010), when they explain that CLIL is about teaching through modern-day pedagogies and contextualised methodologies as well as teaching through a foreign language. For these reasons, CLIL is considered an educational approach rather than a methodology in itself. In other words, the CLIL approach can involve many methodologies. We can also say that CLIL is a pedagogical tool, an innovative approach or even a set of techniques and practices used to promote and facilitate the L2 teaching and learning process, where language is also used with the aim of understanding and communicating, which implies a meaningful use of language.

Some of the main characteristics of CLIL proposed by Mehisto (2010) are: fostering learner autonomy, cooperative learning, scaffolding language, reflecting on teaching, connecting with CLIL language speakers, scaffolding content and asymmetry in classroom talk in favour the students. We could summarise these characteristics in the words of Navés and Muñoz (2000): "the emphasis of CLIL on problem solving and on knowing how to do things, makes students feel motivated to do things even in other languages" (p.2).

1.2 The 4cs framework

The researcher Coyle (2007), influenced by Mohan, developed the 4Cs framework in 1999 from a holistic perspective to support the development of the CLIL approach. This framework consists of four contextualised parts in which language and content are integrated within the same context, taking into account intercultural communication and understanding.

Figure 1 shows the 4Cs framework, highlighting the role of culture at the centre, together with content, cognition and communication.

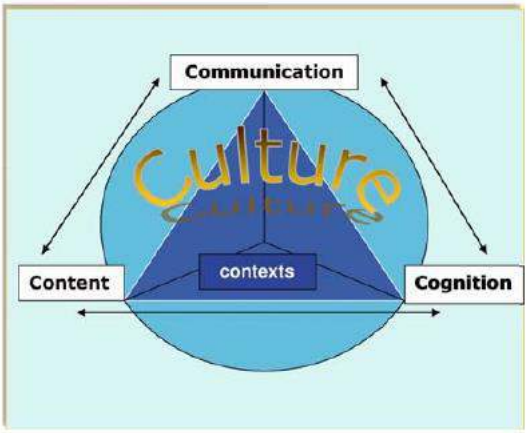


Figure 1. The 4Cs Framework (Coyle, Hood, & Marsh, 2010).

In the following, we will look at the four phases to be worked on in the CLIL approach, which according to Coyle et al. (2010) are content, communication, cognition and culture.

Content. Content is the subject matter of the CLIL unit, In order to teach content, it has to be treated in a way that facilitates the acquisition of skills and abilities that help the learner with understanding and knowledge. Nowadays, following the methodological orientations implicit in the law, our Spanish educational system proposes the development of the competence of learning to learn. That is to say, teachers have to promote the effort of their students to encourage the construction of schemes by the student and facilitate meaningful learning that serves to solve everyday problems. In conclusion and in relation to the above, we teachers have to help our students to develop their metacognitive skills. For example, by sharing rubrics and learning goals with students, providing them with self-evaluation tools and visual organizers, etc.

Communication. Language is the vehicle for communication and for learning, which translates into learning to use a language and using a language to learn (Coyle et al. 2010). We emphasise that in language learning there is a grammatical progression and in language use there is a need for communication, so that language demands may arise at any time during communication.

Cognition. For CLIL to be applied beneficially, learners need to be motivated to facilitate the creation of new knowledge and to develop skills involving reflection and participation. CLIL enables learners to construct their own learning and is not

intended to be a simple transmission of content. According to Coyle et al. (2010), cognition and the development of cognitive strategies is one the basic pillars of Content and Language Integrated Learning. In relation to this statement, we would like to mention Bloom's (1956) taxonomy of educational objectives, which recognises six levels at which issues can be addressed: Knowledge, Comprehension, Application, Analysis, Synthesis and Evaluation (Bloom et al. 1956). The three lower levels are considered as Lower Order Thinking Skills (LOTS) while the three higher levels are considered as Higher Order Thinking Skills (HOTS). CLIL should lead learner´s cognitive growth towards the development of HOTS.

Culture. This aspect is no less important although some explain it as "the forgotten C". A multicultural and multilingual view of the world requires tolerance and understanding. Studying in a language other than one's mother tongue promotes global and international awareness. It also reinforces a pluricultural view of the world, as it tries to expose the equalities and inequalities between different cultures.

These four phases are of vital importance, which is why they must be present together throughout the teaching and learning process. In this way, if we succeed in advancing knowledge (content) by using a second language, it will enable us to learn content and language (communication). Through this approach, we will ensure that learners are able to create their own learning, so that it is truly meaningful (cognition) and become aware of cultural diversity through the acquisition of a second language (culture). In the end, we will achieve a fully comprehensive and favourable teaching and learning process for our learners.

1.3 The benefits of CLIL

After outlining the characteristics of the CLIL approach, we could ask ourselves, what are actually the advantages of this methodology? What benefits can we find when we analyse CLIL in the classroom? To answer these questions, we can draw on the benefits provided by Dale and Tanner (2012). In their studies they show that CLIL has benefits for students, teachers and schools. Among the benefits for learners, we can highlight the motivation, the cognitive development that takes place in their brain, the development of communication skills, the reception of input that makes them work effectively or the development of intercultural knowledge

among others. For teachers and schools, the CLIL approach makes them better in terms of development and innovation, it also produces an improvement in non-native teachers, as they improve their language proficiency or skills.

Following the line of these benefits and agreeing with many of them, we are going to rely on those highlighted by Çekrezi (2011) in his studies:

- **Motivation:** the fact that learners feel satisfaction in using the language in real-life situations. This is because CLIL provides a real context to motivate learners.
- **Language learning is at the heart of the curriculum:** the adhesion of language with other subjects and content makes learning meaningful.
- **Meaningful contexts:** CLIL aims to provide authentic language at school. Students focus on the content and the language is acquired unconsciously, they learn in a fun and calm context, which is a very important aspect of language learning.
- **Time saving:** teaching curricular content through English allows pupils to be in continuous contact with the foreign language and teachers expect to achieve better results in less time compared to a traditional language class.
- **Variety of teaching methods:** CLIL has made it possible to integrate L2 into various subjects by providing a variety of activities and tasks.

Learning the content of History, Mathematics or Natural Sciences simultaneously as learning a new language is a great advantage, as teachers can integrate language activities with those of other subjects, such as active listening and image analysis, for example.

Our work is aimed at primary school pupils, who are aged between 6 and 12 years, so we might think that it would be a very good idea to use CLIL as a good way to teach language to children of this age because of their willingness to learn languages. Under this approach different methodologies can be used, such as task-based learning, which involves the simple use of the target language, to whole content topics which are taught in the CLIL language (Coyle, Hood, & Marsh, 2010). In the development of our DU we will use ICT in the development of tasks so that

our students learn in a motivating way both the content of the subject and allow them to practise and learn the language.

2. SCAFFOLDING

In this section we will start by explaining key features of scaffolding according to Gibbons (2001) and Van Lier (1996). Then, we will explain Vygotsky's Zone of Proximal Development (ZDP), its relation to Bloom's Taxonomy and language scaffolding according to Dale and Tanner (2012). Finally, we will look at different scaffolding strategies according to Sharpe (2008) and Alibali (2006).

To begin with, we would like to introduce that scaffolding, according to Gibbons (2002), refers to the temporary support that learners receive from the teacher to help them perform a task that they would not know how to do on their own. Some of the advantages of scaffolding are that it encourages autonomous learning, provides a supportive learning environment and promotes mixed ability groups. When teachers use scaffolding in the classroom, they become guides and facilitators of knowledge, and scaffolding gives students an active role in their learning process.

The provisional nature of scaffolding is due to the fact that the teacher's tutorial intervention is gradually reduced; that is, the teacher gradually relinquishes control as learners gain experience and knowledge. In the field of applied linguistics and foreign language teaching, the notion of scaffolding has been studied and analysed in terms of its relevance to the development of oral and written skills.

In the domain of oral skills, it refers to the construction of a target language structure through several turns in an interaction (Richards et al., 1997, p. 27). In this exchange, the less advanced interlocutor discovers new notions, structures and linguistic realisations in the production of the more prepared interlocutor, which incorporates into his or her repertoire in order to expand his or her own production and achieve better communication in the target language.

In this way, both the teacher and the more skilled students provide the support or guidance to learners who need it, facilitating oral or written comprehension and the communicative use of the target language, intertwined in the interaction generated during classroom work activities. This conversational scaffolding

generated during social interaction in the classroom is considered a crucial factor in the development of the new language. The strategies that the teacher can use to scaffold LE learning encompass a wide range of interventions, ranging from repetition, simplification of the target language, modelling and guided practice, to portfolio use, reciprocal teaching and cooperative learning.

2.1 Scaffolding key features

In the following we will analyse the most important characteristics of scaffolding in its educational dimension according to Gibbons (2001):

- Extending Understanding.

The teacher aims to help the learner to acquire new knowledge and also provides help and support for the reception of new content and for the learner to learn to apply it in different contexts and situations.

- Temporary support.

Scaffolding is not forever. In order to use the right teaching approach, teachers need to know what knowledge their students are starting from at the beginning of the activity. Once this is known, teachers can gradually provide support to their students. It is crucial that teachers are aware of when their pupils have learned to work on their own. When this step has been reached, the teacher will gradually withdraw the scaffolding to allow pupils to work autonomously.

- The scaffolding has two levels: macro and micro.

Scaffolding addresses the level of learners' understanding of the task. The macro level takes into account the aims of the curriculum, the knowledge and skills of the learners before starting the task, the motivation they may show for the new sequence in order to focus on the design of a set of tasks and the specific resources to be used for its development. The micro level includes those elements where the teacher must be able to recognise, during his or her daily intervention, where scaffolding is needed and provide it.

In addition to the previously features mentioned, Van Lier (1996) states that the scaffolding done in an educational context is also characterised by:

- Continuity. Tasks are continuous but varied and related to each other.
- Contextual support. Scaffolding must be provided in a safe and caring environment.
- Intersubjectivity. There must be a trusting and supportive relationship between teachers and learners.
- Task contingent. Procedures are related to learners' actions.
- Delivery/recovery. Learners' abilities and self-esteem must be taken into account.
- Flow. There should be a balance between learners' abilities and challenges.

2.2 Scaffolding in the CLIL context

As we have explained throughout this document, CLIL is based on the fact that the content taught to pupils is taught in a language other than their mother tongue. In this way, language learning is mixed with content knowledge and the presence of the foreign language in the curriculum is greatly increased. CLIL is based on natural language acquisition. When we choose the CLIL approach we ensure that pupils will learn not only new content, but also a new language and its culture.

2.2.1 Content and cognition scaffolding

Bruner introduced the concept of scaffolding in the late 1950s and Vygotsky developed it in parallel (Wood, Bruner and Ross, 1976). Scaffolding is defined as the distance between the learner's actual level of development and ability to solve problems independently, and the potential level at which the learner can solve problems when assisted by the teacher or a more knowledgeable peer. Vygotsky argued that knowledge is constructed through interaction with others in the social environment. He also argued that when a learner is in ZDP is the best time to teach or guide him or her. Therefore, if teachers provide learners with the right help at the right time, they will succeed in completing the task.

With this concept in mind, Van Lier (1996) analyses the various scaffolding mechanisms that the L1/L2 teacher provides for learners in the classroom, either through discourse, adapting the conversation to enable learners' production, or through procedural and cooperative methodology.

We should use Bloom's Taxonomy that we explained in previous sections to go from LOTS to HOTS. According to Urban (2010), some examples of scaffolding provided by the teacher could be: establishing routines, providing language and role models, giving instructions, planning and sequencing activities in a coherent way that allows learner´s active participation, guiding in the elaboration of an activity, providing graphic support, using visual elements and arranging them in the classroom for reference, integrating learning strategies, promoting cooperative learning or providing continuous feedback.

The concept of pedagogical scaffolding includes a wide variety of actions, but it is important that the teacher provides assistance only for those actions which are outside the learner´s capabilities (in the ZDP), allowing the learners to do without help what they are capable of.

