

Master's Dissertation/
Trabajo Fin de Máster

THE USE OF PROJECT-BASED LEARNING FOR CLIL IN INFANT EDUCATION

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1. ABSTRACT

Current methodological conceptions are different from past ones. There are several authors and trends that defend the need to offer a useful education for the daily life of students and focused on their characteristics, needs and interests.

This situation has been the key that has led to develop a work that aims to know the usefulness of combining two relatively new approaches in Infant Education; a student-centered methodology, Project Based Learning ,with a linguistic trend in which a foreign language is used as a means of learning, Content and Language Integrated Learning. This has required documenting about the key aspects of these two approaches. After that, a lesson plan for Infant Education has been proposed in which a project where students have the opportunity to learn contents and English at the same time through innovative, playful activities that require their participation is developed.

Keywords: CLIL; Project-Based Learning; Infant Education; lesson plan.

2. RESUMEN

Las concepciones metodológicas actuales son diferentes de las pasadas. Hay varios autores y tendencias que defienden la necesidad de ofrecer a los estudiantes una educación útil para su vida diaria y centrada en sus características, necesidades e intereses.

Esta situación ha sido la clave que ha llevado a desarrollar un trabajo cuyo objetivo es conocer la utilidad de combinar dos enfoques relativamente nuevos en Educación Infantil; una metodología centrada en el alumno, Aprendizaje Basado en Proyectos, con un enfoque lingüístico en el que se utiliza un idioma extranjero como medio de aprendizaje, Aprendizaje Integrado de Contenidos y Lengua. Para ello, ha sido necesario documentarse sobre los aspectos claves de estos dos enfoques. Tras ello, se ha propuesto una unidad didáctica para la etapa de Educación Infantil en la que se desarrolla un proyecto donde los estudiantes tienen la oportunidad de aprender contenidos e inglés al mismo tiempo a través de actividades innovadoras y lúdicas que requieren su participación.

Palabras claves: AICLE; Aprendizaje Basado en Proyectos; Educación Infantil; unidad didáctica.

3. INTRODUCTION AND RATIONALE

The present Master's Dissertation is the culmination of the training received throughout the Interuniversity Master in Bilingual Education and CLIL. Specifically, the development of a lesson plan is presented. In it, the use of Project- Based Learning in a CLIL environment in Infant Education is proposed. For that purpose, a lesson plan is designed that aims to explore the efficacy of the inclusion of these methods in schools from the early educational stages.

There are three reasons why I have decided to work in this topic. On the one hand, there is an academic reason: during the development of the training period of the aforementioned Master's Degree, the allusions to the teaching possibilities of Project-Based Learning have been very numerous. This has allowed me to know the strong potential of this method for child development and how to implement it in the classroom, since much of the incorporation of Project-Based Learning in the educational context depends on teachers' training in this field. For this reason, I want to develop a study about this methodology and check its contribution to the academic field.

On the other hand, there is a professional reason: I want to analyze the benefits of use PBL in a CLIL environment. PBL is an approach in which students are the real protagonists of the teaching-learning process and it is focused around their needs, intentions, characteristics and opinions. In this way, learning becomes a constructive process, through which students acquire new learning that is useful not only in the educational context, but also outside of it, that is, in their daily experiences. These characteristics are directly related to CLIL, because it implies a different point of view in relation to the acquisition of a foreign language since languages are not taught as an isolated subject, but rather as means to acquire content, so that students can achieve meaningful learning, being they responsible for their own learning.

There is also a personal reason for my choice of topic: the fact that I am Kindergarten teacher, so, most of my teaching experience is at this stage. Due to this, I consider that my training in this field enables me to design a teaching proposal for this stage and to further explore about the implementation of PBL in this particular environment.

Dealing with the structure of this Master's Dissertation, it has three main parts. The first one is theoretical and it lays foundations for the teaching proposal. This theoretical framework deals with the main aspects of the two key concepts to be addressed: Project-Based Learning and CLIL. Subsequently, the more practical section of the Dissertation is addressed: it focuses

on the design and development of the lesson plan. The evaluation of the lesson plan and the conclusions are presented at the end of the document.

Finally, it is important to mention the objective of this Master's Dissertation. The establishment of objectives makes possible to clarify the purposes that are intended to be achieved with the development of this dissertation. For this reason, both general and specific objectives are going to be explained.

The main objective is to explore the educational value of Project-Based Learning as a resource that can be applied in a CLIL environment in Infant Education. For this purpose, a lesson plan in which PBL is used in this specific environment is proposed.

Apart from this main aim, this Master's dissertation also pursues the following specific objectives:

1. To develop an in-depth knowledge and understanding of the theoretical underpinnings of both CLIL and Project-Based Learning
2. To design a CLIL lesson plan that makes use of Project- Based Learning in the second cycle of Infant Education
3. To provide the tools necessary to evaluate the lesson plan once it is implemented
4. To reflect about the use of Project-Based Learning in conjunction with CLIL in the early years
5. To establish future lines of research

4. THEORETICAL FOUNDATION

4.1. Content and Language Integrated Learning (CLIL)

4.1.1. What is CLIL?

Following Pérez Cañado words (n.d, p.1), it can be said that we are living in times of change in foreign language education. Some new pedagogical paradigms have been appeared and are even appearing in language teaching which involves also a turn in bilingual education, “against this backdrop, an acronym has emerged as a timely solution in harmony with broader social perspectives, especially in the past two decades: CLIL” (Pérez Cañado, n.d. p.9), whose meaning is Content and Language Integrated Learning.

The term Content and Language Integrated Learning (henceforth CLIL) “was coined in 1994 and launched in 1996 by UNICOM, the University of Jyväskylä (Finland) and the European Platform for Dutch education” (Pérez Cañado, n.d, p.4). There are many definitions for this term. Marsh & Langé (2000) state that CLIL is “a dual-focused education approach in which an additional language is used for the learning and teaching of both content and language” (p.2). This dual focus is one of the most important characteristic of this approach. It means CLIL has two aims: one related to the subject itself and another related to language, that is to say; through CLIL, students learn one or more than one of their school subjects in a language other than their L1. This dual focus brings about a very important change in the way we conceive of both content and language, since previously they were two differentiated aspects in the curriculum and now, they are merged, because in CLIL; the learning of content and the learning of language are considered equally important.

Coyle (2005), affirms that “CLIL is not language teaching enhanced by a wider range of content. Neither is it content teaching translated in a different language (code) from the mother tongue” (p.1), but rather the CLIL methodology makes it possible to teach content through a foreign language. In this way, students acquire both, content and language. Moreover, she explains that what separates CLIL from other bilingual education initiatives is “its planned pedagogic integration of contextualized content, cognition, communication and culture into teaching and learning practice” (Coyle, Hood and, Marsh, 2010, p.6). This is known as the 4C’s framework (see Figure 1) and it is made up by “content (subject matter), communication (learning and using language), culture (intercultural understanding and global citizenship) and cognition (learning and thinking processes)” (Coyle, 2007, p.551).

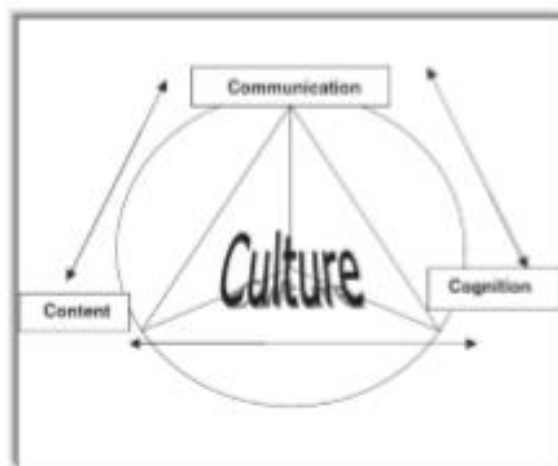


Figure 1. The 4C's Framework for CLIL (Coyle et al., 2007:551)

The 4C's framework offers a theoretical and methodological foundation for planning CLIL lessons and constructing materials because of its integrative nature. It is built on the following principles:

- **Content:** it is the subject or topic that is going to be worked. The variety of contents that can be worked are really numerous. Content may range from topics that teachers want to work, that has emerged from students' interests or that is part of the syllabus. Moreover, it is important to say that content involves learning concepts, procedures in order students can apply their knowledge to solve problems, to make a debate, to develop assessments, among others.
- **Communication:** this term refers to the language that is needed to construct knowledge. In this way, students have to acquire language learning (the specific language to learn the topic) and language using (that allows them to participate in the learning environment). One of the biggest challenges in CLIL is the relationship between language levels and cognitive levels, because generally, in a CLIL environment, students' language level is not the same as their cognitive level, because generally language level is lower although in some cases they can be the same. Coyle (2010) explains that, "if the language level is too low, then learning is limited whereas if it is too high, then learning cannot take place" (p.43). For this purpose, the CLIL Matrix (see Figure 2) is a useful tool that enables teachers to balance linguistic and cognitive demands.

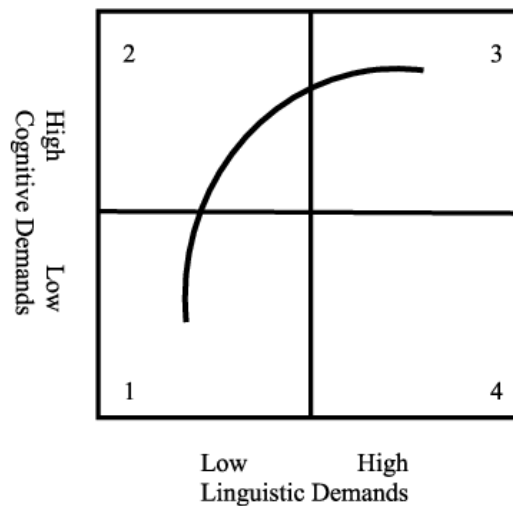


Figure 2. The CLIL Matrix (Google Images 2020)

- **Culture:** CLIL facilitates the creation of environments where learners can acquire diverse language and cultural experiences, because this approach allows them to explore the links between language and cultural identity, through the examination of behaviors, attitudes and values. Furthermore, the fact that CLIL involves content and language teaching at the same time enriches the learners' understanding of their own culture and that of others.
- **Cognition:** in CLIL, the idea is that teachers empower students to help them take control of their own learning process, building their own learning through the use of cognitive skills, that is, students process information and construct meaning. Constructing meaning involves learners in applying the prior and new knowledge they have about a topic to develop activities or carry out task related to it.

This last aspect is related to what is known as Bloom's Taxonomy since the CLIL approach attempts to promote abstract, complex and analytical thinking.

Forehand (2005) defines Bloom's Taxonomy as "a multi-tiered model of classifying thinking according to six levels of complexity" (p.2). This first taxonomy was created in 1956 and in it, it was possible to differentiate between Higher Order Thinking Skills (HOTS) and Lower Order Thinking Skills (LOTS). The former included knowledge, comprehension and application and latter include analysis, synthesis and evaluation. In the taxonomy, these categories are ordered from simple to complex and from concrete to abstract.

Blooms' Taxonomy was revised by Anderson & Krathwohl (2001). Two types of changes were introduced: terminology changes, nouns became verbs; and structural changes, the order of the levels was modified (see Figure 3):

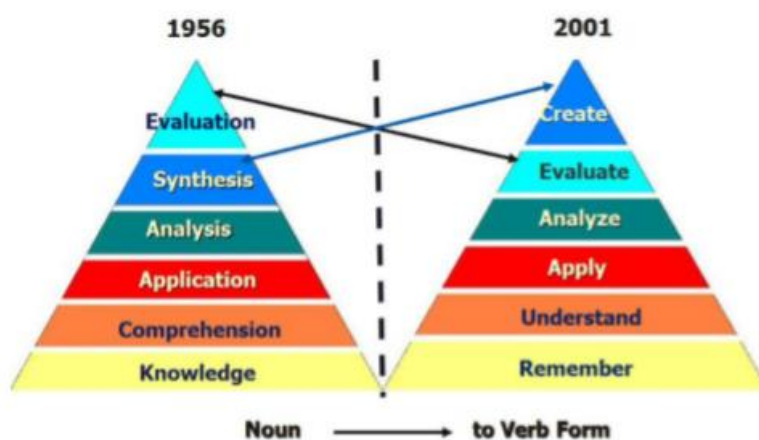


Figure 3. Bloom's Taxonomy and its revision (Wilson, 2001: 8)

These new terms were defined by Anderson & Krathwohl (2001) as follow:

- **Remember:** retrieve relevant knowledge from long-term memory.
- **Understand:** construct meaning from instructional messaged, including oral, written, and graphic communication.
- **Apply:** carry out or use a procedure in a given situation.
- **Analyze:** break material into its constituent parts and determine how the parts are relate to one another and to an overall structure or purpose.
- **Evaluate:** make judgement based on criteria and standards.
- **Create:** put elements together to form a coherent or functional whole; reorganize elements into a new pattern or structure (pp.67-68).

