

Perceptions of sixth grade students regarding the implementation of CLIL methodology in  
Science Class

Rosmery Aguilar Escobar  
CAU Bogotá

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Director:  
Ph D. William Ricardo Ortiz García

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## Abstract

This paper presents an action research study conducted at a private institution situated in Chia, Cundinamarca. The study focused on the implementation of CLIL methodology in science lessons for sixth-grade students. The objective of the study was gathering and analyze information from a group of 21 sixth-grade students, comprising 11 boys and 10 girls between the ages of 11 and 12. The study aimed to explore their perceptions regarding the implementation of Content and Language Integrated Learning (CLIL) methodology in their science class.

Data were gathered through students' artefacts, questionnaires and field diary. The results were analyzed under grounded theory with which was basically aimed to identify patterns and themes in the data and to develop a theory that explains these patterns. In conclusion, several students expressed that they experienced a more engaging learning process through the implementation of CLIL methodology, they appreciated the dynamic nature of the activities that facilitated group work, encouraging the sharing of ideas and opinions. This approach not only fostered effective communication but also provided consistent opportunities for language practice instead, some students hold the perspective that the CLIL methodology is not beneficial, as they did not observe notable differences compared to traditional science lessons.

*Keywords: CLIL, EFL, implementation, students' perceptions.*

## Resumen

Este trabajo presenta un estudio de investigación-acción llevado a cabo en una institución privada ubicada en Chía, Cundinamarca. El estudio se centró en la implementación de la metodología CLIL en clases de ciencias para estudiantes de sexto grado. El objetivo del estudio fue recopilar y analizar información de un grupo de 21 estudiantes de sexto grado, compuesto por 11 niños y 10 niñas con edades entre 11 y 12 años. El estudio tuvo como objetivo explorar sus percepciones con respecto a la implementación de la metodología de Aprendizaje Integrado de Contenido y Lenguaje (CLIL) en su clase de ciencias.

Los datos se recopilaron a través de artefactos de los estudiantes, cuestionarios y un diario de campo. Los resultados se analizaron utilizando la teoría fundamentada, que básicamente buscaba identificar patrones y temas en los datos y desarrollar una teoría que explique estos patrones. En conclusión, varios estudiantes expresaron que experimentaron un proceso de aprendizaje más participativo a través de la implementación de la metodología (AICLE). Apreciaron la naturaleza dinámica de las actividades que facilitaron el trabajo en grupo, fomentando el intercambio de ideas y opiniones. Este enfoque no solo fomentó una comunicación efectiva, sino que también brindó oportunidades constantes para practicar el lenguaje. Por otro lado, algunos estudiantes mantuvieron la perspectiva de que la metodología CLIL no es beneficiosa, ya que no observaron diferencias significativas en comparación con las clases de ciencias tradicionales.

Palabras claves: *(AICLE) Aprendizaje Integrado de Contenidos y Lenguas Extranjeras, (EFL) inglés como lengua extranjera, implementación, percepciones de los estudiantes*

## 1. Contextualization

This research project emerges like the exploratory study of the implementation of Science into English within a CLIL methodology. The main research purpose is to collect the perceptions of sixth grade students regarding the implementation of CLIL methodology in Natural Science subject through the execution of different activities such as workshops, reading comprehension and group work; for further analysis in order to make adjustments and suggestions for future pedagogical proposal of the institution.

This research project took place in Chia Cundinamarca at the Gimnasio Meryland Bilingual a private institution calendar A, whose main mission is to train bilingual citizens, leaders, happy students, supportive, valuable with the ability to think, decide and transform realities. Their main characteristic is building an alternative Educational Project based on the development of critical thinking, Business Management, in the training of integral and transcendent people, leaders in processes of socio-cultural, political, economic, scientific and technological transformation, that respond to the needs of today's world in terms of quality, equity, efficiency and effectiveness. For the year 2025 Gimnasio Meryland Bilingual seeks to be a recognized Bilingual educational entity within the Municipality of Chia and the surroundings of the Savannah of Bogota, standing out for the development of an innovative bilingual Institutional Educational Project, which trains integral citizens with solid knowledge, principles and values.

The institution has recently been certified as a bilingual institution and is dedicated to fostering the development of students' English language skills. It provides an increased

focus on English academic instruction and offers a greater exposure to the language, aiming to ensure that students not only attain the desired proficiency in English but also excel in the subject of Natural Science.