2.2.2 Language scaffolding

When teachers provide scaffolding to their students, they are not giving them the answers to their questions, but they are giving them the tools they need to answer themselves, so that they can solve similar problems in the future (Dale & Tanner, 2012). In CLIL, they do it in the L2, so they need language scaffolding to ensure authentic interaction. Following these authors, we will discuss three concepts they explain about language scaffolding: reception, transformation and production scaffolding. To start explaining a new concept we would use reception scaffolding to help our students understand and process the new input. For example, we can introduce new information to our students by using flashcards to show them pictures and tell them their name and meaning.

Once reception scaffolding has been provided, we should continue with transformation scaffolding to help learners select, change and organise information in a different way (Dale and Tanner, 2012). For example, we can use concept maps or diagrams to present information in a clear and orderly way. Graphic organisers are powerful and easy-to-apply tools that allow teachers to examine their student´s thinking and learning about a particular topic of study (Struble, 2007 p. 87).

It could be said then that the graphic or visual organisers are supports that the teacher provides for the students to adequately understand the input received,

that is, the concepts associated with the new subject matter, so that they are able to create coherent content autonomously afterwards (Dale & Tanner, 2012, p. 31). Therefore, according to Bentley (2010), the teacher has to decide which organiser is the most effective for each task and according to this, he/she will have to classify, describe and explain the process that best suits his/her students, considering the language demands of that particular organizer (Bentley, 2010, pp. 44-46). Then, we have to decide which visual organiser to use depending on whether the task is an individual or a group task. Finally, we have to decide when we are going to use it:

- At the beginning of the class to express new or recall information.
- During the lesson to support what the students say or write.
- After class to help students clarify class ideas.
- At the end of the topic to assess understanding of concepts and to make relationships between them.

Finally, production scaffolding will help students to produce or create something new with the new information they have gathered throughout the process (Dale and Tanner, 2012). For example, when we are studying types of food, we could provide students with a script for them to write a text explaining a recipe. We would indicate that they have to write the ingredients, the elaboration process and a picture.

The advantages of scaffolding include fostering autonomous learning and improving mixed-ability groups, as well as enhancing the learning environment. When teachers work with scaffolding in the classroom, they are guides and facilitators of knowledge and are not experts who only transmit content. Students become the protagonists of their teaching and learning process by using scaffolding to teach them to move from their current level of knowledge to higher levels.

Scaffolding in the CLIL approach is very useful, since language and content learning needs many support strategies to be learned well. Among the most important challenges of learning content through a second language is to ensure that learners have sufficient resources to be able to understand the difficulty of the new concepts they are learning about. For this task scaffolding is essential.

2.3 Scaffolding strategies

We can find many scaffolding techniques to help our students. It will be up to the teacher to find the ones that best suit their students and the content they have to teach.

According to Sharpe (2008), we can find several strategies through which teachers support their students' understanding:

- Repeat, recast and recontextualise. The teacher repeats what the learners have said and shows that the answer is correct, and also creates cohesion between the more technical words. The teacher rephrases all or part of what the learner has said wrong, correctly, but without explicitly saying what has been said wrong. Recontextualising refers to when something is said, and the teacher puts it in a different context.
- Cued elicitation. This can be seen when the teacher is explaining content and leaves a space for students to fill in a missing word.
- Teacher questioning. Questions typically followed by three moves: initiation, responsa, follow up (IRP). For example:
    - I: Which is the way to the library?
    - A: When you come out, turn right and go straight on.
    - That's right. What other ways are there to get to the library?
- Language recycling. Teachers reuse the most important words during all lessons. They first introduce the vocabulary and return to it repeatedly. we mean, teacher use and reuse the key words throughout the lessons.

In class, when students are doing activities, they may encounter problems. However, not all students have problems with the same things. In addition, depending on the timing and the learners, difficulties may arise. Alilbali (2006) proposes a number of scaffolding strategies to be used with learners of different backgrounds and at different times during the learning process. In Table 1, we present these scaffolding strategies, the ways in which they can be used, as well as some examples of how and when we can use them in a teaching unit.

Scaffolding resources	Scaffolding strategies	ICT scaffolding examples in the CLIL classroom
Advance organizers	• *Tools used to introduce new content: brainstorming.* • *anticipation* • Rubrics and checklists that provide task expectations. • Statements to situate the task or content. • *Tools and tasks to help students learn about the topic by chunking, repackaging and transforming the information:* Venn diagrams to compare and contrast information; flow charts to illustrate processes; organizational charts to illustrate hierarchies. • Outlines that represent content. • Concept and mind maps… • Mnemonics to assist recall;	When: reception and transformation scaffolding. Tools: • Popplet for brainstorming new vocabulary. • Lucicharts to create a mind map and diagrams. • Tinycards to create flashcards. • Google keep to create checklists.
Cue Cards	• *Prepared cards given to individuals or groups of students to assist them in their discussion about a particular topic or content area.* • Vocabulary key words to prepare for exams; content-specific stem sentences to complete; formulae to associate with a problem; concepts to define.	When: reception and transformation scaffolding. Tool: • StudyStack to create flashcards with a picture and a word about the topic to be studied.
Examples	• *Samples, specimens, illustrations, problems.* • Real objects (realia). • Illustrative problems used to represent something.	When: transformation and production scaffolding. Tool: • Canva to create a presentation that shows real illustrations on the

		topic we are studying.
Explanations	• *More detailed information to move students along on a task or in their thinking of a concept:* Written instructions for a task; verbal explanation of how a process works.	When: transformation and production scaffolding. Tool: • Keynote to shape and organise the new content.
Handouts	• *Prepared handouts* that contain task-and content-related information, but with less detail and room for student note taking.	When: Transformation and production scaffolding. Tool: • Genially to prepare a presentation or handout.
Hints	• *Suggestions and clues to move students along:* "place your foot in front of the other", "use the escape key"," find the subject of the verb", "add the water first and then the acid".	When: Transformation and production scaffolding. Tool: • Canva to create posters where students can see the steps to follow.
Prompts	• *A physical or verbal cue to remind-to aid in recall of prior or assumed knowledge. Physical*: Body movements such as pointing, nodding the head, eye blinking, foot tapping. *Verbal*: Words, statements and questions such as "Go", "Stop", "It's right there", "Tell me now", "What toolbar menu item would you press to insert an image?", "Tell me why the character acted that way".	When: reception and transformation and production scaffolding. Tool: • Keynote to create a movement code with the students so that when they see me doing it, they know what I am referring to. For example, if I raise a hand it means, well done!
Question Cards	• *Prepared cards with content and task specific questions giv*en to individuals or groups of students to ask each other pertinent	When: reception and transformation scaffolding. Tool:

	questions about a particular topic or content area.	• Tinycards to create cards.
Question Stems	• *Incomplete sentences which students complete:* Encourages deep thinking by using higher order "What If "questions.	When: transformation scaffolding. Tool: • Quizzizz to create incomplete sentences.
Stories	• *Stories relate complex and abstract material to situations more familiar with students*: Recite stories to inspire and motivate learners	When: production scaffolding. Tool: • Toontastic to the students to create a story.
Visual Scaffolds	• Pointing (call attention to an object); representational gestures (holding curved hands apart to illustrate roundness; moving rigid hands diagonally upward to illustrate steps or process), diagrams such as charts and graphs; methods of highlighting visual information.	When: reception and transformation scaffolding. Tools: • Quizlet to create games. • Idea Sketch to organise content.

Table1. Scaffolding strategies. Adapted from Alibali (2006).

3. ICT IN THE CLIL CLASSROOM

According to Pérez (2012), the use of ICT has opened up a new paradigm in teaching and learning processes in education and has brought about a new way of learning. It is the teacher who creates, uses, plans and develops his or her own materials, innovative and adapted to the needs and interests of the students, so that they are suitable for all possible learning situations, investigating new methods and strategies for the evaluation of processes and results (Pérez, 2012).

Additionally, students use new technologies on a daily basis and are fully connected to them, so teachers have to start from this reality in order to create more entertaining, attractive and enriching situations in the current context, achieving a better quality of life and achieving the perfect symbiosis between language, content and new technologies.

In line with this, CLIL finds in ICT a perfect and useful ally to improve teaching through this approach, and also promoting the use of digital competence to achieve more meaningful learning.

3.1 Implementation of ICT in the education system

The incorporation of ICT in the educational system has meant their integration in the teaching-learning processes, in the management of the schools and in the relations of the educational community, involving an adaptation of the educational system to the new model of society. In this way, students must be provided with the necessary training to access the technological universe.

According to the provisions of Decree 97/2015 of 3 March, which establishes the ordinance and teaching corresponding to Primary Education in Andalusia, it is highlighted that "the curricular offer boosts the development of information and communication technologies" (p.12). Following these indications of the law, ICT must be present in the educational system in order to provide a better teaching-learning process.

We can see how educational regulations attach great importance to the use of ICT. Explicit mention to them is made in point of article 5 of the aforementioned decree, "the appropriate use of the technological tools of the knowledge society" (p.20), and in article 6, which mentions "digital competence" as one of the key competences. Along these lines, Marqués (2012) highlights the main reasons for the inclusion of ICT in the education system:

- Contextualisation of teaching. Adapting school projects to the demands of today's society.
- Digital literacy of students. All students must develop the basic competence: digital competence.
- Equity, equality and justice in education. The teaching of ICT is proposed for all pupils.
- Productivity. Due to the large number of tasks that can be carried out and designed, it can be adapted to different methodologies.
- It curbs the high rate of school failure, thanks to the high level of motivation and the multiple possibilities.

In addition to taking into account the appropriate use of ICT to improve teaching, ICT have characteristics that are very interesting for the teaching-learning process. However, as developed by Area (2009), technological tools do not generate automatically an improvement in teaching and learning by themselves, in other words, the quality of education does not depend directly on the technology used, but on the teaching method, as well as on the learning activities that are carried out with these tools.

3.2 From ICT to LKT and their integration into CLIL approach

Related to the use of ICT in education, two new and increasingly used acronyms are emerging. One of them is LKT (Learning and Knowledge Technologies), which Vivancos (2015) defines as the curricular and organisational use of technologies, emphasising learning tasks and the generation of new knowledge. The other term is TEP (Technologies for Empowerment and Participation), which refers to the appropriate use of these technologies, but in a participatory and collaborative way among the members of a community.

Belloch (2012) states that the use of ICT in an educational environment depends on different factors, the most important of which is the training of the teacher, who is the guiding person in the classroom in a CLIL environment such as the one we are trying to achieve. Therefore, the teacher has to analyse and evaluate ICT resources and their didactic use, create materials and plan their use. Finally, the teacher has to know how to evaluate them. According to Belloch (2012), we can highlight among the tasks of the teacher the creation and curation of content, whether using ICT or not. During the teaching process, teachers plan, select, organise and compile the information that they are going to teach to their students. Thanks to the use of ICT, teachers can develop their curation process in a more elaborated and systematised way, providing students with a wealth and quality of knowledge.

This use of technology in the classroom favours some aspects such as the acquisition of a language in bilingual environments, that is, it facilitates the development of oral and written communication either through subtitles in videos, or the use of wikis, the use of e-mails, etc. (García, 2011). Although this use will be real

when the teacher has a wide range of learning objectives at his or her disposal and selects the most appropriate one for the communication problem he or she is facing (Aguaded, & Tirado, 2008). The use of ICT in bilingual educational environments has a number of benefits for students and teachers who use them.

According to Coalla (2014), some of these advantages are the active participation of students in these contexts, the promotion of integrated, meaningful and interactive learning of knowledge and technologies, the motivation of students, the promotion and increase of positive attitudes towards the linguistic and cultural diversity that we find in today's society and, finally, the availability of a multitude of resources and tools.

3.3 Analysis of ICTs from different perspectives

In this section we are going to deal with the use of different technological tools in the classroom to improve the teaching and learning process working with the CLIL approach. We will also review the most interesting and useful applications for scaffolding, applied to assessment and finally in relation to teachers and students.

3.3.1 ICT and scaffolding

In Table 1 we have described the relationship between scaffolding strategies and ICT tools. Taking into account what we have explained in previous sections of the three levels of scaffolding (reception, transformation and production scaffolding) argued by Dale and Tanner (2012), we are going to present some applications for their successful use as scaffolding tools in a CLIL classroom in the Table 2.