As has been mentioned before, CLIL has two aims: subject and language. Coyle, Hood and Marsh (2010) described this dual focus in the Language Triptych. It “is a conceptual representation to connect both content objectives and language objectives. This conceptual representation provides a framework for the analysis of the vehicular CLIL language from three interrelated perspectives which are the components of the language triptych” (Martín del Pozo, 2016, p.144). These components are: language of learning, language for learning, and language through learning (see Figure 4).

On the one hand, the language of learning is this type of language that allows learners to acquire concepts and skills of a specific field of knowledge. On the other hand, the language for learning allows learners to get on in a learning environment where the medium is not their

L1. It helps students to develop the planned activities or tasks during the lesson and to communicate. Finally, the language through learning can be considered as “the language generated in the process of learning. As a new meaning is learnt, new language is required and acquired” (Martín del Pozo, 2016, p.144).

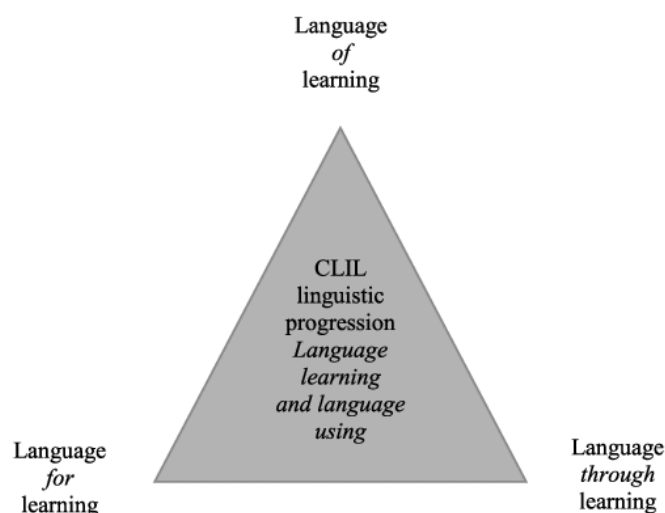


Figure 4. The language Triptych (Coyle et al., 2010: 36)

Still on the theme of the language aim of CLIL, it is also important to mention that in CLIL, students need to have the possibility to learn both conversational language and academic language, what is known as Basic Interpersonal Communication Skills (BICS) and Cognitive Academic Language Proficiency (CALP).

The first distinction between these two terms was introduced by Cummins in 1979. According to him, “BICS refers to conversational fluency in a language while CALP refers to students’ ability to understand and express, in both oral and written modes, concepts and ideas that are relevant to success in school” (Cummins, 2013, p.65). BICS can be identified as the language that allows students to develop their daily life, that is to say, the language that facilitates their social interaction, whereas CALP refers to language uses with academic purposes in the teaching-learning environment.

Finally, one aspect that is important to consider is that learning in a foreign language is not the same as learning in the L1. Learning in a foreign language requires high cognitive skills, so students can find it as a difficult task and, for this reason, teachers should help them. A really powerful tool for it is scaffolding.

Morgado et al. (2015) described scaffolding as a “process through which teachers and more competent student peers provide temporary support to help learners move forward in their knowledge and to facilitate their understanding and production of language and competences in a given content” (p.32). Through it, teachers “provide a platform from which learners can construct the next level of understanding and knowledge” (Attard Montalto, Walter, Theodorou and Chrysanthou, 2004, p.26). Using scaffolding, teachers can help learners to carry out an activity or task that they would not be able to do on their own. This idea is closely related to the Zone of Proximal Development (ZPD) described by Vygotsky. It can be described as this situation in which an individual can use his/her own skills with the help of someone to develop a task. In words of the creator of this term, the ZPD is “the distance between the actual development level (of the learner) as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (Vygotsky, 1978, p.86). Moreover, it is important to mention that scaffolding must happen at three levels: “language, content and interaction” (Bonnet, 2007, as cited in Lifelong Learning Programme, 2015, p.134).

As has been mentioned before, scaffolding is a really important tool in foreign language learning because it allows students to use their prior knowledge about a certain topic in order to process and understand new information and create links among them, using the resources, tools or ideas given by teacher or peers.

4.1.2. Application of CLIL in Infant Education: Literature review

First of all, it is important to say that many articles (Coyle, 2007; Banegas, 2012) state that most of the research about the implementation of CLIL in educational settings have been focused on Primary or Secondary level so literature about CLIL in Infant Education is not widely available. Moreover, the majority of the research focused on this stage, as Edlund Anderson, Mc Dougald and Cuesta Medina (2015) mention, has been carried out in Europe, “which serves to highlight the general lack of research on CLIL for young learners worldwide” (p.140).

However, despite the limited research in this stage, the aspects that have been investigated about CLIL in Infant education are really varied. For example, the effectiveness of CLIL lessons has been proven using different resources such as storytelling. García Esteban (2015) has explored “the process of delivering effective CLIL lessons through storytelling”

(p.47). After analyzing the data, she could affirm that storytelling contributes favorably to the development of CLIL lessons. Moreover, Sempere Plá (2016) carried out work that aimed to highlight the importance of games as a resource that benefits the learning of English through CLIL. The results of the work allowed her to discover that games “have a substantial impact on children of a bilingual class because of the motivation that it causes” (Sempere Plá, 2016 p.397).

Besides that, Soraya García (2013) tried to expose three different frameworks (Mohan’s knowledge structures, Bloom’s Taxonomy and the CLIL Matrix) to create materials and demonstrate which of them is the most appropriate that teachers follow in order to develop CLIL materials. The results of her research were that “there is no single model for CLIL. Different model share the common founding principle that in some way content and language learning are integrated” (García, 2013, p. 52). Teachers use different frameworks for the design and use of classroom materials depending on the characteristics of their students and the aims they want to achieve.

Another aspect that has been studied is how CLIL should be implemented in this stage. The findings of the European Commission study (Edelenbos, Johnstone & Kubanek, 2006, p. 146-149) about the teaching of languages to very young learners point out that the initial experience should not be restricted to “listening”, “speaking” and “doing”, but also there is the necessity of systematic introduction to reading and writing. Moreover, it is mentioned that children need to be encouraged to reflect on their own learning and that “motivation” and “aptitude” are the characteristics most strongly associated with pupils’ performance in the target language.

Related to the last aspect, it is important to mention the words of Marsh (2000).

What CLIL can offer to youngsters, is a natural situation for language development which builds on other forms of learning. This natural use of language can boost a youngster’s motivation and hunger towards learning languages. It is this naturalness which appears to be one of the major platforms for CLIL’s importance and success in relation to both language and other subject learning (p. 3).

Finally, regarding Marsh’s words, it is important to say that if it is decided to implement CLIL in an educational setting, teachers must be sure about the need of offer students an opportunity to learn a language in a natural way because it is in this way how their motivation will increase and will facilitate the effectiveness of the application of this approach.

4.2. Project- Based Learning (PBL)

4.2.1. What is Project-Based Learning?

Summarized from Cascales Martínez, Carrillo García and Redondo Rocamona (2017 p. 202), it can be said that some years ago, traditional methodologies were in educational settings. They were based on lessons in which contents were delivered by a teacher, regardless of students' needs, characteristics, intentions or personal choices. Then, the learning process was led by the teacher with no much intervention on the part of students.

However, as Dewey (1938) cited in his book *Experience and education*, there is a need for a change, because students' needs, characteristics, interests and aspirations must be taken into consideration. One example of this change are the student-centered methodologies. These methodologies "promote interactive learning that is more stimulating to both the teacher and students than traditional teacher-oriented classrooms" (Morgado et al., 2015, p.19). Embedded in student-centered methodologies is Project- Based Learning, since its main focus is also students.

The definitions of this term are numerous. Cocco (2006) as cited in Kokotsaki and Menzies (2016) states that:

Project-Based Learning is a student-centered form of instruction which is based on three constructivist principles: learning is context-specific, learners are involved actively in the learning process and they achieve their goals through social interactions and the sharing of knowledge and understanding (p.1).

It can be considered a particular type of learning in which the topic is chosen through questions or/and real life problems. This is defined Blumenfeld, Fishman, Krajcik, Marx, and Soloway (2000), who state:

The presumption is that students need opportunities to construct knowledge by solving real problems through asking and refining questions, designing and conducting investigations, gathering, analysis and interpreting information and data, drawing conclusion, and reporting findings (p.150).

The most important aspect of PBL is the creation of a project. A project in PBL can be defined as a set of researchers and tasks that are developed to solve a problem or explore issues that are interesting for student. The project also involves the creation of a dossier that reflects all the work done. The development of this project does not only involve one specific content area, but it may involve and integrate different content areas. The ways in which PBL can be

approached are various. Some schools decide to work through PBL as a way to develop the objectives and contents provided in the curriculum, whereas others use it as an extra work to the syllabus.

Finally, it is important to mention that “there are two essential components of projects: 1) they require a driving question or problem that serves to organize the project activities 2) these activities should result in artifacts that culminate in a final product that addresses the driving question” (Aksela & Haatainen, 2019, p.10). Furthermore, the driving question needs to be open for students have the chance to investigate in it. It is through this research how students will build their own knowledge. At the same time, the contents need to be realistic and contextualized. Doing this, learners can create links between what they have done in class and real-life experiences.

4.2.2. Characteristics of PBL

The characteristics of Project- Based Learning have been defined by several authors. The most important ones are:

- The Project has to be meaningful
- The Project is based on real world problems
- “Learning by doing”
- Importance of learners’ collaboration and teamwork
- Interdisciplinary approach
- Teachers’ role as facilitator
- Students’ active role in teaching-learning process

Following Larmer and Mergendoller words (2010, p. 34), it can be said that in order to develop this method in a successful way, the project should be meaningful. Students should perceive it as personally meaningful, that is to say, as a task that is connected with their personal interests, needs and they can see that it is useful for them. For this reason, teachers always need to know the characteristics, needs, interests and prior knowledge of the students because it is only in this way how the project would be meaningful to them.

Moreover, the project is usually based on real world problems, that is to say, in PBL there is a link between the educational scenario and real life. As Yancey-Siefel (2016, p. 1) mentions, “PBL uses examples of problems that people face in everyday professional and

personal life.” As the objective is to solve these problems, “PBL creates an opportunity to put kids in direct contact with their community and the larger world, and connect “real world” needs with students work” (Yancey-Siefel, 2016, p.1), because the answer to the problem can be found beyond the educational borders.

Related to the last characteristic, it is important to mention that one of the central ideas in PBL is of the concept of “learning by doing.” It is based on three main aspects:

1. People learn best when they are personally involved in the learning experience;
2. Knowledge has to be discovered by the individual if it is to have any significant meaning to them or make a difference in their behaviour; and,
3. A person’s commitment to learning is highest when they are free to set their own learning objectives and are able to actively pursue them within a given framework (Smith, 1980, p. 16).

Through PBL, there is the possibility to cover these three aspects because students are actively involved in the teaching-learning process, being them the protagonists of their learning, establishing their own objectives, acting teachers as a guide in their exploration and research throughout the whole process.

Inspired by Tamim and Grant (2013, p. 76-77), another characteristic of PBL is the importance of learners’ collaboration and teamwork. In this way, students work together to achieve a common objective. Through collaboration, the competitiveness and individualism fostered by traditional methodologies are left aside, because now the objective is the achievement of shared goals. In order to do so, it is necessary to create situations in which “individuals seek outcomes that are beneficial to themselves and beneficial to all other group members” (Johnson & Johnson, 2008, p.1).

Interdisciplinarity is another characteristic of PBL. PBL adopts an interdisciplinarity approach according to which one project does not only work on one specific area, but combines contents from different areas. This interdisciplinarity is not only reflected in the contents, but also in the skills. As Larmer and Mergendoller (2010, p. 36) mention, PBL facilitates the acquisition of different types of skills and even 21st century skills, such as collaboration, creativity, critical thinking, flexibility and the use of the technology, among others. The acquisition of these skills allows students to be prepared to face their personally and working future.

Regarding the role of the teacher in PBL, it can be said that it moves from “sage-on-the-stage to guide-on-the-side” (Nation, 2008, p.109). Now, teachers have a role as facilitators and guides in the teaching-learning process. According to Wood (2003) cited in Kumar Sahu & Sa (2015), “teachers’ main role in PBL is to facilitate the proceedings and to ensure that the group achieves appropriate learning objective in line with those set by the curriculum developers” (p.2). Teachers do not should transmit all their academic and expert knowledge that they have about the topic, but also, they should encourage students to discover the knowledge by themselves through critical thinking, open questions, participation in debates, working together as a team, etc. Moreover, they should create and provide comfortable teaching-learning environments in which students feel safe to participate.

The last characteristics is related to students’ role in PBL. The role of the students shifts from ‘recipient of information’ to ‘maker of meaning’” (Fleming, 2000, p.16), that is to say, students now have an active role in the teaching-learning process and they are responsible for their own learning. They are not a passive agent who listen to the information and knowledge provided by the teacher, but they participate actively in the lessons, assuming responsibility with the help and support of teachers. All this supposes a great commitment and involvement of the students in the development of the project, since they are the true protagonists of it.