Scaffolding	ICT tool	Description	Possible uses
RECEPT	StudyStack	It is a very useful tool for memorising information in a fun and attractive way.	To introduce new vocabulary that students have to memorise.
	Quizlet	It allows you to memorise vocabulary, learn pronunciation by creating your own flashcards or memory games.	To introduce new vocabulary that students have to memorise.
	Tinycards	It allows you to create cards with images and other	To introduce and review new vocabulary that

I O N		elements, making it much more visually appealing.	students have to memorise.
	Canva	It allows us to make presentations of many kinds.	To present new content in an attractive way.
	Genially	It allows us to generate interactive content, from games to cards.	To introduce and review new content and practice it.
T R A N S F O R M A T I O N	Quizlet	To study graphs, maps, images and figures with Learn and Merge modes.	To create mind maps and graphs to order new information.
	Lucidchart´s Venn diagram	It allows students and teachers to combine text and figures to facilitate deep knowledge in simple and complex learning environments.	To create mind maps and diagrams to capture all the information learned.
	Creately	It allows us to make diagrams online.	To create mind maps and diagrams to capture all the information learned.
	Popplet	It is a web 2.0 tool for creating interactive concept maps that can integrate text, images, annotations, videos and web hyperlinks and whose content is stored in the cloud.	To create mind maps and diagrams to capture all the information learned.
	Bubbl.us	It allows brainstorming and conceptual schemes in a very original and fun way.	To organise new content.
P R O D U C	TouchCast Studio	It allows students to record and edit videos so they can create their own creations to showcase what they have learned in class.	For classroom presentations.
	Toontastic	An application for children to draw, animate and narrate their stories.	To motivate children's creativity to create their own stories step by step, using digital elements

T I O N	Canva	It allows us to make presentations of many kinds.	To present new content in an attractive way.
	Storybird	It promotes reading comprehension and the improvement of our children's written expression, as well as creativity.	To create a personalised story, in their own words and using beautiful illustrations.
	Keynote	It allows you to make presentations including text, images or sounds.	To shape and organise the new content.

Table 2. Applications for successful scaffolding in a CLIL classroom (own elaboration).

3.3.2 ICT and assessment

We cannot forget about the evaluation of the teaching and learning process, as it is a necessary and useful process for both students and teachers. Through evaluation we can, on the one hand, evaluate the students and understand if they have achieved the teaching and learning objective. On the other hand, it is very useful for teachers, as they will be able to know if they have done the teaching process well or if they have to change something.

During the teaching and learning process there are three main types of assessment: initial, formative and summative assessment. Let us define the three types of assessment according to Sanmartí (2020):

- **Initial assessment.** The main objective of initial assessment is to establish the situation of each learner before starting the teaching and learning process, so that it can be adapted to their needs. We could carry out this assessment through tests or checklists among others.
- **Formative assessment** is carried out during the learning process. The fundamental objective of this evaluation is to regulate the teaching-learning process in order to make it possible for the means of training to respond to the characteristics of the students. It focuses on understanding how the learner functions in relation to the tasks set before him/her. We could carry out this assessment through portfolios, checklists and log sheets among others.

- **Summative assessment** aims to evaluate the final results of the teaching and learning process. This assessment focuses on the collection of information and the development of instruments that enable reliable measures of the knowledge to be assessed. We could carry out this assessment through tests, rubrics or evaluation targets among others.

As Stobart (2010) argues, we often use assessment tests to give a simple mark but do not give feedback or stop to think about the reasons for those marks. Continuing with Stobart's (2010) idea, for assessment to make sense in the classroom, we must use it in a way that offers the student possibilities for improvement, and not only use it to give him/her a grade and not to improve what he/she has not understood or in which he/she has encountered difficulty.

Nowadays we can find many applications to assess students through games, questions, videos or texts and what is more, teachers can also find useful applications to create assessment rubrics. Below we are going to analyse some of them and how we would use them in relation to types of assessment in Table 3.

Tool	Initial assessment	Formative assessment	Summative assessment
Kahhot Free platform to create games for motivating learning.	To ask questions about students' prior knowledge to find out where they are.	To ask questions about the topic we are dealing with and find out if the students are understanding it.	To hold final exams to mark students.
Blooket To create “sets” of questions on topics or search “sets” created by other educators.	To play games with questions to test what our students know.	To play quiz games to review what we have learnt over a period of time.	To keep track of the grade´s students are getting in each game.
Plickers To allow students to take tests and	For quick oral tests where students only have to hold	After teaching a new concept to check whether students have	As a pop quiz to test how well students have learnt.

ask questions.	up a card with the correct answer.	understood it, using only two or three questions.	
Quizlet To study, practice and master what we are learning**.**	To answer questions in class to see where they are at.	To answer questions at home to review what we have learnt in class.	To keep a record of the score obtained in each test.
Quizizz To create online quizzes that our students can answer as a game, homework or individual.	To expose what they know about a topic before starting the course.	Students can practice at home what they have learnt in class.	To demonstrate in class what students have learnt about a topic.
Edpuzzle To create assessment questions by watching videos.	To ask questions and activate prior learning by playing a video on a new topic.	To ask question about a new topic by playing a video and asking questions about it to check how well students are learning.	To ask question by playing a video and I would take into account the score obtained.
ICT tools for teachers			
Rubistar	To share the assessment criteria with students.	To provide students with feedback.	To gauge and mark performance of a task integrating content, process and language criteria
Corubrics	To show the assessment criteria with students.	For self-assessment co-assessment of process.	To evaluate the whole process and obtain a grade.
Socrative or Mentimeter	To survey students to find out their starting point.	To survey students to find out how much they have learnt about the topic.	To survey and score students.

Table 3. ICT tools in relation to types of assessment (own elaboration).

3.3.3 ICT and teachers and *students*

Technologies offer us the opportunity to change the traditional way of teaching and to break down the barriers of educational space and time. But not only as a support system to facilitate the formal learning that teachers master, but to go much further, to allow the student, who will be guided by the teacher and will have to help students as an expert if necessary, to discover knowledge on his own. As proposed by the Piagetian constructivism on which our education system is based, learning by discovery will play a fundamental role, which undoubtedly facilitates the inclusion of ICT in the classroom (López, 2019). In this section we are going to analyse, in Table 4, some educational applications that we have seen in the previous sections, and we are going to provide the uses that they have for the teacher and for the student.

ICT tool	Teacher´s use	Student´s use
StudyStack	To create flashcards to teach student's new content.	To create their own flashcards and share them with their peers. To play with vocabulary games.
Quizlet	To create tests and games for students.	To practice and learn new content and language.
Tinycards	To create flashcards to teach student's new content.	To create their own flashcards and share them with their peers.
Canva	To create presentations to explain new content to students.	To create presentations for students to creatively present what they have learnt.
Genially	To create games through which students can review new content and language.	For students to learn new concepts in a motivating way through games.
Lucidchart´s Venn diagram	To present information in a schematic and clear way to the students.	To help students sort the information and make it clearer.
Creately	To present new content in a different way.	To let their creativity run wild when it comes to taking notes or capturing what they have learnt.
Popplet	To present information in a schematic and clear way to the students.	To help students sort the information and make it clearer.
Idea Sketch	To introduce a new topic and brainstorm ideas.	To introduce a new topic and brainstorm ideas.

TouchCast Studio	To create motivating presentations to explain new content to students.	To create presentations for students to creatively present what they have learnt.
Toontastic	To introduce a new topic and tell it in the form of a story.	For students to create stories and share them with their peers.
Storybird	To introduce a new topic and tell it in the form of a story.	For students to create stories and share them with their peers.
Kahhot	To create tests and questions on the topic we are working on.	To playfully practice and learn about new concepts.
Blooket	To create tests and questions on the topic we are working on.	To playfully practice and learn about new concepts.
Plickers	To carry out tests and questions to evaluate the students.	To practice in a different way on a new topic.
Quizizz	To create tests and questions on the topic we are working on.	To playfully practice and learn about new concepts.
Edpuzzle	To explain new concepts through videos for students to work on at home.	To learn new concepts through videos and questions.

Table 4. Tools in relation to teachers and students (own elaboration).

4. DIDACTIC UNIT FOR CLIL NATURAL SCIENCE IN THIRD GRADE OF PRIMARY SCHOOL

For teaching to be successful, it requires careful planning (Custodio Espinar 2019a; Marsh, 2012). As teacher´s language competence is the only competence considered in the accreditation of CLIL teachers in Spain (Pérez Cañado, 2017), which means that some CLIL teachers might not be trained on the pedagogy of bilingual education and CLIL (Custodio Espinar, 2019b). What is more, the preparation and adaptation of teaching materials should start well in advance, and ways of doing so should be discussed with school members involved in the teaching and learning process. Cooperation between teachers is very important for the successful development of this approach (Pérez Cañado, 2017).

From this idea arises the need to develop a syllabus, which, according to Richmond (2016), is one of the founding pillars of model teaching. It is concerned as

a public description of course content, a sequential organiser of the knowledge base underpinning the course, and an implicit learning contract between the teacher and students. The acronym LOMLOE stands for the organic law amending the LOE (Ley Orgánica de Educación), which was amended in 2013 by the LOMCE (Ley Orgánica para la Mejora de la Calidad Educativa), defines syllabus as a series of objectives, contents, competences, methodology, gradable learning standards and evaluation criteria of the degree of key competences acquisition and the objectives of each educational stage and level.

In practice and according to the law, the curriculum can be understood as the means by which the teaching-learning process is planned. The curriculum is open, it takes shape through successive stages, and flexible since the implementation of its elements is adapted to a specific educational reality and dynamic. Moreover, it is variable since the results of its application will readjust the curriculum itself. Our curriculum is configured in progression from the regulations, through the school's educational project, to the didactic programming and the didactic units/projects.

At national level, the regulations that make up the current curriculum for Primary Education are Organic Law 3/2020, of 29 December, which modifies Organic Law 2/2006, and Royal Decree 126/2014, of 28 February, which establishes the basic curriculum for Primary Education. At regional level, Decree 181/2020, of 10 November, which amends Decree 97/2015, of 3 March, which establishes the organisation and curriculum of Primary Education in Andalusia. This regulation establishes a competence-based curriculum to improve the quality of learning. As stated in articles 6 and 10, in order to contribute to the achievement of the key competences, the organisation into areas will be without prejudice to the global nature of the stage, given the need to integrate the different experiences and learning of pupils of these ages.

The syllabus will adapt the curriculum to the specific characteristics of the group-class established in the School Project, bringing together the different aspects of the teaching-learning process and constituting the practical application of the classroom programme. In the Teaching Plan and in the units, pupils with specific educational support needs will have a specific consideration as stated in Chapter III

of the Order of 15 January 2021, which develops the curriculum corresponding to the Primary Education stage in the Autonomous Community of Andalusia. There, certain aspects of attention to diversity, the organisation of the evaluation of the pupils' learning process and the process of transition between different educational stages are regulated and established.

The Didactic Unit presented in this dissertation is the result of this specific adaptation to the centre and to the characteristics of the pupil-group. It has been developed and designed to be put into practice but has not yet been carried out. It is designed for the area of Natural Science in English, specifically for the third grade of Primary Education.

4.1 Context

This contextualisation is a basis that is of great importance for our subsequent curricular planning, because it will allow us to know where we are starting from and thus our teaching-learning process will attend to the psycho-pedagogical principles that will frame our teaching work, which are:

- The students will be the centre of the teaching-learning process and they will assume an active role.
- The need to motivate, to arouse curiosity, to excite our students; to seek strategies to develop intrinsic motivation.
- Meaningful learning. Importance of creating a suitable, safe and stimulating classroom climate that favours interaction and enhances learning processes.
- Playful approach and use of varied didactic resources. Globalising and interdisciplinary approach.
- Assessment as a fundamental part of the teaching-learning process.

4.1.1. Target group

The following intervention proposal is directed to a third course of Primary Education whose school implements CLIL approach in the Natural and Social Science subjects.