4.2.3. Steps to implement PBL

The implementation of this approach is not improvised, but it requires a series of steps. Different authors have made different proposals in this regard. For example, according to Díez Navarro (1998, p.36), the following steps should be considered:

1. Choice of study topic: teacher and students decide on the topic that will be worked on.

2. What do we know and what do we want to know?: the teacher checks students’ prior knowledge about the topic and what their interests are regarding the topic.

3. Communication of previous ideas and contrast between them: students will communicate to the rest of the class what they know about the topic. In this way, recommendations and contributions of ideas from the rest of the group may emerge.

4. Search for sources of documentation: students will search diverse sources and resources in order to get information that allows them to answer the questions asked.

5. Organization of the work: in this phase, the teacher will organize the spaces, the time, the activities, etc.

6. Carrying out activities: learners will work on the topic developing different activities. Teachers have to give the same opportunities to all students and adapt the activities to them.

7. Preparation of a dossier: in the dossier, it will be summarized what has been carried out during the project and what students have learned.

8. Evaluation: although the evaluation must be dealt with throughout the learning process, in this phase it will be verified that the questions asked by the children have been answered.

Jalinus et al. (2017, p. 252) state that seven steps are needed to implement PBL. They are divided into three main stages that he defines as follow: 1) skill competence debriefing, which aims to let students know what is expected from them in the project, to increase their motivation because tasks will be solved in the real-world and, have the skills of essential learning content conducted; 2) project work, that is the stage in which the project lifted from real-word issues will be developed; and 3) evaluation, aims to assess the development of the learning process and students competences.

Figure 5 shows the stages proposed by Jalinus at al. (2017):

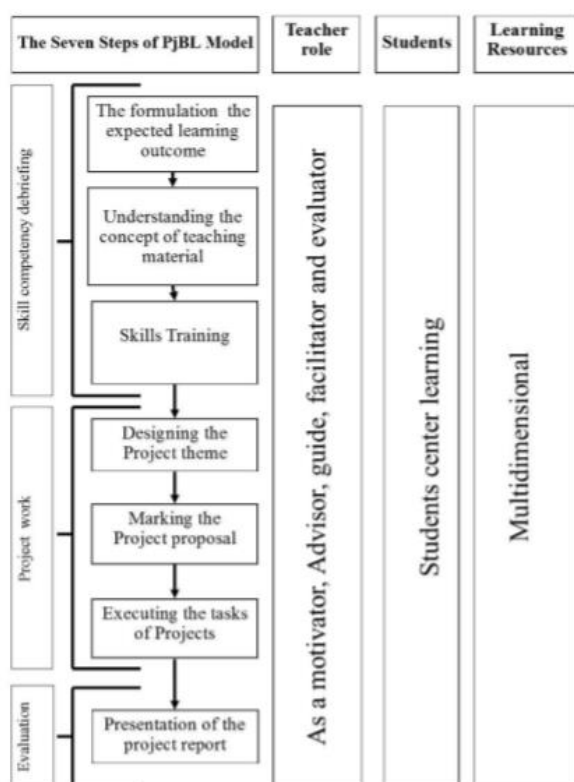


Figure 5. Steps to implement PBL. (Jalinus et al. 2017: 252)

Taking into consideration the different steps described above, I have created the specific structure that the present proposal follows:

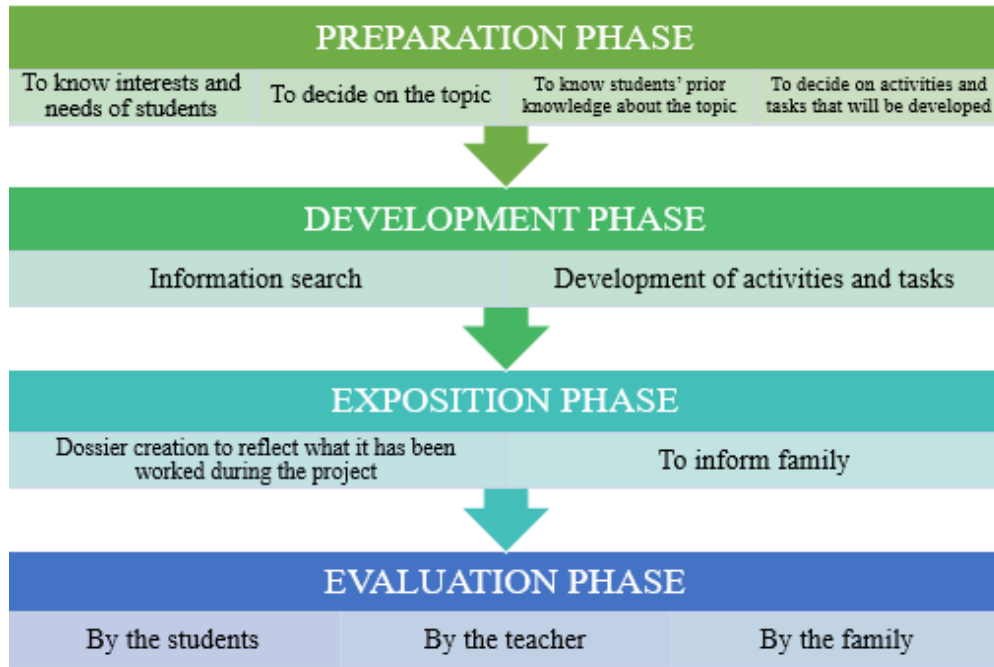


Figure 6. Steps to implement PBL (Source: the author 2020)

4.2.4. PBL and CLIL

Project-Based Learning (PBL) is one of the preferred methodologies in CLIL because it is so suited CLIL principles. Regarding the main aspects of these two approaches, it is possible to establish connections between them.

One of the most obvious meeting points could be the constructivist theory of learning. The objective is for students to build their own learning using the tools and guidance given by teachers. CLIL, as Pérez Cañado (n.d., p.10) states, is based on constructivist principles. Adopting an active role in the teaching-learning process will facilitate for students the development of their communicative skills. As to PBL, it has a close relation with constructivism since students build their own knowledge through the design and the search for solutions to the problems or questions raised.

Another important commonality between CLIL and PBL is the roles that teachers' and students' play in them. Both CLIL and PBL leave aside the conceptions of traditional teaching in order to create a teaching-learning process adapted to students' needs and interests. Pérez Cañado (n.d., p. 10) states that "the teacher role is recalibrated. The CLIL classroom is not

teacher-driven, but student-led, and the instructor thus becomes a facilitator.” This is also one of the main features of PBL. According to Fleming (2000, p. 16), the role of the students has changed, being now actively engaged in the teaching-learning process, since they are the protagonists of the projects. But, it would not be possible if teachers do not provide scaffolding, which is the other meeting point of these two approaches.

It cannot be forgotten that both PBL and CLIL facilitate and encourage cross-curricular work. The projects provide opportunities to link contents from different areas of knowledge and CLIL has a dual focus that allows work on different areas at the same time. Moreover, as far as language acquisition is concerned, it can be said that PBL facilitates the development of CLIL’s 4C’s Framework since one of the characteristics of PBL is that it fosters a global approach.

Another aspect that PBL and CLIL have in common is the need to create meaningful and contextualized learning, taking into account students’ previous knowledge. Pérez Cañado (n.d) explains that “CLIL provides meaningful learning opportunities by building on the students’ previous learning and calling on their previous knowledge, skills, attitudes, interests, and experiences” (p.10). Likewise, in PBL, the project is created around students’ interests and needs and it is also fostered meaningful and contextualized learning. Moreover, in both cases, the materials used and the situations created tend to be authentic, since one of the characteristics of the projects is that they are based on real-world problems. In CLIL, as Moore and Lorenzo (2007) state, it is through authentic materials that students can acquire “models of the target language in use” (p 29).

Finally, collaboration is yet another meeting point between PBL and CLIL. One of the main characteristics of PBL is group work, in which students have to work together in order to share information and try to solve the problems or answer the proposed questions. Furthermore, some important CLIL research (Coyle and Marsh, 2010) assert that work in groups facilitates language and contents acquisition, and at the same time it fosters students’ communication skills.

4.2.5. Application of PBL in Infant Education: Literature review

Research on PBL in Infant Education is not very extensive. The literature suggests that PBL is generally used in higher stages, such as Primary and Secondary Education and even university teaching.

Regarding the first application of PBL, it can be said that initially, PBL was “used as a means of ensuring that medical students were able to apply knowledge and respond to ‘real-life’ situations rather than simply acquire course content” (Edwards and Hammer, 2007, p.21). But, after that, PBL was spread to other educational settings.

The educational environments in which PBL are applied are very varied. There are many studies related to the application of PBL in non-linguistics subjects. One case is the research carried out by Corral Herrerías (2017) in which the objective was to know the efficacy of PBL in the development of attitudes, abilities and knowledge of Social Sciences. The data obtained showed that the group in which PBL was used obtained a higher performance than the control group. Moreover, Vázquez Cerro (2019) developed a research in which PBL was used to work on contents related to animals. The results were satisfactory because, as she states, students could learn the content without the need to using memorise which contributed to significant learning.

Furthermore, the efficiency of PBL has been tested in conjunction with other methodologies, such as the Reggio Emilia approach. In this regard Sariyati Firdaus (n.d) wanted to prove the efficacy of this approach in the Infant Education stage. The results confirmed that this approach is beneficial for the holistic development of the child. Likewise, it is also pointed out that its relevance is not limited to Infant Education, but it also applies to the other educational stages.

There is research carried out by Remacha Irure and Belletich (2015) in which the objective was to analyze the implications of PBL in four dimensions: psychosocial, pedagogical, didactic and social. Regarding the psychosocial level, they affirmed that PBL stimulates the participation in the teaching-learning process of those students who used to be immersed in passive learning models. Likewise, they mentioned that PBL facilitates the integral development of students since teaching is adapted to their characteristics. At the pedagogical level, they pointed out the importance of the organization of flexible spaces and times in the classroom for the incorporation of this method. At the didactic level, PBL makes it possible for students to be the protagonists of their own learning and value their participation and that of their families as a positive aspect, increasing their confidence and motivation. As far as the social level is concerned, the authors contend that PBL can be applied in a wide variety of contexts and different settings because it can be easily adjusted to them. Furthermore, it is also

mentioned that the influence of students' contexts as well as the involvement of their families in the learning process are factors that condition the correct practice of PBL.

Cascales Martínez and Carrillo García (2018) developed a study to analyse the theoretical approach of PBL around professional practice in Infant Education and to respond to questions related to its implementation. The results obtained allowed defining PBL as a very effective instrument for the integral development of students, but for that purpose, it emphasized the need to establish clear criteria for the design of the PBL, a clear definition of the objectives and contents, the evaluation that is going to be followed.

Finally, the most salient difficulty facing the implementation of PBL that several authors such as Sarceda Gorgoso, Seijas Barrera, Fernández Román, and Fouce Seoane (2015) have pointed out is teachers' training and involvement of teachers. They say that some teachers affirm their lack of familiarity with the method as well as their fear of not knowing how to apply it well.

5. LESSON PLAN DESIGN

5.1. Rationale

In these sections, a lesson plan is presented whose aim to value the use of Project-Based Learning as a teaching tool in a CLIL environment in Infant Education. The lesson plan is entitled *Under the Sea*. It is designed for the third year of the second cycle of Infant Education where students are five years old.

The design of this lesson plan is supported by current legislation. On the one hand, the Organic Law 8/2013, of December 9, for the improvement of educational quality (LOMCE) places the emphasis on a competency-based curricular model, that is, it is committed to competence development as the axis of the educational system. This type of learning based on competences is characterized by its cross-curricular and its dynamism and nature. In this, the learning must be addressed from all areas of knowledge. Likewise, it is proposed that the competences are not acquired in a certain moment and remain unchanged, but involve a process of development whereby individuals acquire higher levels of performance in the use of them. This can be considered to be closely related to Project-Based Learning because it is a method that facilitates cross-curricular work whereby students develop competences that will allow them to be prepared for life.

On the other hand, this lesson plan has been designed to be implemented in a public school of the autonomous community of Extremadura where I did my internship last year. Its name is CEIP Castra Caecilia. For this reason, the DECREE 4/2008, January 11, which approves the Infant Education Curriculum for the Autonomous Community of Extremadura, must be taken into account to establish the topic, objectives and contents of the lesson plan. More specifically, the topic of this lesson plan is the “shark” and it can be found in the second area of the second cycle of the curriculum, as it refers to students’ gradual development of environmental awareness. This topic arises from the students’ own interests: after watching the *Finding Nemo* movie in class, student began to talk about sharks, making very interesting questions such as: Do sharks live in the sea? Can they live in a swimming pool? Do they eat kids? etc. For this reason, the purpose of the lesson plan is for pupils to explore, investigate and discover the animal world, using English as a medium for that, while at the same time developing specific communicative language competence. Throughout the lesson plan, pupils are encouraged to investigate about the main aspects of sharks and to discover the main characteristics of this animal. At the end of it, students will do a brief oral presentation in front of their families to show everything they have learned with this project.

5.2. Contextualization

As has been mentioned before, this lesson plan has been designed to be implemented in a bilingual public school in Extremadura. The name of the school is CEIP Castra Caecilia and it is located in the city of Cáceres. It is the capital city and most populated municipality, with around 97 000 inhabitants, in the province of Cáceres.

Specifically, the school is located in the outskirts of the city. The area where the school is has become the neighborhood with the highest youth population index in Cáceres. The socioeconomic level of the families whose children come to the school is very heterogeneous. Although the majority of the parents are employed workers with a medium or medium-high socioeconomic level, there are also families in disadvantaged situations.

The school building has two floors and is modern in design. The school opened in the 2007/2008 academic year. It is surrounded by playgrounds for multiple uses and also has some interior courtyards allowing it to be very bright. It has a total of 674 students, of whom 224 belong to the Infant Education stage. It is important to mention the school has three lines, so there is a total of 9 groups in the infant stage, three in each year.

Specifically, this lesson plan is designed for the group B of five years old. The classroom is located on the ground floor of the building. The classroom is spacious, with five work tables. There is an area dedicated to the assembly that also deals with moments of free play. Although there are no established corners, during free play time different spaces for different purposes are established: reading (in the classroom library), symbolic play (in the assembly), modelling clay, coloring and puzzles (on the work tables).

There is a total of 25 pupils in the group, 15 girls and 10 boys. There are no cases of students diagnosed as having special education needs. The cognitive development of the class is as expected for their age. Their thinking is characterized by being symbolic since there is an enormous development of creativity and fantasy, but they can differentiate between the real and the imaginary. Their attention is relatively short, therefore, the scheduled sessions last about 50 minutes. Pupils are less self-centered and love playing with other peers.

In the language area, they are capable of having a fluent conversation with adults in their L1. Their sentences begin to be more complex and they even use subordinate sentences. With regard to their level of English, it can be said that the majority of them have started to familiarize with the language in their previous years but at a very basic level. Now, they enjoy listening to

songs in English and they show interest in contexts where English is used. They understand when the teacher speaks in English and they know some basic concepts.

Finally, in the motor area, it can be said that they show great coordination in their body movements. Their balance is so good they can even walk on one leg without help. Moreover, they have good fine motor skills and are able to represent the human figure.

5.3. Objectives

The general objectives that are intended to be achieved with this lesson plan are related to those detailed in DECREE 4/2008, of January 11, which approves the Infant Education Curriculum for the Autonomous Community of Extremadura.

PBL is a method that, due to its cross-curricular and interdisciplinary nature, allows work on different objectives and contents present in the curriculum. For this reason, objectives of the three knowledge areas are going to be achieved at the end of this lesson plan (see Table 1). These objectives have been taken from the abovementioned Decree and translated by myself into English.

AREA	OBJECTIVES
Self-knowledge and personal autonomy	7. To adapt their behavior to the needs and requirements of other, developing attitudes and habits of respect, help and collaboration, avoiding behaviors of submission or dominance.
Knowledge of the environment	1. To observe and actively explore their environment generating interpretations of some significant situations and events and showing interest in their knowledge. 2. To establish some relationships between the characteristics of the physical environment and the form of life established in this environment. 4. To participate in the various groups with which they interact in an increasingly balanced and satisfactory way, progressively internalizing the guidelines of social behavior and adjusting their behavior to them.
Languages: communication and representation	5. Getting initiated in the social uses of reading and writing, exploring their functioning and valuing them as instruments of communication, information and enjoyment. 7. Getting initiated in the oral use of a foreign language to communicate in activities within the classroom and show interest and enjoyment by participating in these communicative exchanges (Department of Education, 2008, pp. 1253-1268).

Table 1. Objectives of the lesson plan (Department of Education 2008: 1253-1268)

Regarding the specific objectives of this lesson plan, two types can be differentiated: content and language objectives. Dealing with the content ones, at the end of this lesson plan, students will be able to:

- Recognize some characteristics of sharks such as: where they live, what colours they are, what shape they are and what they eat
- Recognize and differentiate three different species of sharks: white shark, whale shark and hammerhead shark

As far as language objectives are concerned, they are organized taking into account the Common European Framework of Reference (2001; 2018). At the end of this lesson plan, students will be able to:

- Linguistic

- *Vocabulary*

- Use vocabulary words related to animals: shark and fish
 - Use vocabulary words related to parts of the body: teeth and skin
 - Use vocabulary words related to species of sharks: white shark, whale shark and hammerhead shark
 - Use adjectives related to size and qualities of touch: big, small, soft and hard

- *Grammar*

- Begin to recognize and use the structure of affirmative sentences in the present simple (Sharks live in the water)
 - Begin to recognize and use the structure adjective + noun (big teeth)
 - Begin to recognize and use the structure of the questions in present simple (Where do sharks live?)
 - Begin to recognize and use the structure of the short answers in present simple (Yes, they do; No, they don't)

- Sociolinguistic

- Establish simple conversations with classmates and adults using polite expressions, such as please, thank you and sorry

- Pragmatic
 - Express emotions, feelings, desires and ideas orally
- Skills
 - *Reception*
 - Understand short, very simple questions and statements provided that they are delivered slowly and clearly and accompanied by visuals or manual gestures to support understanding and repeated if necessary
 - Recognize words and names that they already know in simple, short recording, provided that they are delivered very slowly and clearly
 - Recognize familiar words accompanied by pictures
 - Deduce the meaning of a word from an accompanying picture or icon (Council of Europe, 2018, pp. 55-67).
 - *Production*
 - Produce short and simple sentences to describe their ideas and experiences as well as to describe some sharks' characteristics
 - Use gestures to ask about something or to accompany their speaking productions
 - *Interaction*
 - Use and understand simple sentences and expressions in conversations with their classmates and adults
 - *Mediation*
 - Express what they have understood using simple and short sentences to their classmates and the teacher

5.4. Competences

The competences are defined as "capacities to apply in an integrated way the contents of each teaching and educational stage, in order to achieve the proper performance of activities and the effective resolution of complex problems" (Department of Education, 2014, p. 18970). They are not detailed in the aforementioned Decree but they are selected from the Organic Law

8/2013, of December 9, for the improvement of educational quality (LOMCE) because this lesson plan is also based on it.

The competences developed in this lesson plan are the following:

- Communicative language competence
- Mathematical competence and basic competences in science and technology
- Digital competence
- Learning to learn
- Social and civic competences
- Sense of initiative and entrepreneurial spirit
- Cultural awareness and expressions

5.5. Contents

The contents of this lesson plan have also been selected from DECREE 4/2008, of January 11, which approves the Infant Education curriculum for the Autonomous Community of Extremadura.

The interdisciplinary nature of PBL also allows work on contents from different areas of knowledge; for this reason, as Table 2 shows, contents of the three areas are worked on. It is necessary to comment that the contents have been selected from the curriculum to indicate the link of this project with it. In this way, it is intended to demonstrate that Project-Based Learning can be included in the classrooms since it allows to work what is stipulated in the decree by which teachers must be governed.

The following contents have been taken from the abovementioned Decree and translated by myself into English.

AREA		CONTENTS
Self-knowledge and personal autonomy	Block 1. The body and the imagen itself	7. Manifestation and progressive regulation of feelings, experiences, emotions, interest, motivations, preferences...
	Block 2. Play and movement	8. Coordination and control of fine manipulative skills and correct use of common utensils. 17. Attitude of help and collaboration with their peers.

	Block 3. Activity and daily life	5. Coordination, collaboration and help with peers and adults asking for the necessary help at the right time 10. Attitude of help, collaboration and cooperation, coordinating their own interests with those of others.
Knowledge of the environment	Block 1. Physical environment: elements, relationships and measurements	3. Grouping of objects in collections according to their similarities and differences. 19. Exploring the size of objects using the chosen reference unit.
	Block 2. Approach to nature	3. Animals and plants in distant landscapes of interest to boys and girls. Different types of natural landscape. 4. Discrimination and subsequent classification of some animals and plants, according to the environment in which they live, and certain physical and/or functional characteristics. 13. Interest in knowing the characteristics and functions of living things.
	Block 3. Culture and life in society	11. Responsible performance of simple tasks or assignments. 15. Interest in participating in family and school life and in assuming small responsibilities and fulfilling them, with attitudes of affection, initiative, availability and collaboration.
Languages: communication and representation	Block 1. Verbal Language	1.1. Hear, talk and converse 1. Verbal language and the most common needs and situations of expression and communication. 2. Understanding the communicative intentions of adults and other children in everyday life situations. 3. Production of messages referring to information, needs, emotions and desires through body expression, painting and drawing, oral language or any other means of expression. 6. Use of the rules that govern the linguistic exchange (pay attention, keep shift ...), uses of dialogue and participation in collective conversations as a way of interacting with others. 11. Initiative and interest in participating in oral communication situations of various kinds (groups, dialogues, narrations, game explanations). 13. Interest in the explanations of others (adults, children) and an attitude of curiosity regarding the information they receive. 14. Attitude of listening and respect for others in dialogues and collective conversations, respecting the

		norms and social conventions that regulate language exchange. 1.2 Approximation to written language 2. Interpretation of images, posters, prints, photographs... that accompany written texts establishing relationships between them. 10. The instruments of the written language: books, magazines, newspapers, stories, posters, labels, advertisements and others.
	Block 2. Audiovisual language and ICT	2. The computer as a resource and support in learning.
	Block 3. Plastic language	3. Production of plastic elaborations to express facts, events, experiences, fantasies and wishes. 5. Exploration and use of specific and non-specific materials for plastic production (crayons, tempera paints, mud, water, flour...) (Department of Education, 2008, pp. 1256- 1270).

Table 2. Contents of the lesson plan (Department of Education 2008: 1256-1270)

5.6. Methodology

The methodology of this lesson plan is inspired by two main trends: the constructivist perspective, which both Project-Based Learning and CLIL are based, and the methodological principles described in the aforementioned Decree.

The constructivist methodology defends that pupils are agents intrinsically motivated to learn. They interact with the real environment and in this way, they develop skills and abilities to understand the world. However, in order to achieve this, teachers have to provide opportunities to do so through a stimulating environment. Following this perspective, education is conceived of a process destined to stimulate the ability to think, deduce, draw conclusions and reflect.

As PBL is based on the constructivist theory, these ideas are closely related to the basic principles of PBL. For this reason, throughout the development of the project, facilitating learning environments will be created. The main protagonists in these environments are students themselves, who will adapt the role of researches. This will allow them to be actively involved in the teaching-learning process. The teacher will be the facilitator of learning environments and experiences and will give students the opportunity to establish links between what they already know (their previous knowledge) and the new contents they are learning,

making the construction of meaningful learning possible. The contents are also adapted to the context and interests of students and the teaching-learning process is considered a continuous and progressive construction process.

Taking into account what is detailed in the Decree, it is important to mention that a playful atmosphere is also fostered. Furthermore, the Decree explains that the relationships that are established between all the members of the educational community is a matter of great importance, so the involvement of these members is necessary for the development of various sessions of the project.

Another essential aspect is the adequate organization of the classroom environment, which includes spaces and material resources that will be essential for students to adopt the leading role defended by the constructivist perspective. Furthermore, the new technologies are going to be used as a didactic resource. For that purpose, it is necessary to adapt them to the age of the pupils and to the proposed educational intentions.

Finally, it is important to highlight that learning in a foreign language is not the same that learning in the mother tongue, because it implies a bigger challenge. For this reason, the teacher will speak slowly and clearly using body language as well as variations in the tone and volume of her voice in order to facilitate students' comprehension. Likewise, pictograms, pictures and other visual aids will also be used to facilitate understanding.

5.7 Timing

Flexibility will be one of the most important aspects of this lesson plan due to the characteristics of the students in this stage. As their interests and commitment have been taken into account, the schedule of the lesson plan can be modified if they are not motivated or they do not show interest in the project.

The project is intended to be developed in a total of ten sessions. Two sessions a week are supposed to be worked, so it will cover five weeks, but this can change. All the sessions are expected to last about 50-55 minutes. As can be seen in the following table, the sessions are not very long because they are intended to be adjusted to students' attention span, which is rather limited. Students also need constant changes because they can get bored. This is the reason why at least two activities per session have been scheduled.

Table 3 presents an overview of the activities in each session and the sessions' length.