Our intervention proposal is designed for a group of 19 pupils. These pupils study under the CLIL approach from the first year of Infant Education and are exposed to the Foreign Language (FL) 7 hours per week. Most of the students are

Spanish (15 students), but there are also some British students (4 students). However, these students were born in Spain, so they are fluent in Spanish. These students have different levels of proficiency in English but consider themselves capable of working independently in English. In this Primary 3 class we have two pupils with special needs. There is a child with Attention Deficit Hyperactivity Disorder (ADHD) and another one who has a cochlear implant. In the first case, he cannot sit for more than twenty minutes and in the second case, the child will be seated in the front row very close to the teacher so that he can read her lips and listen to her better.

Some of the pupils have parents who, for working reasons, are very demanding with the foreign language, therefore they attach great importance to the integration of FL at home; for example, computer games and activities in English or watching TV in FL, among others. Another important aspect is the study of English outside the classroom, as six of them attend language schools. In our class the pupils are grouped in co-operative groups. We have a digital whiteboard, two computers and a tablet for each student.

4.1.2 Socioeconomic and cultural context

The centre is located in a town in the north-eastern part of the province of Malaga, specifically in the south-eastern end of the Antequera region. This town is at the epicentre of the Andalusian community, and therefore enjoys excellent access by motorway and conventional roads.

The socio-economic and cultural background of our pupils' families is medium-low. However, it should be noted that the socio-economic level is slightly higher than the cultural level.

Almost half of the parents have a university education, at least one of the spouses, although not all of them, has a profession. The economy of the municipality is based on agriculture (cultivation and harvesting of olives) and construction. It is also worth noting that the village is very active in the service sector (there are shops of almost all kinds).

The socio-cultural services offered by the municipality are varied: there is a House of Culture, a Municipal Library, a Dance School, a Football School and Sports and Neighbourhood Associations.

The municipality also has sports facilities and activities such as a municipal football pitch, a five-a-side football pitch, a tennis court and two paddle tennis courts, an indoor municipal sports centre where sports such as climbing, badminton and five-a-side football can be played.

4.1.3 Characteristic of the school

The centre is located on the main avenue of the village, so it has good access to the main entrance. It is a Bilingual Infant and Primary School, with 196 and 360 pupils respectively, distributed in 26 units: 9 in Infant Education and 17 in Primary Education, with a ratio of around 24 pupils per class. The number of teachers working at the school is 36.

It also has several Special Education classrooms: Therapeutic Pedagogy and Hearing and Language; one for Interculturality, one for Educational Reinforcement, as well as an office for the Counsellor and another for the Physiotherapist, in addition to having specific facilities to develop the curriculum in the areas of Physical Education, English and Music.

As the school is located in a rural area with a large number of inhabitants on the outskirts of the town centre, it has school transport and canteen facilities. At the same time, the centre has a morning class and extracurricular activities from 4 to 6 p.m. on Mondays and Thursdays, which covers all those pupils whose parents have working hours that are not compatible with those of the regular classes.

4.2 Curriculum

As we introduced before, the Didactic Unit presented in this dissertation is based on the Andalusian educational curriculum. The regulations in which it is based are as follows:

State-wide regulation:

- Organic Law 3/2020, of 29 December, which amends Organic Law 2/2006, of 3 May, on Education (LOMLOE).

- Royal Decree 126/2014, of 28 February, which establishes the basic curriculum for Primary Education.

  Specific Andalusian law

- Law 17/2007 of 10 December 2007 on Education in Andalusia, (LEA).
- Order of 15 January 2021, which develops the curriculum corresponding to the Primary Education stage in the Autonomous Community of Andalusia, regulates certain aspects of attention to diversity, establishes the organisation of the assessment of the student learning process and determines the process of transition between different educational stages.
- Decree 181/2020, of 10 November, amending Decree 97/2015, of 3 March, which establishes the organisation and curriculum of Primary Education in the Autonomous Community of Andalusia.
- Order ECD/65/2015, of 21 January, which describes the relationships between the competences, contents and assessment criteria of primary education, compulsory secondary education and baccalaureate.

The Key Competences, according to Order ECD 65/2015, aim to ensure that students achieve full personal, social and professional development that meets the demands of a globalised world. This Order defines the competences as "the ability to respond to complex demands and carry out diverse tasks appropriately" (p.2). These competences are: linguistic communication, mathematical competence and basic competences in science and technology, digital competence, learning to learn, social and civic competence, sense of initiative and entrepreneurship and cultural awareness and expressions. The Key Competences should be worked on throughout the Primary stage and they can be selected and prioritised according to the grade level of the pupils. Through our didactic proposal we intend to work on all these competences, but we will place greater emphasis on digital competence, which is the creative, critical and confident use of information and communication technologies to achieve goals related to work, employability, learning, use of leisure time, inclusion and participation in society (Order ECD 65/2015 p. 7-9).

According to Order of 15 January 2021, the curriculum in the area of Natural Sciences aims to be a starting point to bring students closer to the natural world that

surrounds us, to understand it and to become involved in its care and conservation. Through this area, they are introduced to the development of the main strategies of scientific methodology, such as the ability to formulate questions, identify the problem, formulate hypotheses, plan and carry out activities, observe, collect and organise relevant information, systematise and analyse the results, draw conclusions and communicate them, working cooperatively and making appropriate use of the appropriate form of scientific methodology, cooperatively and making appropriate use of materials and tools (Order of 15 January 2021, p. 30). Our Didactic Unit will focus on block 2. The Human Being and Health. It integrates knowledge, skills and abilities to prevent risky behaviour and take initiatives to develop and strengthen responsible behaviour and healthy lifestyles based on knowledge of one's own body.

In order to determine the curricular support of the Didactic Unit, the Natural Science teacher coordinated with the English teacher will select the curricular elements to be worked on in the Didactic Unit. As Coyle et al. (2010) point out, the CLIL approach involves learning to use the language appropriately while serving as a vehicle for learning the content. In other words, the content elements that correspond to the area of Natural Sciences will be conveyed through the English language, following the model described in the theoretical framework. In this model, language plays a balanced role with the rest of the elements. This implies the concept of integration inherent in the CLIL approach and highlights the interrelationship between the four elements, as well as the need to encourage the promotion of both content and language learning (Coyle et al., 2010). Both the contents and the language will be acquired by the pupils through the activities proposed in the Didactic Unit.

The following is a list of the contents to be worked on in accordance with the Order of 15 January 2021:

> 2.3. Development of healthy habits to prevent and detect the main illnesses that affect the body and responsible behaviour to prevent school and domestic accidents. Basic first aid actions. CN.02.02.

2.4. Identify and adopt certain healthy habits: varied diet, personal hygiene, physical exercise and daily rest. CN.02.02.

2.5. Develop a critical attitude towards social practices that are detrimental to healthy development and hinder responsible health behaviour. CN.02.02.

2.6. Identify some advances in science that are beneficial to health. CN.02.02.

2.7. Independently and creatively engage in leisure activities, both individual and group. CN.02.02.

2.8. Identification of self and others. Acceptance of own and others' bodies with their limitations and possibilities. CN.02.02.

2.9. Knowledge and development of identity and personal autonomy. CN.02.02. (p. 302)

4.3 Methodology

According to Order of 15 January 2021, it is very important to work with didactic methodologies focused on problem solving, and practical situations that allow adapting theoretical contents to different contexts. If we want to increase curiosity and motivation towards science, we have to connect the contents with real life. Students must see science content as important for their daily lives, and teachers must show the connection to the social context in order to eliminate awareness of difficult concepts that are far removed from real life (p. 6).

In order to work with natural sciences, discovery learning is used, which is based on the idea that in order to learn science, an active and empirical scientific approach is necessary. This approach aims for students to build their cognition by interacting with the material world and living beings. The teacher has to prepare the appropriate materials and locations for the achievement of the goals. The teaching staff is responsible for preparing materials and situations appropriate to this objective.

As we have demonstrated in the theoretical framework, ICT can be an essential component for any learning process and learning agent, and in this area, ICT acquires a special importance due to the type of information and the nature linked to the scientific knowledge. The information can be obtained in a quick and easy way and they are also a useful, motivating and attractive tool that facilitates

interaction with living beings, chemical reactions or physical phenomena to make learning more meaningful.

4.3.1 Project Based Learning (PBL)

Currently, CLIL has become incredibly popular approach to teaching the foreign language, mainly owing to the growing interest in educating bilingual children promoted by the administrations at international, national and regional levels. As we have outlined in the theoretical framework, David Marsh, Do Coyle and Philip Hood developed the principles of CLIL, making content learning happen through the foreign language (Coyle et al., 2010). In a different way from what we know in foreign language teaching, CLIL encourages education through construction rather than instruction. Besides, it is focused on fluency, not accuracy.

According to Bilsborough 2013, today, we tend to disregard the particular needs of learners when teaching language. We are usually guided by the content of a textbook. Teachers must focus on the learner and for this reason we can follow Presentation, Practise and Production (PPP) methodology, which take into account the needs of the learners when teaching the lesson content. One of the most important skills that students must acquire today is that of "learning to learn". For this reason, learning has gone from being an individual construction of knowledge to becoming a social process. In order to work on the two most important aspects in our Didactic Unit, which are ICT and the CLIL approach, we are going to work with the Project Based Learning (PBL) methodology. With this methodology the protagonists of learning are the students themselves, who take responsibility for being an active part of the process (Pérez Gómez, 2012).

Students create a project under the guidance of the teacher during the school year, which can be weekly, monthly or yearly. They try to solve a real-world problem or answer a complex question. With this work they put their knowledge and skills into practice and create a final product which can be presented to their peers or other audiences.

Bilsborough (2013), considers four elements which are common to all project-based activities/classes/courses:

1. A central project from which all activities are derived, and which motivates towards the achievement of the final objective.
2. Access to research tools, such as the Internet, to collect, analyse and use the information.
3. Many opportunities to share ideas, collaborate and communicate with classmates. Interaction with other learners is fundamental to PBL.
4. A final product in the form of posters, presentations, reports, videos or blogs among others (paragraph, 13).

We can find many advantages when working on PBL in the classroom, as argued by Larmer and Mergendoller (2010).

- Meaningful content is worked on, which requires the teacher to plan the project in such a way that it both reflects the content and connects it to everyday life.
- Students acquire skills such as critical thinking, collaboration, communication, problem solving and creativity, among others. Students must search, check and reflect on what they find in order to arrive at the final product.
- It encourages research and the creation of something new, as students investigate and analyse their own questions to reach conclusions.
- It allows students to make decisions, as they must learn to work independently and take responsibility for their creations in order to share them with the group.
- It includes processes of evaluation and reflection on the quality of the products created.
- Finally, it includes the presentation of the final product in front of an audience, which encourages the use of language and the reflection of everything learnt during the process.

Velázquez (2010) understands cooperative learning as "an educational methodology based on working in groups, generally small and heterogeneous, in which each student works with their peers to improve their own learning and that of others" (p.54). This author highlights the difference between cooperative work and

group work, since in cooperative learning everyone is also responsible for their peers and not only for themselves.

On the other hand, authors Johnson and Johnson (2014, p.841) point out in Cooperative Learning in 21st Century that: "cooperative learning is the use of small groups for students to work together to maximise both their own and each other's learning".

This type of learning is also proposed in the Order ECD/65/2015 of 21 January, which tells us that the active methodologies we use in the classroom should be supported by cooperative learning structures, so that, through the joint resolution of tasks, the members of the group know the strategies used by their peers and can apply them in similar situations (p.17).

When we implement our proposal, we will provide learners with different types of scaffolding as we have explained in the theoretical framework. When they are working on the proposed task, we will offer them the necessary support to develop their cognitive skills and communicative competence in English; in this way, we can make sure that students are learning the content and the English language at the same time. Different strategies will be put into practice, such as hanging posters made with Canva, mind maps made with Popplet, use of non-verbal language, use of images with texts to make it easier to understand them.

During the implementation of this proposal, students will work in cooperative groups and individually. Depending on the activity, the groups will be in pairs or small groups. We consider cooperative learning to be a strong point in our proposal, as it implies a healthy and stimulating classroom environment, in which each pupil plays a leading role. Working in small groups benefits pupils from working in a shared environment and, consequently, there are more possibilities for them to interact with others.