Session	Activities	Length
Session 1	Assembly Make a note	50 minutes
Session 2	Visit of an expert Revision	55 minutes
Session 3	Assembly Craft activity Closure	50 minutes
Session 4	Warm-up Assembly Collaborative activity Closure	55 minutes
Session 5	Warm-up Assembly Craft activity Closure	55 minutes
Session 6	Assembly Warm-up with Baby Shark song Go, go to... Sizes comparison Relaxation activity Closure	55 minutes
Session 7	Warm up Assembly Sharks' diet poster Closure	55 minutes
Session 8	Warm up and revision of the KWL chart Revision of the materials made Make an invitation for families	55 minutes
Session 9	Get ready for the presentation Presentation time Pooling	55 minutes
Session 10	Refection time Drawing + pooling	50 minutes

Table 3. Timing (Source: the author 2020)

5.8. Evaluation

As detailed in the DECREE 4/2008, of January 11, which approves the Infant Education Curriculum for the Autonomous Community of Extremadura, "the evaluation at this stage will be global, continuous and formative" (Department of Education, 2008, p. 1234). For this reason, this lesson plan makes use of three types of assessment: initial assessment, formative assessment and summative assessment. Furthermore, it is considered important to take into account the students' own ideas about their development throughout the project as well as the opinions of the families, so a self-assessment tool and an evaluation tool for families are also included.

Regarding the initial evaluation, it is developed at the beginning of the lesson plan with the aim of knowing students' previous knowledge and ideas about the topic. Specifically, it is developed in the first session, using for that two resources: a chart in which it will be organized what students know, what they want to know and what they have learned (KWL chart) and a drawing. In the first one, students are encouraged to talk about the topic and to explain what they know about it. It will be written in the chart in the section called "what do we know?" The objective of the drawing is to know what the previous idea of pupils about the shape of sharks is. It is also developed in the first session, in the note that students do to inform their families about the project.

With regard to formative assessment, it is performed at the beginning of sessions 3, 4,5,6,7 and 8 in the warm-up section. In order to carry out this formative assessment, the teacher and students talk about what has been learned in the previous sessions using the KWL chart for support. The objective of this is for students to become aware of what they remember and what they not. Moreover, the teacher has the opportunity to know about the development of each student throughout the lesson plan, and what is clear and what is not for them. Also, formative assessment allows the teacher to identify which students need reinforcement or extension activities.

In order to identify the learning acquired and determine the students' degree of achievement in relation to the lesson plan's objectives, summative assessment is proposed. It consists of a rubric (see Table 4) that will be filled by the teacher at the end of the project that is after, developing the presentation to the families. The teacher will have enough information collected during the presentation time to fill it. The items detailed in the rubric are related to the objectives both general and specific, to be achieved. As can be observed, these are divided

into the 4C's framework since this lesson plan follows the CLIL methodology. Moreover, another aspect to be assessed is cooperative learning because it is one of the most important aspects of PBL. Three levels of acquisition are detailed in relation to each item: achieved, in process and not achieved.

				Achieved	In process	Not achieved
CONTENT	Recognition of sharks' characteristics		Where they live			
			What colours they are			
			What shape they are			
			What they eat			
	Recognition and differentiation of different shark species		White shark			
			Whale shark			
			Hammerhead shark			
COMMUNICATION	LINGUISTIC	Use of vocabulary words	Shark			
			Teeth			
			Skin			
			Fish			
			White shark			
			Whale shark			
			Hammerhead shark			
		Use of adjectives	Big			
			Small			
			Soft			
			Hard			
		Recognition and use of grammar structures	Structure of affirmative sentences in present simple			
			Structure adjective + noun			
			Structure of questions in present simple			
			Structure of short answers			
	Sociolinguistic	Establish simple conversation with classmates and adults using polite expressions				
	Pragmatic	Express emotions, feelings, desires and ideas orally				
			Understand short, very simple questions and statements			

	S K I L L S	Reception	Recognize words and names that they already know in simple, short recording			
			Recognize familiar words accompanied by pictures			
			Deduce the meaning of a word from an accompanying picture or icon			
		Production	Produce short and simple sentences to describe their ideas and experiences as well as to describe some sharks' characteristics			
			Use gestures to ask about something or to accompany their speaking productions			
		Interaction	Use and understand simple sentences and expressions in conversations with their classmates and adults			
		Mediation	Express what they have understood using simple and short sentences to their classmates and the teacher			
		CULTURE	Exploration and exploration of their environment generating interpretations of some significant situations			
COGNITION	Establishment of some relationships between the characteristics of the physical environment and the form of life established in this environment.					
COOPERATIVE LEARNING	Adaptation of their behavior to the needs and requirements of other, developing attitudes and habits of respect, help and collaboration					
	Participation in the various groups with which they interact					

Table 4. Summative assessment (Source: the author 2020)

Due to the students' age and characteristics, to develop a self-assessment rubric is a difficult task. For this reason, it has been decided to develop a reflection time in the last session where the KWL chart is also used. In this last session, students have to complete the section called "What have we learned?" In this way, students reflect about their achievements throughout the project. Due to their characteristics, the teacher needs to help and support them with questions that will guide them in their reflections. Furthermore, their opinions about the project are also very important and, for this reason, in the same session, an activity is included in which students are also asked to draw their favourite part of the project.

Finally, as has been mentioned in the methodology, the families are a very important agent in the development of this project. For this reason, it is advisable to take into account their opinions about the students' performance as well as about the project itself. A rubric (see Table 5) is presented to families, who will have the opportunity to complete it at the end of session 9 or at home.

	YES	NO	DON'T KNOW/ NO ANSWER
STUDENTS			
1. The student recognizes and talks about some characteristics of sharks			
2. The student recognizes and differentiates the three species of sharks			
3. The student uses English as a medium of communication			
4. The students shows interest in the project			
5. The student talks about the project at home			
PROJECT			
1. The project is interesting			
2. The project is adapted to students' needs and characteristics			
3. The created materials are useful in relation to the project			
4. The topic is adequate and motivating for students			
OBSERVATIONS			

Table 5. Rubric for families (Source: the author 2020)

5.9. Inclusion and diversity

Diversity is a characteristic of the human being, since each is different from the rest in terms of attitudes, knowledge, interests, characteristics, learning pace, learning styles, etc. For this reason, teachers must cater for the diversity that exists in the classroom. The answer to this is to properly adapt the teaching-learning process to these different needs and capacities.

This necessary adjustment to the characteristics of the students can be carried out through different steps. In this group there are no diagnosed cases of students with special education needs but, if necessary, the objectives, contents, evaluation criteria and methods can be adapted to specific needs. Likewise, as the development of the each student throughout the project would be different, some reinforcement activities (for those students who need to work more on the contents because they do not achieve the objectives) as well as extension ones (for those students who achieve the objectives more easily and need a bigger challenge) are detailed in the appendix 1.

Furthermore, an important aspect included in the diversity measures is the development of multiple intelligences, which are covered in the different activities. For example, musical intelligence is covered in the activities where students have to dance; bodily intelligence, since students are asked to use their bodies in some activities; interpersonal and intrapersonal intelligence since individual and group activities are included; mathematical intelligence, since students need to make differences between what aliments sharks eat and what they not.

Finally, considering the age of the target group, it is really important to offer students comprehensible input and meaningful experiences in order for them to be engaged in and developed an understanding of the topic. To do that, the teacher needs to speak clearly using simple words and short sentences in order to adapt her speech to students' proficiency level, to use gestures and facial expressions, to give clear instructions for the activities, to scaffold students learning and to make connections between their previous knowledge and the new contents.

6. DEVELOPMENT OF THE LESSON PLAN

In this section, the sessions that make up the lesson plan are described. As has been mentioned before, this lesson plan is composed of ten sessions. They can be distributed into the four different phases previously detailed. The sessions are as follows:

6.1. Preparation phase

Session 1: What will we discover?

During the assembly time, the teacher reminds students of the conversation about sharks they had after watching the film *Finding Nemo*. Then, the teacher asks them if they want to develop a project in order to solve their doubts about the topic. Since their answer is expected to be yes, a KWL chart (see appendix 2) is created in order to assess students' previous knowledge about the topic, what they want to know and, later, what they have learned at the end of the lesson plan. Continuous paper and markers are used to do it and it is glued on the wall of the project corner. The purpose of the KWL chart is explained to students.

Firstly, the teacher needs to know students' previous knowledge about the topic. In order to do so, students have the opportunity to talk freely about sharks. If students do not participate or, in order to encourage their contributions, the teacher can ask some questions such as: What is a shark? Have you ever seen one? What do you know about sharks? The teacher also asks them what they want to learn with the project. Due to students' characteristics, it is important to provide them with enough scaffolding and support as well as to encourage them to use complete sentences instead of a few words by modelling for them (for example, repeating what they have said, but using full sentences). The teacher draws simple images that represent what they have said that they know about sharks and what they want to learn on the corresponding parts of the chart. Finally, the information on the chart is read.

After that, students go to the work tables and work individually because it is the time to make a note to inform families about the project and to ask for their collaboration. Moreover, families are invited to bring to the classroom any book related to the topic that is going to be placed in the class library. To make the note, the teacher gives them a piece of paper with some information (see appendix 3). They are asked to draw and colour in a shark. In this way, the teacher can observe what their idea about the shape and colours of a shark is. When they finish, they put the note in their bags to give it to their families.

6.2. Development phase

Session 2: A very interesting visit

When was asked for the collaboration of the families, the mother of one of the pupils lets the teacher knows that she is an expert in this field. The teacher invites her to come to the class to talk about sharks and to solve some of the students' questions. If this situation had not occurred, that is, none of the family members had been an expert, the teacher should contact a professional on this topic, for example, a worker of an oceanarium and develop a session with his/her help. For example, the session proposed below could be held via videoconference with the professional.

In this session, the expert goes to the class. Pupils are sitting down on the floor in the space of the assembly. The teacher asks them why they think this mum is in the class. After that, the teacher tells them that the expert is going to talk and solve their questions about sharks. The mum speaks English, so the presentation is carried out in English. If she does not speak English, the mum will speak in Spanish and the teacher will translate her explanations into English. In order to start asking questions, the KWL chart, specifically the section called "what do we want to learn?" is used. The teacher and students identify the drawings that are in this section. For example, if students identify the food, the teacher can ask them: What do you want to know? Do you want to know what sharks eat? If they say yes, the teacher asks them to repeat the question: "What do sharks eat?" This same procedure is repeated with all the elements that they identify. When the mum finishes, pupils say goodbye to her and thanks for coming and helping.

Finally, using the KWL chart, what we have learned in this session is reviewed. While talking about it, the teacher proposes them if they want to show what they are learning to their family. Thinking in this idea, the class decided to invite the families in order for students to make a presentation about sharks. Then, a series of sessions are developed in order to prepare the presentation.

Session 3: Where do sharks live?

Firstly, the KWL chart is reviewed in the assembly area, specifically the section called "what do we want to learn?" and pupils notice that they wanted to know where sharks live because they recognize the drawing of the water. Students are asked to remember what the expert said about it and to look up this information in the books about the topic that are in the class library. When they finish searching, all the information is shared and it is concluded that

sharks live in water. The teacher asks them to repeat the sentences “sharks live in water” in order to encourage them to learn the structure of sentences in present simple. After that, students go to their work tables in order to develop the following activity individually.

Now, it is time to make a craft activity (see appendix 4) that will help students to explain to their families the information that they have discovered. A plastic water bottle, a drawing of a shark, crayons and glue are needed for this activity. Students have to colour in the sharks recalling the pictures that they have seen in the books previously used. When they finish colouring in, they have to cut it and glue it to the bottle using a brush with the glue that is in a plate in the table, in such a way that when looking through one of the sides of the bottle it looks as if that the shark is in the water. The teacher or other peers help students that have some difficulties to cut or glue the shark. Finally, their initials are written on the caps of the bottles and they are placed in the corner of the project.

As a closure, the protagonist of the day should put a pictogram (see appendix 5) in the “What I want to learn?” section of the KWL chart devoted to the aspect worked on this day. This is a routine that is going to be repeated at the end of the following four sessions.

Session 4: What do the sharks look like?

Students are sitting in the assembly area and they review looking at the KWL chart and with the help of the teacher what they have learned in the last session. This is a warm-up routine that will be developed in the following four sessions, except in session 6. After that, students are asked to look to the pet of the class and they see that he has three photos of three different species of sharks (see appendix 6). The teacher and students talk about what the expert explained about them. After that, the teacher invites them to go to the class library to continue investigating about these types of sharks. While students are looking up the information, the teacher puts the photos of the sharks in the blackboard. When students finish collecting the information, they go to the assembly area again. There, they have the opportunity to talk about what they have discovered. The teacher guides them asking these questions: What are their names? What colours are they? What do they eat? Are they big or small? Have you discovered something more? If they respond to some questions in Spanish, the teacher will repeat what they have said in English. Finally, in order to help students be familiarized with the name of the species, the teacher points the different sharks and they have to say their names and in the other way round, the teacher says the name of one shark and they have to point the photo of this species.

The second activity is a collaborative one. Students work with the classmates of their same table as a group. The teacher gives each group one piece of paper with the silhouette of each type of shark (see appendix 7). Students collaboratively and using the pictures of the blackboard and teacher's help colour them. While they are colouring them in, the teacher walks around the groups asking them the name of the species they are doing. Finally, the representative of each group will place their work in the project corner. In order to identify their work, they put a sticker of the colour of their team on each of the worksheets.

Finally, the protagonist puts the corresponding pictogram on the KWL chart.

Session 5: Look at my teeth!

When pupils come to class, they see some teeth (of the game called "Crocodile Dentist") and a piece of sandpaper. The teacher invites students to touch them and asks if they know what these are related to. The teacher guides them inviting them to check the KWL chart (developing the warm-up routine) and think if they can be related to something that is written on it. After that, when they realize that the teeth are related to the sharks' teeth and the sandpaper to the skin of sharks, the teacher invites students to talk about these two aspects, repeating and emphasizing in the words teeth and skin. Some questions are asked such as: Do you think they have many or few teeth? Are they big or small? Do they have soft or hard skin? In order to learn the difference between soft and hard and between big and small, some practical examples are used. For example, students are asked to touch a teddy and this piece of paper and after that the teacher asks: is the teddy soft or hard? The same procedure is used work in the difference between big and small. For example, students can be asked to see the difference between the teacher's chair and students' chair and the teacher asks: Is my chair big or small? Finally, it is concluded that sharks have big teeth and hard skin. The teacher encourages students to repeat these two sentences: "sharks have big teeth"; "sharks have hard skin" in order to be familiarized with the structure adjective + noun and the present simple one.

In order to embody the contents that have been worked on, students are asked to go to their tables and to work individually in a worksheet (see appendix 8). Students have to make small balls with aluminium foil and glue them on to the body of the shark. Then, they have to put small pieces of white playdough on each of the teeth of the shark's mouth. While they are doing that, the teacher monitors and asks some questions such as: How is the skin of the sharks? Do they have big or small teeth?, in order to continue working on the structures previously introduced. When they finish it, touching the shark's body they can realize the rough touch of

their skin because of the foil as well as they can see they number of teeth shark have. Finally, they write their names on the worksheet and put it in the project corner.

Finally, the protagonist puts the corresponding pictogram on the KWL chart.

Session 6: Which is which?

This session is developed in the sports pavilion during psychomotricity time.

When pupils get to the sport pavilion, they find three life-size, if possible, silhouettes sharks (one for each species worked on before) that the teacher has previously drawn in chalk on the floor. Pupils should try to identify and say the name of each species of shark, recalling the information from the previous session. If they need help, the teacher should help them showing them the pictures that appeared in the pet's pocket and associating them with the silhouettes. When they finish identifying them, the teacher explains that they are going to play the games explained below but first of all they need to activate they bodies. To do it, as a warm-up, students sing and dance to the song called "Baby shark" (see appendix 9). After that, a game is played in which the teacher plays the song. Learners have to move and dance about and when the music stops, students have to go to the shape of the shark the teacher says. In this way, it is possible to observe if they can recognize them adequately. This procedures is repeated several times.

Then, students compare the sizes of the sharks with their own sizes. In order to do so, students try to complete the silhouettes of the sharks using their bodies. They lie down on the floor inside of the silhouettes. The other students count how many peers are needed to complete each silhouette. It can be repeated many times as necessary to ensure all of them participate. Finally, the teacher asks them if they think that these silhouettes are big or small and we conclude that sharks are big. Students are encouraged to repeat this sentence (sharks are big) in order to review the present simple structure.

Finally, a relaxation activity is performed. In it, students lie down on the floor listening to relax music about the sound of the sea and breathing slowly.

When they get to the classroom, the protagonist puts the corresponding pictogram on the KWL chart,

Session 7: What do sharks eat?

After doing the warm-up routine, when students are sitting down in the assembly area, the teacher invites them to check the KWL chart to see what they are going to work on in this session. When they realize that we are going to learn about what sharks eat, they are given some time for free conversation about the topic. Pupils are encouraged to participate asking them questions such as: Do sharks eat? What do you think they eat? Do they eat plant? Do they eat other small fish? After that, in order to solve these questions, a video is watched (see appendix 10). Then, we talk about what we have learned with the video. The teacher asks them the previous questions again in order to check if they have understood the video. Specifically, it is emphasized that sharks eat other smaller fish and some of them eat plankton.

For the following activity, the teacher gets a piece of the continuous paper and puts it up on the project wall. It is divided into two sections: one with a happy face of a shark and one with a sad face (see appendix 11). Students have some different pictures of food, animals and plants and they have to decide where they go (happy or sad face), depending whether sharks eat them or not. Pictures are used because they facilitate students' understanding and allow pupils to associate new words with their meaning. Each student has the opportunity to place at least one element. If students need help, the teacher and the classmates will help them. With every picture, the teacher asks for example, "do sharks eat rice?" and students have to say, yes, they do or no, they don't. When they finish placing all the pictures, we review what sharks eat and what they do not eat.

Finally, the protagonist puts the corresponding pictogram on the KWL chart.

6.3. Exposition phase

Session 8: Get ready for the exposition!

As has been mentioned before, one of the characteristics of PBL is that at the end of the project an exposition about it is developed. For this reason, in this session students prepare the exposition.

First of all, in the warm-up time, students look the KWL chart and realize because the pictogram is in every content of the section called "What do we want to learn?" that they have worked on all the aspects that they wanted to learn about sharks, and for this reason, it is time to prepare the presentation. For it, an assembly is developed in order to review and recall all the

contents and information learned through the project. The teacher invites students to identify each drawing on the KWL chart and asks questions about this content, for example, students identify the food and the teacher asks them: What do sharks eat? Do they eat fish? Do they eat chicken? Do they eat apple? Students with the help and support of the teacher talk about the different aspects they have learned, using this procedure.

After that, they move to the wall project. In there, the teacher shows the different materials created and asks students what this is related to. For example, they look at the bottle of water and the teacher asks: Why did we do it? Is it related to where sharks live? Do they live in the water? In this way, it is concreted what is going to be explained and showed to the families and the different sentences learned are remembered, such as: sharks have big teeth, sharks eat small fish, sharks live in the water, among other.

Finally, they create an invitation for the families (see appendix 12). Students work individually decorating it. When they finish, they put the invitation in their bags.

Session 9: Exposition time

Firstly, students pick their materials from the project corner and put them in their tables. After that, it is reviewed briefly using as support the materials and the KWL chart what is going to be explained to the families. The teacher and students talk about the different contents of the KWL chart. For example, the teacher asks them: How are the sharks' teeth? Are they big or small? And the sentence "sharks have big teeth" is reviewed. After that, the teacher asks them what material is related to this content and, in this case, they are supposed to say the worksheet of the shark in which they put aluminium foil in the body and playdough in the teeth. If they cannot remember that, the teacher will make and explain to them the associations between each content and each material.

When the families arrive to the classroom, the teacher organizes them in groups. Each of them is matched with one group of students. The teacher explains to families that students are going to show them what they have discovered and learned with the project about sharks. After that, students start with the oral exposition using as support the materials that they have in their tables and as well the resources that are in the wall project. The teacher walks around the groups in order to check that all is going good and to support students if they need help. The teacher can ask them some questions in order to encourage them, for example: What do sharks eat? Is this bottle related to where sharks live? Where they live? If students are speaking in Spanish, the teacher will repeat what they are saying in English and will remember students

that they have to speak in English. When students finish the presentation, the result of the project is pooled. Students, parents and the teacher have the opportunity to talk about it.

Finally, the teacher gives to the parents a rubric to evaluate the project. They can fill it in class or at home and their responses will be taken into account for the assessment.

6.4. Evaluation phase

Session 10: The end

As has been mentioned before, due to the students' age and characteristics it is considered difficult to perform a rubric for self-assessment. For this reason, an activity in which students are encouraged to reflect and express orally their achievements is proposed. This is developed in the assembly space. Firstly, the KWL chart is completed. For it, students are asked to talk about what they have learned. The teacher helps and supports them asking questions that facilitate their contributions, such as: Do you know where sharks live? Do you know what sharks eat? Can you say the name of one species of shark? Do they have big teeth? The teacher draws what they say that they have learned in the corresponding section of the KWL chart. Finally, the teacher and students read what has been written about what students have learned.

After that, in order to know students' opinions about the project itself, they are asked to draw in a piece of paper their favourite part, activity or content of the project. The fact that in the previous activity the whole project has been reviewed makes easier the development of this activity. Finally, students have the opportunity to explain and show to the rest of the class what her/his drawing is about.

7. EVALUATION OF THE LESSON PLAN

In this section, a checklist is presented that allows teachers to assess the lesson plan and its implementation. As can be observed in Table 6, the checklist includes items related to aspects of a lesson plan such as objectives, contents and methodology, among other. Moreover, the main characteristics of PBL and CLIL are also assessed through this checklist. Finally, there are some sections related to classroom implementation. A scale of 1 to 5 is used, where 1 is “unsatisfactory” and 5 “excellent.” At the end of the checklist, there is an observation section in which teachers can include their suggestions for improvement of the lesson plan.

	Excellent	Good	Satisfactory	Almost Satisfactory	Unsatisfactory
OBJECTIVES					
Are the objectives appropriate for the students' age and characteristics?					
Do the objectives facilitate the acquisition of the aim of the lesson plan?					
CONTENTS					
Are the contents appropriate for the students' age and characteristics?					
Do the contents facilitate the acquisition of the aim of the lesson plan?					
METHODOLOGY					
Is the lesson plan methodology compatible with CLIL and PBL?					
ASSESSMENT					
Is the evaluation global, continuous and formative?					
Are assessment tools adequate?					
CLIL					
Is the topic adequate and motivating for students?					

Are the 4C's worked on in the lesson plan?					
Is support and feedback given to students?					
PBL					
Are students encouraged to be the creators of their own teaching-learning process?					
Are communication and thinking skills stimulated?					
Is cooperative learning stimulated?					
CLASSROOM IMPLEMENTATION					
Do the activities allow the achievement of the objectives?					
Are the materials appropriate and stimulating?					
Is the activities timing adjusted to students' attention span?					
Are the instructions clear and easy to understand to students?					
Is students understanding facilitated and encouraged?					
Is the activities arrangement adequate?					
Are PBL and CLIL successfully combined?					

Table 6. Checklist for assess the lesson plan (Source: the author 2020)

8. CONCLUSIONS

In this section, the set objectives will be evaluated in order to check if they have been achieved or not.

First of all, it can be said the main objective of this Master's Dissertation has been achieved, that is to say, it has been possible to know the educational value of the PBL as a resource that can be applied in a CLIL environment in Infant Education. For that purpose, it has been necessary to develop a theoretical foundation in order to know the main features of these two approaches. Then, it was possible to design a lesson plan in which PBL was used in this specific environment. All that has allowed to know the possibilities of PBL as a didactic tool that provides a wide range of possibilities in a CLIL context of Infant Education, allowing the development of the objectives, contents and competences established in the legislation using student research as a learning engine.

Regarding the specific objectives, the achievement of the first of them, that is, to develop an in-depth knowledge and understanding of the theoretical underpinning of both CLIL and Project-Based Learning it has been possible. The fact that it has been necessary to develop a theoretical foundation of these two approaches has allowed to acquire specific knowledge about them. Moreover, to be familiarized with these two approaches has offer the possibility to design a CLIL lesson plan valid and applicable that makes the use of PBL in the second cycle of Infant Education, therefore, the achievement of the second specific objective can also be affirmed. This lesson plan can be read above.

Dealing with the third specific objective, it can be said that it also has been achieved since there is one specific section of this Master's Dissertation in which a rubric to assess the lesson plan is proposed. This rubric has been created in order to evaluate the lesson plan once it is implemented. In this case, it has not been possible to evaluate it since the lesson plan could not be implemented in a real educational environment.

The fourth specific objective proposed, that is, the reflection about the use of PBL in conjunction with CLIL in the early years has been also attained. The development of the theoretical foundation has allowed to discover very interesting articles that explain how these two approaches can be successfully combined in an Infant Education classroom. Likewise, the design of the lesson plan has also allowed to reflect on it since it has been proven that it is possible to combine these two approaches. It would have also been convenient to be able to

reflect on the use of this through the implementation of the proposed lesson plan, but as mentioned, it has not been possible to carry it out.

Some future lines of research have emerged, and for this reason, the last specific objective has been achieved. On the one hand, I would like to put into practice a lesson plan of similar characteristics of this one in a school of a rural area. It would be interesting to compare the results obtained in this two different settings, rural and urban areas. On the other hand, I would like to carry out longitudinal research that runs from the first course of the second cycle of Infant Education until the end of this cycle. In this way, the effectiveness of PBL in this stage as well as the impact it has on learning through the CLIL method could be evaluated with greater certainty.

Finally, I would like to emphasize that the development of this work has allowed me to increase my training not only because of its content, but also because of the rigor and the need to adjust to the regulations of a final work of university studies.