4.4 Attention to diversity

Madrid and Pérez Cañado (2018) recognise two complementary principles of democratic school and society, which are: the principle of attending to diversity and the principle of integration. Attending to diversity means recognising that each child is a unique and unrepeatable person, with his or her own history, affections,

motivations, needs, interests, cognitive style or gender, among others. This requires the school to offer appropriate responses to each child. Whereas integration must offer equal opportunities among students and focus on those who are at greater risk of exclusion (Madrid & Pérez Cañado, 2018). Therefore, as a teacher, considering and respecting personal differences, and taking into account the two students with special educational needs in the class, I will plan classroom tasks and activities in an open, diverse, flexible and positive way, promoting the diverse interests and needs of the students.

Continuing with Madrid & Pérez Cañado (2018), and relating CLIL, ICT and attention to diversity, we will explain below some interesting aspects in this respect. In the field of CLIL, the following strategies are highlighted because of their effectiveness:

- Ask parents for information about their children's academic difficulties.
- Discuss joint intervention strategies and adapting content and tasks according to ability.
- Student´s intelligence, personal skills, learning methods and multiple intelligences.

As suggested by Madrid (2002, 2004) cited in Madrid & Pérez Cañado (2018), it is crucial to show personality traits and personal qualities attractive to learners such as being positive, kind, tolerant, flexible, friendly and attentive. We need to be supportive and motivational by adapting the content and language to the learners' level of understanding and pace of learning, and by including a variety of exercises, activities and tasks that engage learners and their interests. It is also important to encourage and motivate learners, highlighting their achievements and minimising their failures and mistakes.

Regarding the use of ICT related to attention to diversity, recent research by (Madrid & Julius, 2017; Ortega Martín, Hughes, & Madrid, 2018), cited in (Madrid & Pérez Cañado 2018) has revealed student´s positive value of their teacher´s use of a variety of audio-visual material adapted to student´s abilities and the use of ICT to facilitate learning. They also appreciate the constant feedback to check

understanding of the content and to detect misunderstandings, confusions and mental blocks of the students.

In our case, we will try to improve the understanding of students with learning difficulties by using pictures, summaries, diagrams and similar diagrams to represent and clarify information using ICT tools. As mentioned above, two pupils have special needs. The first pupil has ADHD. He shows hyperactivity in actions such as moving in the chair, playing with pencils and talking and singing. He tries to finish tasks as quickly as possible without thinking and understanding the content, so he makes more mistakes than he should. He also shows impulsivity without respecting classmate´s turns and does not follow rules. Due to hyperactivity and impulsivity, he lacks attention. This pupil has some difficulties in social interaction with peers. The use of the digital tools presented in the Didactic Unit will help this pupil to improve attention and self-regulation.

The second pupil has a cochlear implant in order to be able to hear better. He can hear if we speak aloud and he reads our lips, but he has no difficulties in speaking. The systematic integration of ICT to present and work on the content and language of the lessons will facilitate his access to the curriculum. Social interaction with peers is normal.

4.5 Transversal elements

The transversal elements are dealt with in article 10 of Royal Decree 126/2014, of 28 February, which states: "without prejudice to their specific treatment in some of the subjects of each stage, reading comprehension, oral and written expression, audio-visual communication, Information and Communication Technologies, entrepreneurship and civic and constitutional education will be worked on in all subjects" (p. 9). In our Natural Sciences area, we will work on these transversal elements in the following way:

- Reading comprehension will be worked on daily through readings related to the contents on healthy eating.
- Oral and written expression will be worked on daily with tasks related to texts and students will also make oral presentations on the contents of the subject. We will also work on oral expression when students are

working with their cooperative groups, as they will have to exchange ideas and interact.

- ICT will play a leading role in our daily work as we will be using different technological tools in class every day. Students will have to make mind maps, presentations, information searches, quizzes and games, as well as participating is assessment…(collect all the possibilities described in the theoretical framework).
- We will work on entrepreneurship through the decisions that students will have to make in order to do the tasks through reflection and cooperation with their classmates.
- We will work on civic and constitutional education by giving importance to caring for the environment and being responsible for our human actions in the world in which we live.

Daily experience in our classrooms has shown us the need to establish a model that favours and encourages our pupils' reading habits. The Reading Plan is based on the effort we must make to instil in our pupils the "desire to read" and to promote the important role that the family and we as professionals play in this.

As part of the linguistic measures included in the school's Linguistic Project, all areas will develop reading skills through the use of relevant readings related to each area.

This Didactic Unit is based on healthy eating and to contribute to the reading plan we will work on various readings both silently and aloud. This will help, in addition to target language acquisition, to foster the development of reading and writing skills. To ensure full exposure, reading comprehension texts will be worked on.

As part of the complementary and extracurricular school activities, the pupils will visit an olive oil factory in the village, where, as well as learning about the production of olive oil, they will eat a healthy breakfast of bread, oil and tomato.

4.6 Assessment

The assessment criteria and learning outcomes established in the Order of 15 January 2021, will constitute the reference with which the acquisition of competences and objectives by students will be measured. In addition, the Order

ECD/65/2015, of 21 January, which determines the procedure and the documents and formal requirements of the assessment process in Primary Education, will be followed.

The assessment of student´s learning processes will be global, continuous and formative. It will take into account student´s progress, as well as the competences they have developed, taking into account each subject and competence. The aim of the assessment process is to identify what content and competences have been acquired by students, in relation to their different abilities and rates of learning. It should also enable teachers to identify learning difficulties and find strategies to overcome them. For this purpose, different types of assessment can be used: self-assessment, co-assessment and hetero-assessment.

According to Order ECD/65/2016, of 21 January, which describes the relationships between competences, contents and assessment criteria in primary education, the assessment of the learning process must be continuous and global, with a systematic observation of the achievement of educational objectives, focused on the development and consolidation of key competences. Three types of assessment will be used: initial, formative and summative. These types of assessment have been described in detail earlier in the theoretical framework so we will not repeat them.

In the Didactic Unit proposed in point 4.7 we show how we will carry out the evaluation and we will make a contribution of the ICT tools we will use for it.

4.7 CLIL Didactic Unit

With the theoretical basis provided in the previous sections, we are ready to present the Didactic Unit. We will work with the Project-Based Learning methodology (PBL), designing sessions that progress from the proposed task to the collection of information, processing and presentation of the final product. Our final product will be the elaboration of a healthy breakfast, which the students will have to record on video and show it to all their classmates. Students will come into contact with the digital tools with which we will design the activities. Access to the internet will serve as the main written linguistic input, contextualising the target language and providing motivation for pupils to tackle the activities. Children will also have the opportunity to

consult written material in Natural Science books to complement their discoveries, developing some learning to learn skills such as selecting appropriate materials, navigating through them and extracting important information. All pupils will be arranged in heterogeneous groups, which will help them in making decisions about what to incorporate into their products and presenting information in a variety of formats.

<table>
<tr><th colspan="2">DIDACTIC UNIT 5: Look after yourself</th></tr>
<tr><td colspan="2">Content areas: Natural Science and First Foreign Language English
Level: year 3
Timing: 6 sessions of 60 minutes each, during the second term
Description and rationale: Food intake is necessary to obtain the nutrients the body needs to carry out the rest of its functions, but is it really a good diet? It is necessary for students to reflect on their own nutrition and to acquire healthy habits that will enable them to grow and develop properly. To this end, the importance of consuming a variety of products and eating a balanced diet will be discussed.
Product: The final product will be the elaboration of a healthy breakfast, which the students will have to record on video and show it to all their classmates and other audiences on their YouTube channel.</td></tr>
<tr><th colspan="2">CONTENT</th></tr>
<tr><td>Content</td><td>Contribution to key competences</td></tr>
<tr><td>• Recognition of the importance of a balanced diet.
• Acquisition of good food hygiene habits.
• Positive evaluation of the consumption of fresh products as opposed to packaged products.</td><td>• Use prior knowledge.
• Critical thinking: observe and describe; compare and contrast; evaluate Reflect on learning and self-assess.
• Autonomous learning.
• Use ICT to obtain and process information.
• Develop reading and writing skills: use ICT to support</td></tr>
</table>

• Participation and involvement during the development of the unit. • Cooperation in group work and responsibility, both in group and individual work. • Language content: Explanation of how to make a healthy breakfast that will serve as a script for the recording of the final product.	comprehension, look for key vocabulary in the text. • Learning to learn: use strategies to organise work.
COGNITION	
Learning goals	Learning outcomes
• To collect previous ideas • To know the origin of food: vegetable, animal or mineral. • To know the types of nutrients that food can provide us with. • To reflect on the importance of a balanced diet and physical exercise for good health. • To analyse the food pyramid as a source of knowledge to be able to consume adequate amounts of each food. • To acquire good food hygiene habits. • To explain a healthy breakfast.	• Students relate food they know to eat healthy. • Students list a number of foods they usually eat. • Students identify and classify food according to its origin. • Students differentiate between types of nutrients and food groups. • Students recognise the nutrients that characterise each of the food groups. • Students identify and sort the different food groups: cereals, pulses and potatoes, vegetables, fruit, milk and dairy products, butter, oils and

	sausages and meat, fish and eggs. • Students select some habits of their lifestyles that are healthy. • Students explain their healthy breakfast for a recorded video.
CULTURE	
Teaching objectives	Learning outcomes
• To value and respect the Mediterranean diet. • To know different healthy diets in different countries. • To collaborate in group activities.	• Students defend and appraise the importance of the Mediterranean diet. • Students name some of the dangers of not living a healthy lifestyle and offer solutions. • Students label and match the diets of different countries and relate them with the timetables. • Students work collaboratively, listening to others and helping their peers.

COMMUNICATION		
Language of learning	**Language for learning**	**Language through learning**
Key words and concepts: <u>Food vocabulary</u>: cereals, potato, vegetables, fruit, milk, dairy products, butter,	Language for describing: This is a... has... may/may not... should/should not.	Language through using the digital tools. Language through peer interaction in the activities and teamwork.

oil, sauce, meat, fish and eggs, Nutrient vocabulary: animal, mineral, nutrients, fat, vitamins, carbohydrates, food pyramid. Healthy habits vocabulary: diet, hygiene habits, balanced diet, good health. Language to explain a heathy breakfast: In the morning, prepare, mix, heat, bowl, spoon, oulve oil, fruits, milk, yoghurt, bread, Structures: I like/dislike. I can/ I can't. I should/ I shouldn't/ Comparisons. Present simple. Connectors: Cycle organiser connectors: then, next, after, later. Tree diagram connectors: Under, below, above, on top of, on the same level, an example is....	Language for giving reasons: This is important because... I should eat to... Exercising is good for... Language for asking for clarification: What is.../ what group does it belong to.../ I don't understand, can you repeat? Language for giving an opinion: I like it...because it is...I don't like it...because it is.... Language for comparing: better than.../ healthier than... Language of the classroom: I´m sorry, I don´t understand. Is this correct? How do you pronounce this word? Say that again, please. Is this right/wrong? Can you lend me a…? Can I borrow your…, please?	Language through reading aloud. Language through questions and reflection time Language through the extra-curricular activity

PROCEDURE		
Session 1. Am I healthy?		
TIMING	PROCEDURE	GROUPING
10 minutes	**Activity 1** Brainstorm about healthy and unhealthy foods. **ICT tool** for reception scaffolding: **Bubbl.us** tool (Appendix A).	As a whole class
30 minutes	**Activity 2** Once we have read the dialogue, the students will work in five expert groups, in which each group will search for information on the internet about healthy diet, research and develop the most important aspects. To do this, each group will be assigned a different topic in order to collect different information. **ICT tool** for reception scaffolding: **Keynote** (Appendix B)	Cooperative groups
10 minutes	**Activity 3** Students will present their topics and they will explain their information using the infographic resulted for the ICT tool for production scaffolding.	As a whole class
10 minutes	**Final activity** Presentation of the final product resulted from the group work through a mock-up where there will be a template to complete the process to make the final product of the Didactic Unit (Appendix C)	As a whole class