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10. APPENDICES

10.1. Appendix 1

In this section, only a few examples of the very diverse of extension and reinforcement activities that can be performed for this topic are mentioned. Concretely, three activities of each type are detailed.

Regarding the reinforcement ones, the examples are as follows:

1. Storytelling

In this case, it is proposed to use a story to review that sharks live in the water and that sharks are big. Students are sitting down in the assembly space and a song is sung to get children attention. They know that a story will start and they should be quiet. After that, the teacher shows them the book titled *Clark the Shark* (see Figure 7) by Bruce Hale (2013). The teacher asks them what they think this book is about, what they can see in the cover page and if they want to listen to the story. After that, the story is told slowly and using visual aids (pointing to the pictures of the book). With the same purpose, the teacher has to change the tone of the voice and use body language. Finally, some questions are asked in order to check if learners have understood the story. Some questions can be: Where does Clark live? Where is Clark going? What happens to Clark? Does Clark have some problems? Do his friends want to play with him? Does Clark solve the problems? Moreover, the teacher asks students if they know why this story is developed in the water. If they do not know, the teacher encourages them to remember where sharks live and in this way, they can know the reason why this story is developed in the water.

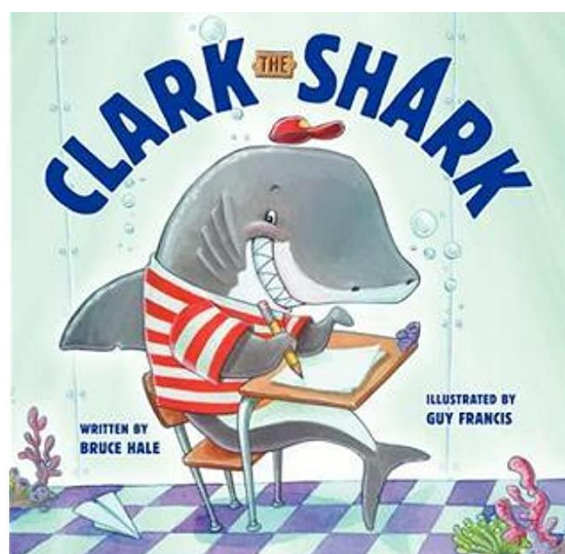


Figure 7. *Clark the Shark* (Google Images 2020)

2. Who I am?

In this activity a worksheet (see Figure 8) is used. In it, the silhouette of different animals are presented. The teacher explains that students have to recognize and circle the silhouettes that represent a shark. The teacher shows an example; she asks what the first animal is. Students are supposed to say lion, either in English or Spanish. If they speak in Spanish, the teacher repeats the word in English. After that, the teacher asks if this animal is a shark. They are supposed to say no, so the teacher explains that they do not have to circle it. After that, the teacher repeats the same procedure but using a shark. Then, students do themselves the worksheet. When they finish the worksheet, the teacher asks them the names of the sharks that they have circled.

FIND THE SILHOUTTE OF SHARKS AND CIRCLE THEM

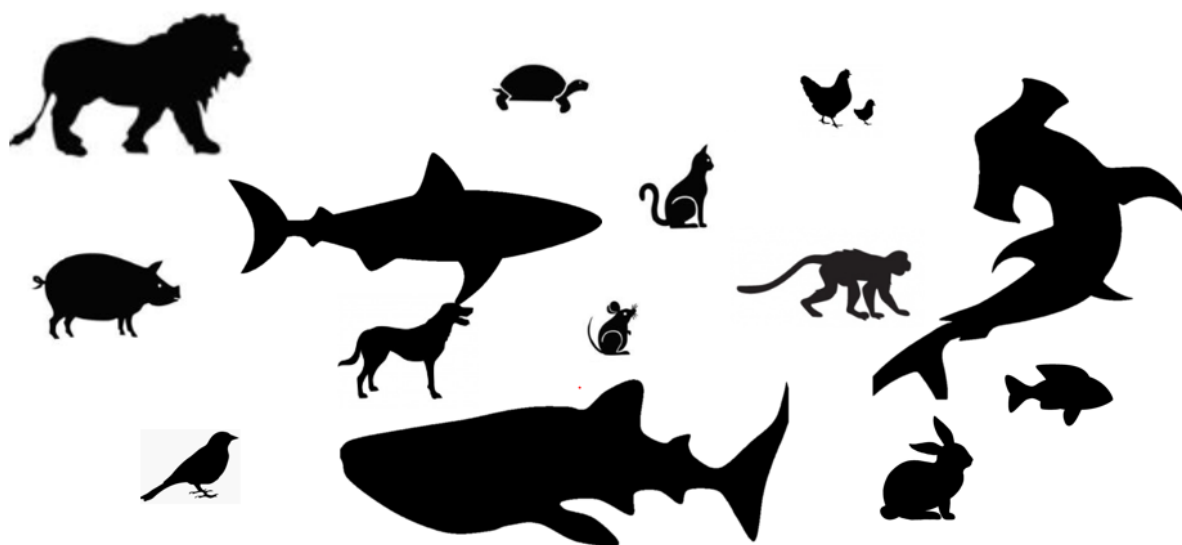


Figure 8. Worksheet for reinforcement activity 2 (Source: the author 2020)

3. Yummy, yummy

In order to review what sharks eat, it is developed an activity in which a mouth picture of a shark (see Figure 9) and some images of different aliments (fruits, vegetables, different types of fish and meat) are used. The shark has the mouth open, so, the objective is that students introduce in the mouth the images of the aliments that sharks eat. For example, an image of a small fish. They have to select which ones must be inside the mouth of the shark. While they are picking the images, the teacher asks them: do sharks eat _____?; and they have to answer: “yes, they do” or “no, they don’t.”



Figure 9. Material for activity “Yummy, yummy” (Google Images 2020)

As far as the extension activities are concerned, the following examples are proposed:

1. Discovering time

In this activity, students discover a new species of shark: the blue shark. For it, the same procedure detailed in the session four is followed. The pet of the class has a picture of this species in his pocket. Students see it and go to the class library to look for information in the books. When they finish, an assembly is developed in order to organize all the discovered information. The name and colour of this type of shark are emphasized.

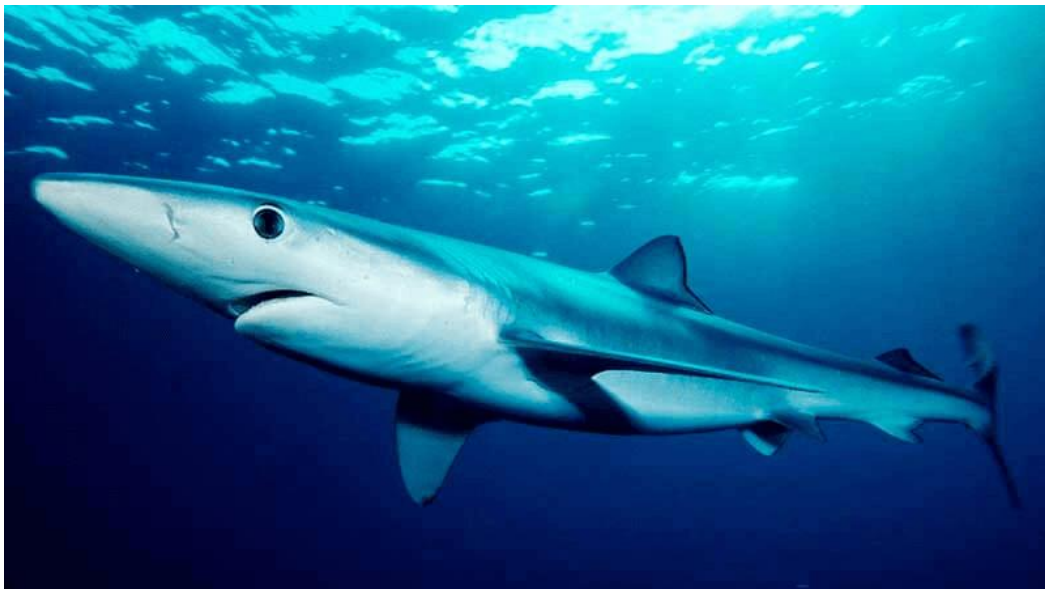


Figure 10. Photo that appear in the pet’s pocket (Google Images 2020)

2. Shark’s puppet

Puppets seem to be very interesting and fun for kids. For this reason, in this activity is

proposed to create a shark's puppet like the one that is showed in Figure 11. To do it, the teacher explains students what they are going to do. The teacher gives them a piece of paper with a shark divided into two pieces. They have to colour in them according to what they look like. When they finish colouring in them, they have to cut the different pieces and glue them to a clothespin. The top of the body of the shark is glued to the top of the clothespin and the bottom of the shark is attached to the bottom of the clothespin. In this way, when the clothespin is opened, the shark appears to be opening its mouth.

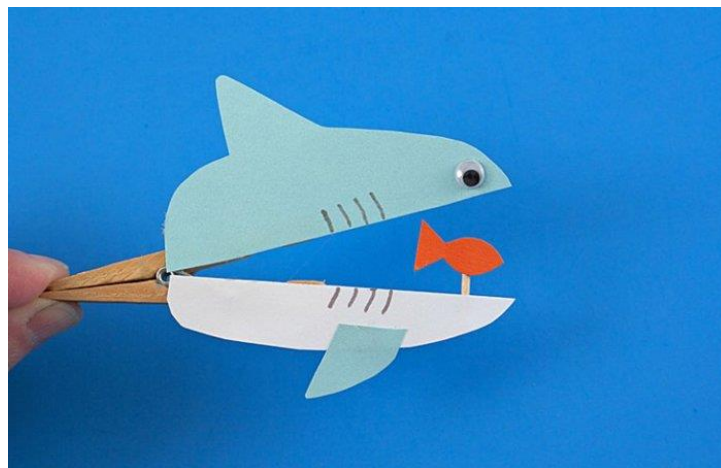


Figure 11. Shark's puppet (Google Images 2020)

3. Shark's mask

In this activity, students create a mask of a shark. The teacher explains them that they are going to do a shark's mask. Firstly, the teacher gives to students a piece of paper with a drawing of a shark (see Figure 12). They have to colour in it and punch the spaces of the eyes. After that, the teacher helps them to cut and put a rubber in it in order for students to wear it.

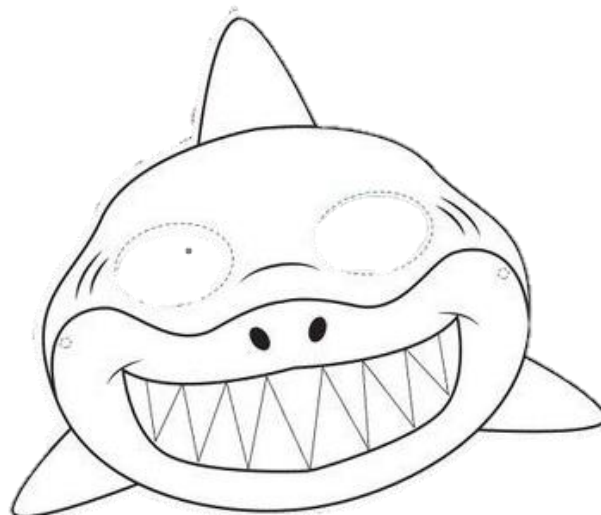


Figure 12. Shark's mask (Google Images 2020)

10.2. Appendix 2

The KWL chart (see Figure 13) that is used during the development of the lesson plan. It is created by the teacher in the session 1. Beside, in this same session, the two first sections are completed. Students talk freely about the topic and the teacher completes these sections using simple drawings that represent what they have said. As has been explained, the teacher can encourage their participation asking some questions as the mentioned in the explanation of the session 1.

This KWL chart is also used in the following sessions as an instrument to develop the warm-up. The teacher asks students to look up the information written in the “What do we want to learn?” section. The teacher invites students to identify the drawing that represents the content that is going to be worked. For example, in the session 3, they identify a drawing of water. The teacher asks them: What do you think the water represents? If they cannot answer the question, the teacher could ask: Do sharks drink water? Do they live in the water? In this way, it is introduced the content that is going to be worked.

Finally, in the session 9, the “What have we learned?” section is also completed by the teacher using drawing according to what students say that they have learned. In order to encourage their participation, the teacher asks questions as the exposed in the session 10.

WHAT DO WE KNOW? 	WHAT DO WE WANT TO LEARN? 	WHAT HAVE WE LEARNED? 

Figure 13. KWL chart (Source: the author 2020)

10.3. Appendix 3

The following note that can be seen in Figure 14 is given to students. First of all, the teacher explains to students that the note is for their families in order to inform them that we are developing a project about sharks and we need their help. After that, the teacher asks students to draw a shark in the white space at the bottom of the note. This drawing allows the teacher to know the students previous conceptions about the shape of the sharks. Students use their pens to draw and crayons to colour in it.

VERY IMPORTANT INFORMATION!

WE ARE GOING TO WORK IN A PROJECT ABOUT SHARKS AND WE NEED YOUR HELP AND COLLABORATION.

IF WE HAVE AT HOME ANY BOOK ABOUT SHARKS, CAN WE BRING IT TO THE SCHOOL?

THANKS YOU!

Figure 14. Note to inform families (Source: the author 2020)

10.4. Appendix 4

In order to develop this craft activity, students need a plastic bottle of water, a drawing of a shark, crayons, a scissors, a brush and glue. The teacher gives students the drawing of the shark and they have to colour in it recalling the information learned about what sharks look like. When they finish colouring in, they have to trim the shark and glue it to the bottle using the brush and the glue that they can find in a plate in their tables. The result should be something similar like it is shown in the Figure 15.

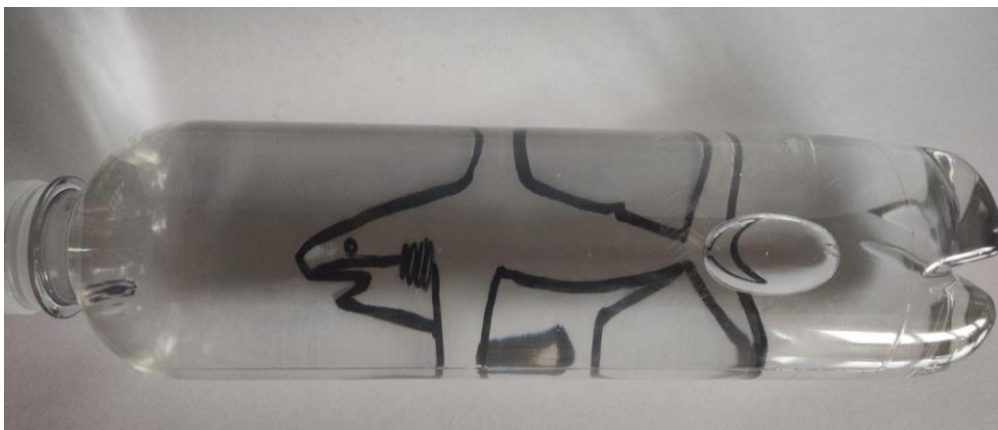


Figure 15. Craft activity about where sharks live (Source: the author 2020)

10.5. Appendix 5

This is the pictogram (see Figure 16) that the protagonist of the day puts at the end of each session in the corresponding content of the KWL chart, according to the content that has been worked on this session. In this way, students can easily recognize in the warm-up section what has been worked and what is going to be worked.



Figure 16. Pictogram (Google Images 2020)

10.6. Appendix 6

The photos that are exposed in the Figure 17 appear in the pocket of the classroom pet. The teacher invites students to look at the pet in order for students to discover the photos. After that, students have the opportunity to see the photos and the teacher asks them questions such as: Have you ever seen them? What are they? Are they shark? Can you remember what the mum said about the different species of shark? Can you remember their names?



Figure 17. Photos that appear in the pet's pocket (Source: the author 2020)

10.7. Appendix 7

The following worksheet (see Figure 18) is given to students. They have to work collaboratively. The teacher explains to learners that they have to colour with crayons each species of shark taking into account what each species is like, that is, what colours they are. Learners use the pictures of the blackboard, the teacher's help and recall information learned in the previous activity to remember the colours of the different species. While they are colouring them in, the teacher walks around the groups asking them the name of the species they are doing.

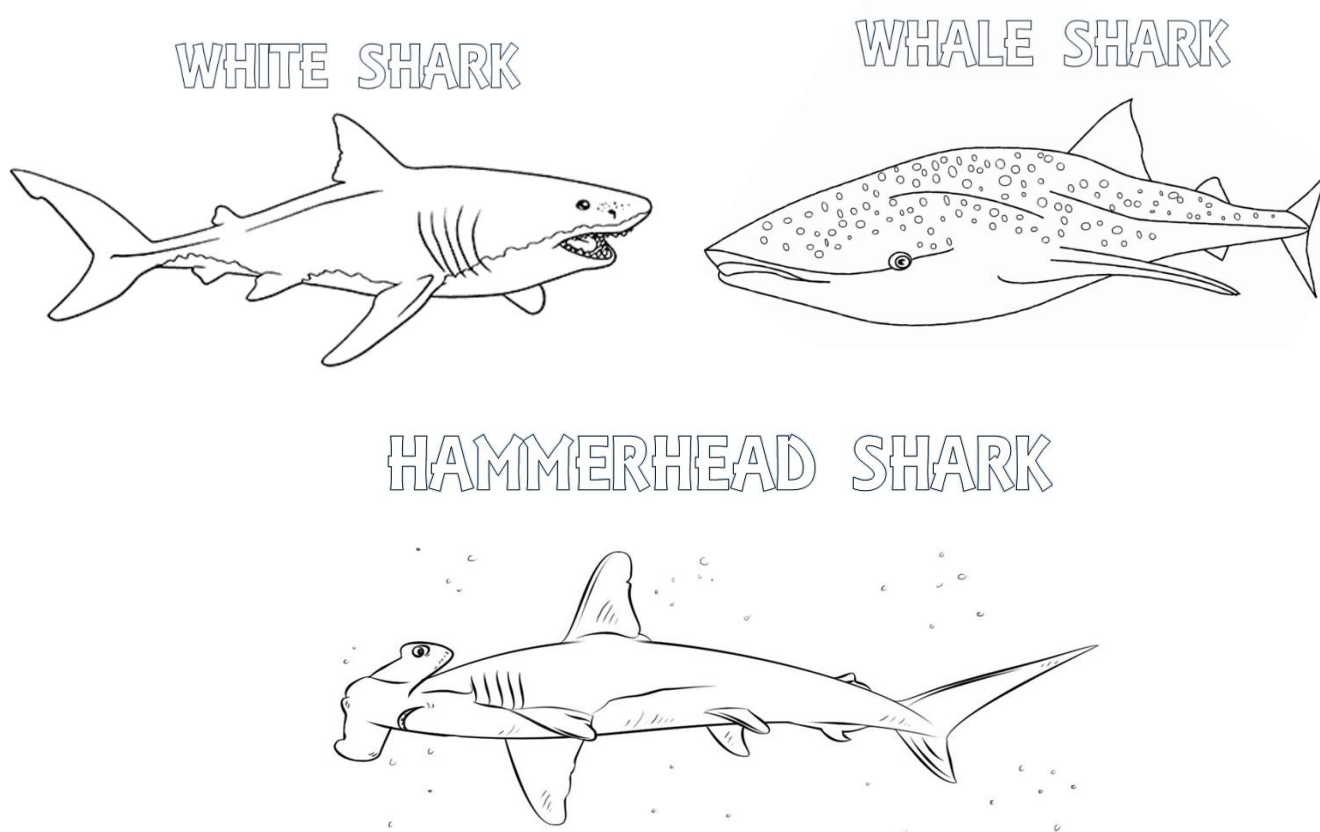


Figure 18. Worksheets to work in the sharks species (Source: the author 2020)

10.8. Appendix 8

As has been explained before in the session 5, this activity is developed in order to work on two sharks' characteristics: their teeth and their skin. The teacher gives to learners a worksheet in which a shark with its mouth opened appeared. Students should make smalls balls of foil and glue them in the sharks' body. Moreover, they need to put small pieces of white playdough in the teeth. The result should be something similar like it is showed in the

Figure 19.



Figure 19. Activity to work in sharks' teeth and skin (Source: the author 2020)

10.9. Appendix 9

The song Baby Shark (see Figure 20) is used in the session 6 to develop the warm-up routine. The teacher explains students that she will put the song on the digital blackboard. They know the song so they should sing and dance it. If students want, the song can be played twice.



Figure 20. Baby shark song (Source: <https://www.youtube.com/watch?v=XqZsoesa55w> 2016)

10.10. Appendix 10

The video (see Figure 21) that is proposed for this activity can be found in the following link <https://www.youtube.com/watch?v=oBBRQ5UEm0s>. It is called “Learn about shark.” It is

used to discover the sharks' diet. Moreover, it is possible to review some aspects that have been worked on, such as sharks' teeth. This video is played until the minute 1:30, because after that, some concepts that are explained can be difficult for students.

To develop this activity, as has been mentioned in the session 7, the teacher asks some questions about sharks' diet. After that, it is explained that a video is going to be watched in order to discover important facts about what sharks eat. During the video, the teacher can explain the information provided in an easier way because the speech of the video can be difficult for kids to understand. The video can be played twice if is needed. After the video, the teacher asks again the previous questions in order to check if students have understood it. If they could not understand, the teacher will explain the sharks' diet to them using simpler vocabulary and sentences and the video pictures as support.



Figure 21. Learn about Sharks (Source: <https://www.youtube.com/watch?v=oBBBrQ5UEm0s> 2020)

10.11. Appendix 11

In order to work on sharks' diet a panel is created, like the one that is shown in the Figure 22. Students have some pictures about food such as rice, potatoes, apples, different types of fish, chicken, beef, plankton, flowers and a tree. Each student has the opportunity to place one picture on the panel. The teacher asks if sharks eat the specific element that the student has and they have to answer yes, they do or no, they don't. After that, the student has to place the image in one of the two sections of the panel depending whether sharks eat it or not. If the student need help, the rest of the classmates or the teacher should help him/her. When all the pictures have been placed, all together review what sharks eat and what they not, looking how the different pictures have been placed.

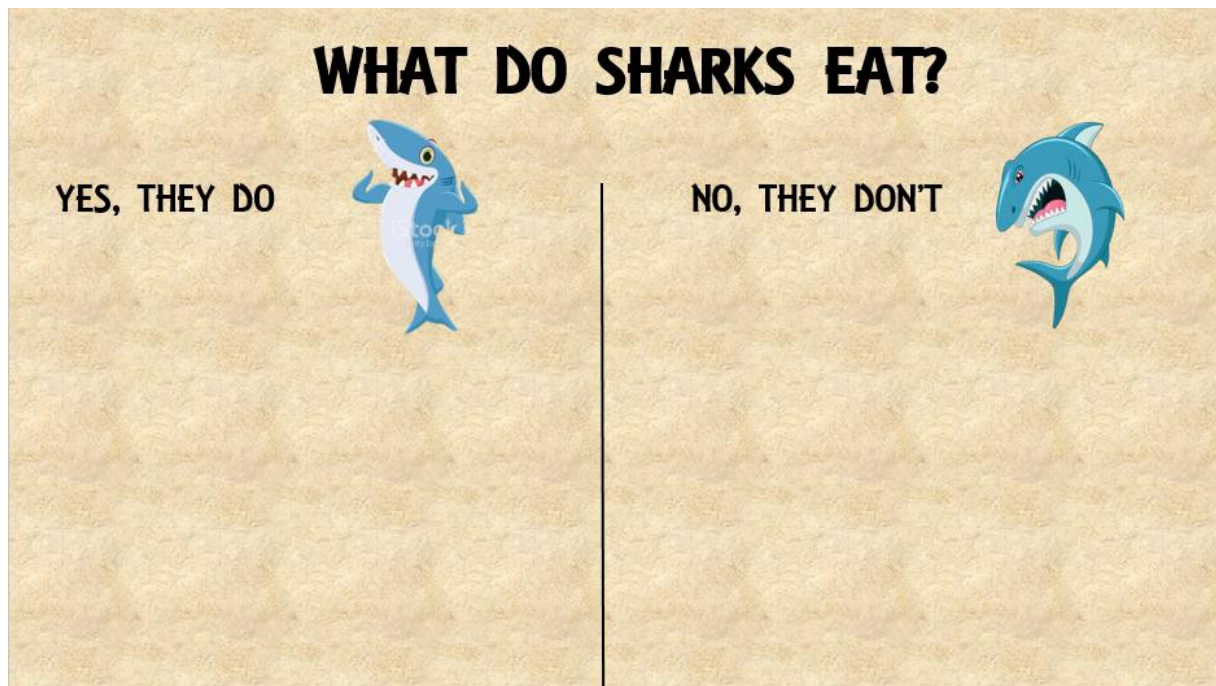


Figure 22. Panel about sharks' diet (Source: the author 2020)

10.12. Appendix 12

The invitation that is exposed in the Figure 22 is given to the families in order to invite them to go to the class to the presentation about the project that students will do. Students have to decorate it. Firstly, the teacher explains them what this invitation is for and what is written in it. After that, she invites them to decorate it drawing sharks and colouring in them. The teacher sees how students have drawn the sharks and she can compare how they drew the sharks in the first note in order to check if they have learned how the shark shape is. When they finish, they put the invitation in their bags.

INVITATION
 THE CLASS OF 5 YEARS OLD WANTS TO INVITE YOU TO
 OUR EXPOSITION OF OUR PROJECT ABOUT SHARKS.
 IT IS NEXT FRIDAY AT 10AM IN OUR CLASS.
 WE HOPE TO SEE YOU THERE

THANKS YOU!

Figure 23. Exposition invitation for families (Source: the author 2020)