Session 2 The food pyramid

TIMING	PROCEDURE	GROUPING
20 minutes	**Activity 1** The steps of the food pyramid are presented on the blackboard. Then we will watch a video about the food pyramid then, students have to clap when each step is described. **ICT tool** for reception scaffolding: The internet https://www.youtube.com/watch?v=0KbA8pFW3tg	As a whole class
10 minutes	**Activity 2** Cooperative group game in which students have to match the foods and the nutrient they provide. **ICT tool** for reception scaffolding: **Quizz app** (Appendix D).	Cooperative groups
20 minutes	**Activity 3** Students will do an activity in which they, in groups, will have to place each food in the pyramid using everything they have learnt and the text which we will provide them. **ICT tool** for transformation scaffolding: **Canva** (Appendix E).	Cooperative groups
10 minutes	**Activity 4** Students will present their activities to the whole class using the poster resulted in Appendix E for production scaffolding.	As a whole class

Session 3 Mediterranean diet

TIMING	PROCEDURE	GROUPING
10 minutes	**Activity 1** We will start with a review game using flashcards. We will project the food pyramid on the digital whiteboard and the students will have to place each food that appears on the flashcard on the pyramid. Before placing it on the pyramid, they have to say the name of the food and the group it belongs to. **ICT tool** for reception scaffolding: **Tinycards app** (Appendix F).	As a whole class.
30 minutes	**Activity 2** Vocabulary about the Mediterranean diet will be presented on the digital whiteboard. We will then watch a video about the Mediterranean diet and make sure that the students understand the vocabulary asking question related to the topic. Then students will do a worksheet with missing words on the digital whiteboard. **ICT tool** for reception scaffolding: the internet https://www.youtube.com/watch?v=AL24KwtI9A4 **ICT tool** for transformation scaffolding: **Canva** (Appendix G).	As a whole class
20 minutes	**Activity 3** Students will then work individually asking questions about the video. **ICT tool** for transformation scaffolding: **Quizizz** app. (Appendix H).	Individually

Session 4 Healthy diet

TIMING	PROCEDURE	GROUPING
15 minutes	**Activity 1** Brainstorm asking random questions about everything we have learnt in the previous days about diet in order to arrive at the concept we will see in this class, "Heathy diet". **ICT tool** for reception scaffolding: **Kahoot app** (Appendix I)	As a whole class.
30 minutes	**Activity 2** We will work on the cooperative technique "1-2-4". I will hand out a text with a question to each student, first they will work on it alone, then in pairs and finally in groups of 4. **ICT tool** for transformation scaffolding: **Canva** (Appendix J).	Cooperative groups
15 minutes	**Activity 3** Students will correct it in a whole class, each group will say one sentence and correct it.	As a whole class.

Session 5 Healthy breakfast

TIMING	PROCEDURE	GROUPING
15 minutes	**Activity 1** Students will play a game to review what they have learnt. **ICT tool** for reception scaffolding: **Plickers** (Appendix K)	Individually
15 minutes	**Activity 2** The teacher will show an infographic about healthy habits and the students will have to add more healthy habits that help them feel better.	As a whole class

	ICT tool for transformation scaffolding: **Genially** (Appendix L)	
15 minutes	**Activity 3** Students in groups will have to design a healthy breakfast/snack presentation and incorporate healthy lifestyle habits. **ICT tool** for production scaffolding: **Keynote or Canva app**.	Cooperative groups
15 minutes	**Activity 4** Each group will present their presentations. **ICT tools: Canva, Keynote, PowerPoint**	As a whole class.

Session 6 It´s time to act

TIMING	PROCEDURE	GROUPING
30 minutes	**Activity 1** Students will individually prepare the script for the video recording of a healthy breakfast, which will be shared on the school's YouTube channel so that all classmates can watch it. First, they will see a model. Then, we will give them a folder with the steps they have to follow and a writing frame. Finally, they will use Keynote to write the script. The teacher and the language assistant will come by to watch each student's work and provide assistance if needed. **ICT tool** for reception and transformation scaffolding: **Canva, keynote**, (Appendix C) **ICT tool** for production scaffolding: Film it https://www.acmi.net.au/education/film-it/	Individually

30 minutes	**Activity 2** Students will present their scripts about healthy breakfast. Then, they will record a video using the scripts resulted in the previous activity as production scaffolding. Finally, they will post their videos on YouTube. **ICT tool** for production scaffolding: Film it https://www.acmi.net.au/education/film-it/ **ICT tools** for production scaffolding: YouTube. The students will have to create the video themselves, edit it and upload it to the platform, thus enabling them to learn about the tool.	As a whole class

RESOURCES AND MATERIALS

- Human resources: students, Natural Science teacher, language assistant, L2 teacher and families.
- Material resources (all the material needed is in Appendix from A to K): paper, colour, glue, scissors, one A5 notebook per pupil, visual organisers, worksheets.
- Digital resources: Projector, tablets, Internet connection, technological applications: Canva, Plickers, Bubbl, Popplet, kahoot, Qiuzizz, Keynote, Youtube, Genially.

  Videos:

  Video about the food pyramid

  https://www.youtube.com/watch?v=0KbA8pFW3tg

  Video about the Mediterranean diet

  https://www.youtube.com/watch?v=AL24KwtI9A4

ASSESSMENT

- To know the origin of food.
- To know the types of nutrients and their contribution to human beings.

- Identify the food groups.
- Reflect on and recognise the importance of a balanced diet.
- Acquire good food hygiene habits.
- Show interest and responsibility during the development of the unit.
- Assessment:
    - Initial: active observation of pupils' performance in session 1 using a checklist (Appendix M).
    - Formative:
        - Observation of classwork and assessment of the oral presentations using a rubric created with CoRubrics for active observation (Appendix N).
        - Verbal and written feedback of each activity done in class using mini whiteboards.
        - Self-assessment: exit ticket (Appendix O).
        - Final project rubric (Appendix P)
    - Summative: Unit test created with Quizlet (Appendix Q).

ATTENTION TO DIVERSITY

For those students who cannot do the final product on video, we will give them the opportunity to create a presentation using Canva or Keynote.

Attention deficit hyperactivity disorder (ADHD):

In this unit self-instruction (what/how/when/when/when/do I have to do?) is done through group work, role-playing, feedback and, in particular, modelling from the teacher and also from peers.

For this particular learner:

1. Provide qualitative feedback.
2. In activity 1 which is done individually, provide support and explain it to him individually.

When working with ICT it is motivating for him to use the tablet or computer, so he stays attentive and calm.

Student with cochlear implant: We will approach him so that he can read our lips and speak aloud when explaining concepts or procedures. Group work will help to better understand the procedures. Working with ICT will help them visually and to hear better we will provide them with headphones.

5. CONCLUSION

Fortunately, we are giving more and more importance to bilingual education because, as demonstrated in this work, it is very likely to promote and foster the lifelong learning competences demanded by our society. Nowadays, we are aware of the need to have relations with people from all over the world and in this way to be able to receive information and share our knowledge.

Having concluded the research and analysis on the topics discussed in this Master's Dissertation, which have been CLIL, scaffolding and ICT and designed the Didactical Proposal involving these aspects, we could argue that CLIL is a successful approach to second language teaching when it is properly implemented through adequate scaffolding making use of the best ICT tool for each teaching and learning situation.

From our point of view, we believe that the best way to learn a language is to learn it meaningfully, using real, everyday situations and to do so on a daily basis. For this reason, the CLIL approach covering the teaching of subjects other than foreign languages is the best option. Another remarkable aspect is the use of scaffolding for the acquisition of both new language and content, which helps students to acquire skills that maintain motivation and provide them with the necessary support to achieve their learning; this generates students with more self-esteem and motivation and promotes the development of independent learners. Finally, ICT is a tool to strengthen teaching and learning, increase opportunities to access knowledge, develop collaborative skills or instil values, among others.

This didactic proposal has not yet been put into practice, so once it is put into practice in the classroom it could be reviewed in order to improve the aspects that

we consider relevant depending on the group of students with whom we are working. On the other hand, with its elaboration we have tried to bring the children closer to these concepts of Natural Sciences in a meaningful way, useful for their daily life and manipulative to acquire the knowledge in a successful way.

Personally, writing this Master's Dissertation has been a great learning experience for me, not only in terms of the use of ICT under the CLIL approach, but also a great personal learning experience as I have successfully overcome some barriers that I had in my mind such as the fear of facing an important work as this Master's dissertation in a language different from mine, or the difficulty of teaching content using a language other than my mother tongue successfully.

On the other hand, I consider that a new way of teaching is possible using the technological advances that are within our reach and transforming our classes so that students feel motivated to learn everything that will serve them in their present and future life.

Finally, I would like to highlight the great support that has meant having the help of Magdalena, as she is a great professional who has taught me a lot during these months and has shared with me her expertise as a CLIL teacher.

6. REFERENCES

Aguaded, J. & Tirado, R. (2008). Los centros TIC y sus repercusiones didácticas en primaria y secundaria en Andalucía [ICT centres and their didactic repercussions in primary and secondary education in Andalusia]. *Revista Educar, 41*, 61-90.

Alibali, M. (2006). Does visual scaffolding facilitate student´s mathematics learning? Evidence from early algebra. Retrieved from https://ies.ed.gov/funding/grantsearch/details.asp?ID=54

Area, M. y Adell, J. (2009): eLearning: Enseñar y aprender en espacios virtuales. [eLearning: Teaching and learning in virtual spaces]. En J. De Pablos (Coord): *Tecnología Educativa. La formación del profesorado en la era de Internet.* Aljibe, Málaga, pp. 391-424.

Bilsborough. K (2013). BRITISH COUNCIL + BBC – TEACHING ENGLISH: https://www.teachingenglish.org.uk/article/tbl-pbl-two-learner-centred-approaches

Belloch, C. (2012). *Information and Communication Technologies in learning. Retrieved from Department of Research Metho*ds. University of Valencia. http://www.uv.es/bellochc/pedagogia/EVA1.pdf

Bentley, K. (2010). *The TKT Course CLIL*. Ernst Klett Sprachen.

Bloom, B., Engelhart, M., & Furst, E. (1956). *Taxonomy of educational objectives: The classification of Educational Goals*. *Handbook I: Cognitive domain*. David McKay Co.

Çekrezi, R. (2011). CLIL and Teacher Training. *Procedia Social and Behavioral Sciences 15, 3821–3825*

Coalla, S. (2014). *ICT and new technologies in CLIL: a practical study.* Final thesis of the Master's Degree in integrated teaching of English language and content: early childhood and primary education. Oviedo.

Coyle, D., (2007). Content and Language Integrated Learning. Towards a Connected Research Agenda for CLIL Pedagogies. *International Journal of Bilingual Education and Bilingualism, 10 (*5), 543-562. http://dx.doi.org/10.2167/beb459.0

Coyle, D., Hood, P., & Marsh, D. (2010). *Content and Language Integrated Learning*. Cambridge University Press.

Custodio Espinar, M. (2012). Appendix C. Lesson planning: CLIL Young learner lesson. In J. Harmer (ed), *Essential Teacher Knowledge*, (pp. 251–252). Pearson.

Custodio Espinar, M. (2019a). Influencing factors on in-service teachers' competence in planning CLIL. *Latin American Journal of Content & Language Integrated Learning, 12*(2), 207-241. https://doi.org/10.5294/laclil.2019.12.2.2

Custodio Espinar, M. (2019b). *Los principios metodológicos AICLE (aprendizaje integrado de contenido y lengua).* Madrid: Fundación Universitaria Española, Colección Tesis doctorales *cum laude*. Serie P (Pedagogía).

Dale, L., & Tanner, R. (2012). *CLIL Activities. A Resource for Subject and Language Teachers*. Cambridge University Press.

Decreto 97/2015 de 3 de marzo, por el que se establece la ordenación y las enseñanzas correspondientes a la Educación Primaria en Andalucía. Junta de Andalucía, *Boletín Oficial de la Junta de Andalucía Nº 46*, España, 3 de marzo de 2015.

García, J. (2011). The integration of ICT in bilingual education: perspectives in teacher training. *Revista Teoría de la Educación: Education and Culture in the Information Society, 12,* 3, 101-117.

Gibbons, P. (2002). *Scaffolding language, scaffolding learning: teaching second language learners in the mainstream classroom*. Heinemann.

Hammond, J. & Gibbons P. (2001). What is scaffolding? In J. Hammond (Ed.). *Scaffolding: teaching and learning in language and literacy education* (pp. 1-14). Newton: Primary English teaching association.

Johnson, D. And Johnson, R (2014). *Assessment in cooperative learning. How to improve assessment in cooperative learning. How to improveindividual assessment through group*. Sm

Larmer, J. and Mergendoller, J. (2010). 8 essentials for project based lerning. *Buck Institute for Education.*

https://static1.squarespace.com/static/530e32e2e4b02e9cbe11317b/t/54b044c9e4b0265c9838432f/1420838089897/8+PBL+Essentials.pdf

López, S. (1 April 2019)). Las TIC como oportunidad de cambio del papel docente. [CT as an opportunity to change the teaching role]. *Revista Ventana abierta* http://revistaventanaabierta.es/las-tic-como-oportunidad-de-cambio-del-papel-del-docente/

Madrid, D., & Pérez Cañado M.L., (2018) Innovations and Challenges in Attending to Diversity through CLIL, *Theory Into Practice, 57*(3), 241-249. https://doi.org/10.1080/00405841.2018.1492237

Marqués, P. (2012). Impacto de las TIC en la Educación: funciones y limitaciones. [The Impact of ICT in Education: Roles and Limitations]. *3 Ciencias*. *En Área de Innovación y Desarrollo, S.L. (ed), Revista de investigación. Barcelona*. https://www.3ciencias.com/wp-content/uploads/2013/01/impacto-de-las-tic.pdf

Marsh, D. (2012). *Content and Language Integrated Learning (CLIL). A Development Trajectory*. University of Córdoba.

Mehisto, P., Marsh, D., & Frigols, M. J. (2008). *Uncovering CLIL content and language integrated learning in bilingual and multilingual education*. Macmillan.

Méndez, M. & Pavón, V. (2012). Investigating the coexistence of the mother tongue and the foreign language through teacher collaboration in CLIL contexts: perceptions and practice of the teachers involved in the plurilingual programme in Andalusia. *International Journal of Bilingual Education and Bilingualism 15* (5), 573-592

Navés, T., & Muñoz, C. (2000). *Usar las lenguas extranjeras para aprender y aprender a usar las lenguas extranje*ras. [Using foreign languages for learning and learning how to use foreign languages]. *http://archive.ecml.at/mtp2/CLILmatrix/DOCS/3Esp.pdf*

Organic Law 3/2020, of 29 December, which amends Organic Law 2/2006, of 3 May, on Education. (LOMLOE)

Pérez, A., (2012). *Educarse en la era digital: la escuela educativa*. [Educating in the digital age: the school of education]. Morata.

Pérez Cañado, M. L. (2017). CLIL teacher education: Where do we stand and where do we need to go? En *Educación Bilingüe: tendencias educativas y conceptos claves,* 129–144. Ministerio de Educación Cultura y Deporte.

Richards, J., Platt, J., & Platt, H. (1997). *Diccionario de Lingüística Aplicada y Enseñanza de Lenguas. Versión española*. [Dictionary of Applied Linguistics and Language Teaching. Spanish version]. Barcelona: Editorial Ariel, s.a.

Sanmartí N. (2020). *Evaluar y aprender: un único proceso*. [Assessing and learning: a single process]. Barcelona. Ediciones Octaedro S.L.

Sharpe, T. (2008). How can teacher talk support learning? *Linguistic and Education, 19* (2), 132-148.

Stobart, G. (2010). *Tiempos de pruebas: los usos y abusos de la evaluación*. [Testing times: the uses and abuses of evaluation]. Madrid. España. Ediciones Morata.

Struble, J. (2007). Using graphic organizers as formative assessment. *Science Scope, 30,* 69-71.

Urban, J. (2010), *Estrategias docentes para allanar el camino hacia la autorregulación: el ejemplo del mural*. [Teaching strategies to pave the way towards self-regulation: the example of the mural. Universidad de Barcelona.

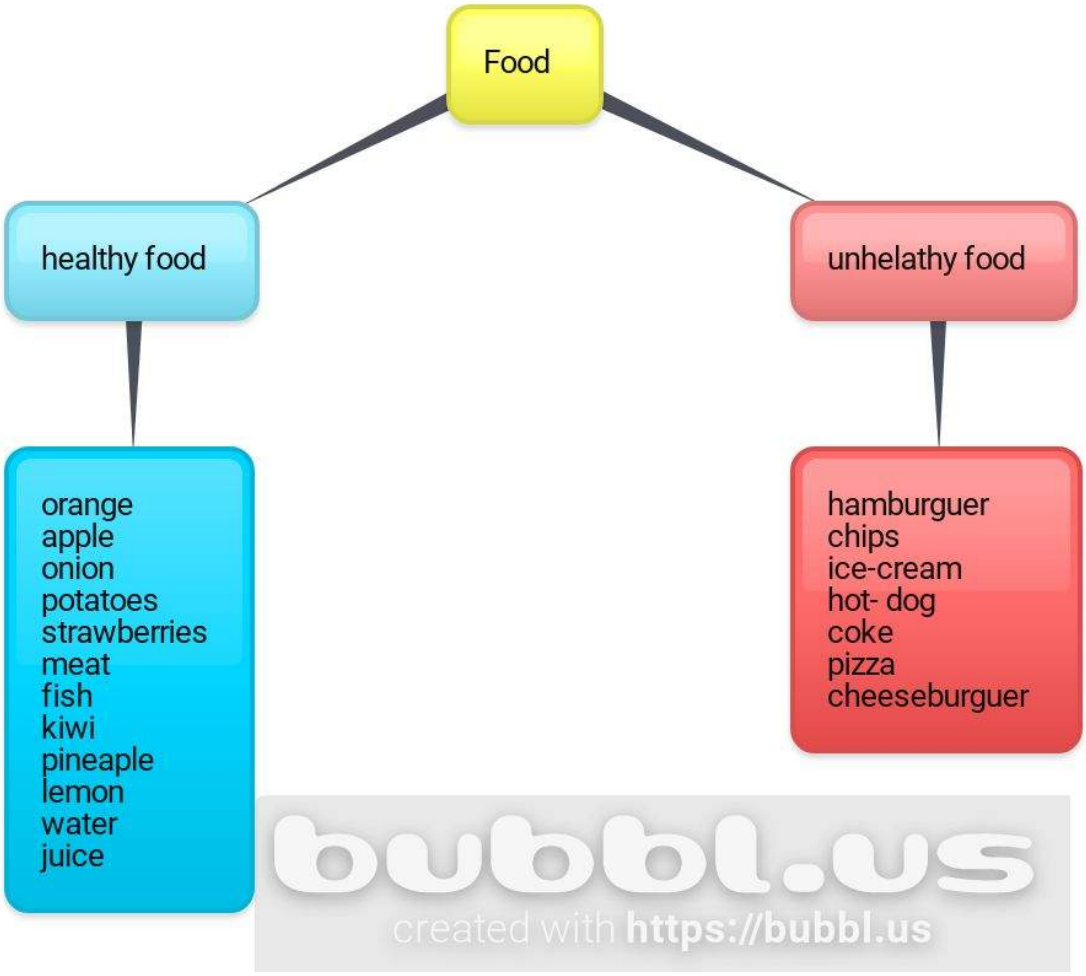
Van Lier, L. (1996). *Interaction in the Language Curriculum: Awareness, Autonomy and Authenticity.* Longman.

Velázquez C., (2010). *Aprendizaje cooperativo en Educación Física.* (Cooperative Learning un Physical Education). Inde.

Vivancos, J. (2015). Jordi Vivancos TAC project of centre. https://www.youtube.com/watch?v=KIaJ4d-QcdU

7- APPENDICES

7.1 Appendix A. Healthy and unhealthy food



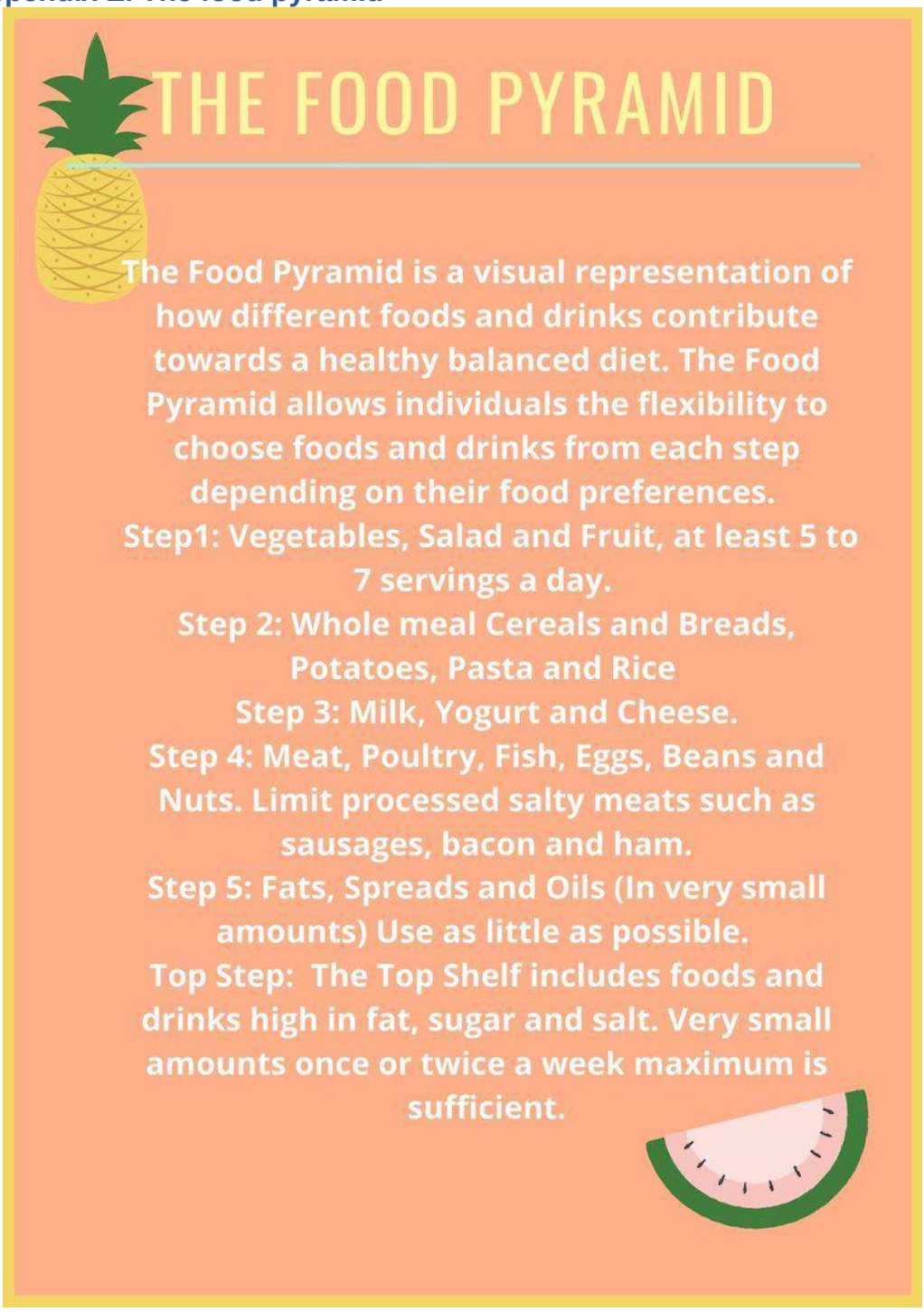
7.2 Appendix B. How can we keep healthy?

7.3 Appendix C. Super healthy breakfast at home

7.4 Appendix D. Cooperative game Quizizz

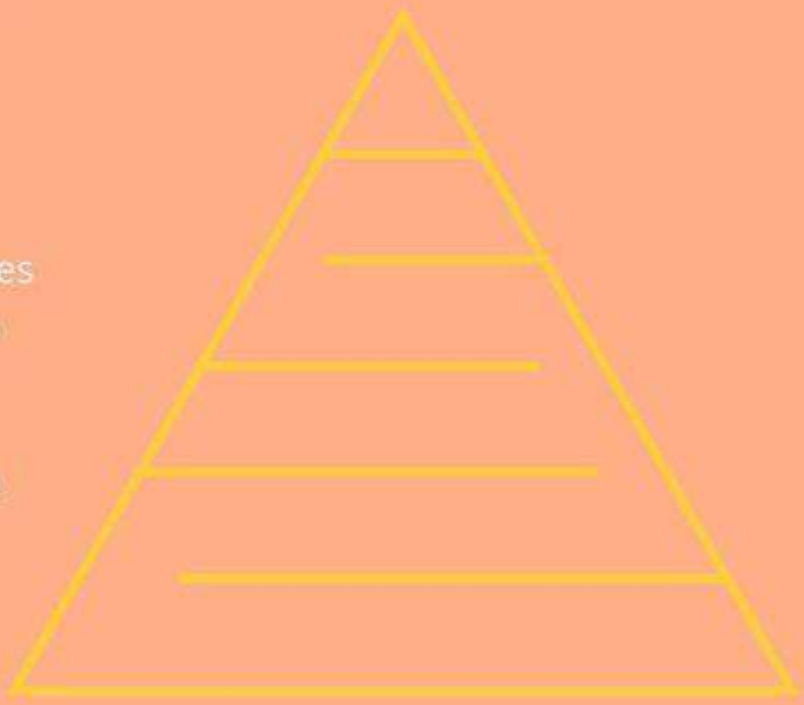
https://quizizz.com/admin/quiz/606605ccb4c1f1001e9644ab

7.5 Appendix E. The food pyramid



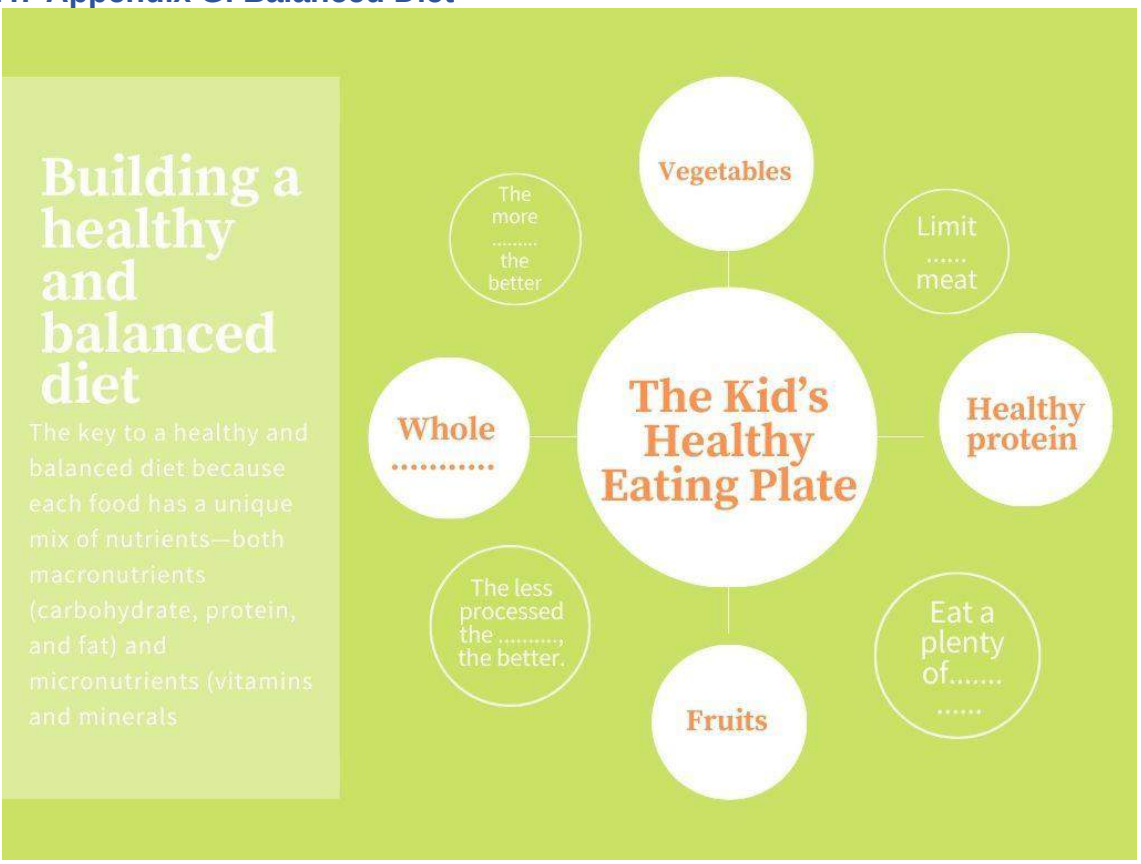
Complete the food pyramid:

bread
milk
fish
meat
fruits
vegetables
sweets
water
juices
cheese
eggs



7.6 Appendix F. Flashcards food

7.7 Appendix G. Balanced Diet

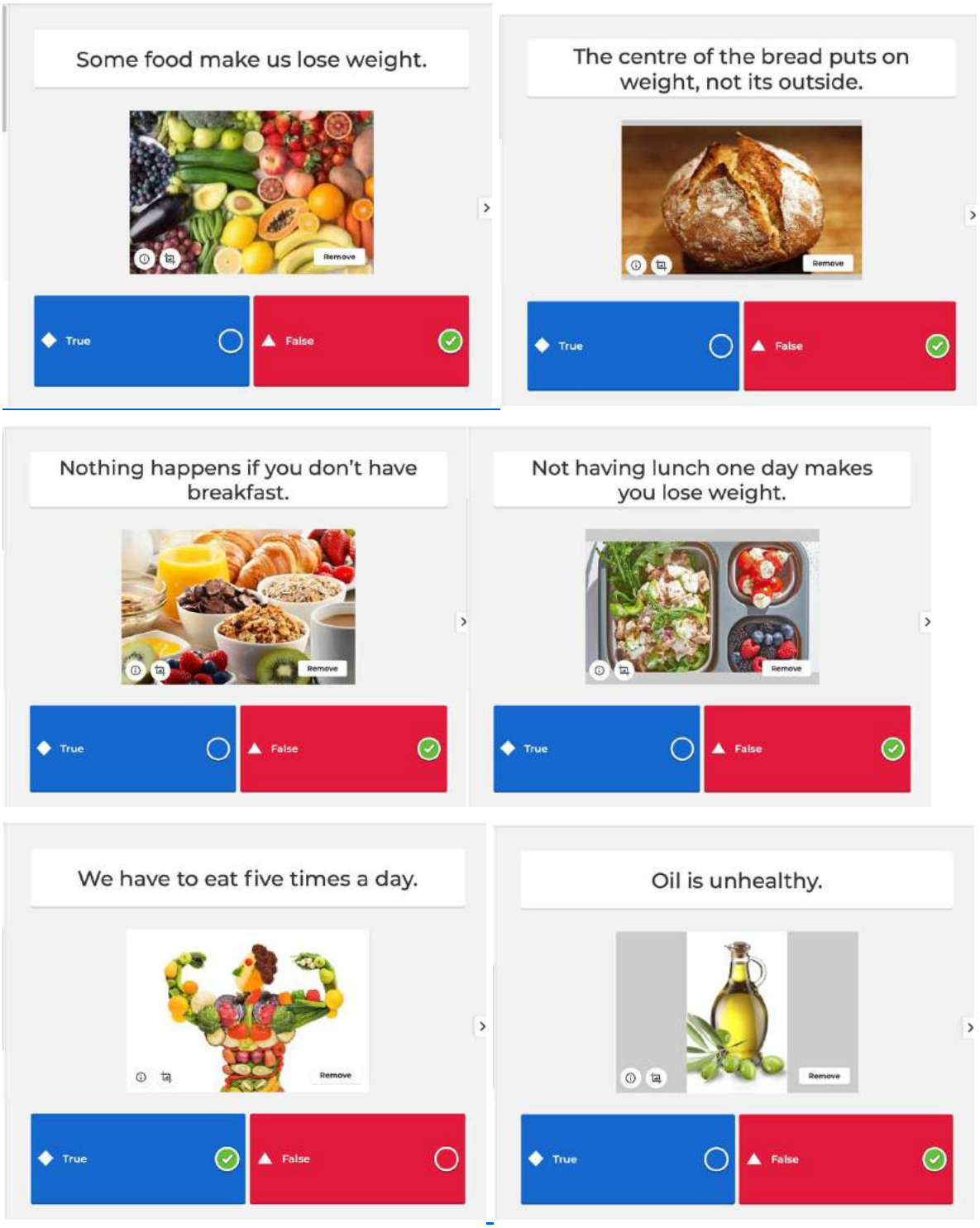


7.8 Appendix H. Ask question Quizizz

https://quizizz.com/admin/quiz/60660de40ced51001b2338f3

7.9 Appendix I. Game Healthy diet

https://create.kahoot.it/details/d6b9b89d-9a67-40d1-8fe3-a2457515cea6



7.10 Appendix J. Healthy food

7.11 Appendix K. Game Plickers

https://www.plickers.com/set/6066c4cffbb08600146635b1#now-playing

7.12 Appendix L. Healthy habits

https://view.genial.ly/607d9fdcb25c590da39b6394/interactive-content-metodo-

7.13 Appendix M. First session checklist

7.14 Appendix N Rubric for the oral presentations in class

https://docs.google.com/spreadsheets/d/1bH3rBPqpkdINTfkLABoLS6PKyhXpdNnDnowMyYSmDI4/edit?usp=sharing

CATEGORY	4	3	2	1
Speaking fluency	Speaks clearly and distinctly all of the time and mispronounces no words.	Speaks clearly and distinctly all of the time but mispronounces 1 or more words.	Speaks clearly and distinctly most of the time and mispronounces no words.	Does NOT speak clearly and distinctly most of the time AND/OR mispronounces more than 1 word
Lexis and grammar	Use of all the vocabulary and grammar asked to use in the dialogue. It is also correctly used.	Use of the vocabulary and grammar asked to use in the dialogue. Sometimes, it is not used correctly.	There's just a little use of the grammar and lexis used and it is used correctly.	There's no use of any of the vocabulary and grammar asked to use in the dialogue.
Creativity	The presentation contains many creative details and/or descriptions that contribute to the public's enjoyment. The student has really used his imagination.	The presentation contains a few creative details and/or descriptions that contribute to the public's enjoyment. The student has used his imagination	The presentation contains a few creative details and/or descriptions, but they distract from the story. The student has tried to use his imagination.	There is little evidence of creativity in the story. The student does not seem to have used much imagination.

7.15 Appendix O Exit ticket

7.16 Appendix P Project rubric

https://docs.google.com/spreadsheets/d/1xAptBr9YD6eh29SvGfB1MHPykhKz8VAi2bBkDAuO0kY/edit?usp=sharing

CATEGORY	4	3	2	1
Process of improvement	The student has taken into account all the mistakes that made at the beginning of the process and has resolved them perfectly.	The student has taken into account the teacher's feedback to create the new plates. Has not corrected some mistakes done during the process.	The student has corrected some of the mistakes during the process and didn't get into account teacher's feedback.	The student has not corrected his mistakes during the process and never listened to teacher's feedback
Content accuracy	At least 7 accurate facts are displayed on the breakfast.	5-6 accurate facts are displayed on the breakfast.	3-4 accurate facts are displayed on the breakfast.	Less than 3 accurate facts are displayed on the breakfast.
Grammar and lexis used to explain the breakfast	Makes no errors in grammar or lexis.	Makes 1-2 errors in grammar and/or lexis.	Makes 3-4 errors in grammar and/or lexis.	Makes more than 4 errors in grammar and/or lexis.
Group work	Almost always listens to, shares with, and supports the efforts of others. Tries to keep people working well together	Usually listens to, shares, with, and supports the efforts of others. Does not cause "waves" in the group.	Often listens to, shares with, and supports the efforts of others, but sometimes is not a good team member.	Rarely listens to, shares with, and supports the efforts of others

7.17 Appendix Q Unit test created with Quiz

https://quizlet.com/583749136/match

https://quizlet.com/583749136/gravity