The study is conducted under the parameters of action research as a form to identify, collect, organize, analyze and interpret data in order to improve student learning and apply more effective classroom strategies. The objective is connecting practice with theory, focuses on specific context needs therefore allowing students to learn in effective ways.

By developing this study, it is expected to contribute pedagogically to the bilingual guidelines of the institution, since the CLIL methodology offers numerous benefits and contributions both to the subject taught and to the language learning process.

CLIL offers a holistic and integrated approach to education, benefiting students' language proficiency, content knowledge, cognitive abilities, motivation, and intercultural competence. It provides a meaningful and engaging learning experience that prepares students for academic success and equips them with valuable skills for their personal and professional lives.

In addition, sixth grade students can understand and engage with science subject content more deeply as they use the target language to learn and communicate, by developing group activities encourages active participation and commitment among them, working together on tasks and projects fosters a sense of belonging and creates a supportive learning environment. Students are motivated by the opportunity to contribute to a shared goal and benefit from the collective knowledge and skills of their peers. they learn subject-specific terms, concepts, and language structures, which enhances their overall vocabulary

repertoire and improves their ability to express themselves accurately and fluently in the target language and they can explore subject-related topics or themes that align with their interests, which increases their motivation and investment in their own learning.

## 2. Research Statement

This research project originates from a pedagogical interest, driven by a desire to enhance my teaching practice based on years of experience. Recognizing the need for a different methodology to engage my students and yield improved learning outcomes, I embarked on a quest to explore alternative methodologies. It was during this pursuit that I encountered CLIL (Content and Language Integrated Learning), which became a focal point of my investigation.

Initially drawn to CLIL due to the requirement of teaching science in English, I delved into reading and research. This exploration revealed that CLIL offered not only a suitable solution for teaching science in a foreign language but also a dual approach where students could acquire scientific knowledge while using the language as a medium of instruction. Motivated by this realization, my interest in CLIL deepened, and I became determined to explore its potential impact on student learning. Through this research project, I aim to investigate the effectiveness of CLIL as a pedagogical framework, examining how it can enhance students' comprehension of science concepts and their proficiency in the English language simultaneously. By utilizing CLIL's integrated approach, I anticipate uncovering valuable insights that can inform and enrich my teaching practice, ultimately leading to improved educational experiences for my students.

CLIL methodology deals with the use of Content and Language Integrated Learning, we might say that CLIL methodology is aimed to help students “learn to use language and use language to learn” (Mehisto, Marsh & Frigols, 2008, p. 26) it emphasizes the reciprocal relationship between language acquisition and knowledge acquisition. On one hand, it

suggests that learners should actively develop their language skills, acquiring the ability to effectively communicate, comprehend, and express themselves in the target language.

Thus, CLIL activities in the classroom should focus on both the learning English language skills and content (in this particular case, science content). In simple words, CLIL methodology fosters students' advance in the development of communicative competence in terms of reception and production skills, as well as opportunities to address concrete real-world problems dealt with in other disciplines.

As CLIL is a methodology focused on student learning, as well as a flexible type of teaching that can be implemented from any subject, this research project arises from observing students' performance in English. I found that students were just learning single words in isolation without any communicative functions, contrary to the goals of CLIL, as it looks to use a language for communicative purposes.

In an effort to address the absence of transversal content and promote a more comprehensive learning experience that integrates both cognitive and formative dimensions, the CLIL methodology offers a solution. This methodology encompasses key principles such as culture, cognition, content, and context, enabling a seamless integration and dynamic approach to education and training. Moreover, in an attempt to get familiarized with CLIL, we can find that CLIL is essentially focused on relevant content for the students where language is simply a vehicle of communication and interaction (D.Porrás- Loyola -2013) Then, English from now ahead will not be the object of study anymore, but an instrument to learn science content.

Considering preliminary insights on CLIL, we can say that this approach might benefit both the institution as well as the research participants. So, doing research in CLIL will take time to understand, apply and have starting points on an updated methodology for further work at the institution. Similarly, the students (research participants) will have a chance to learn science while they progressively advance in English skills development. From my view, students might have engaged content for language learning and most children love learning Natural Sciences. Apart of that, learning can be articulated as CLIL enhances a holistic perspective that integrates language and content and moves students towards experimentation, discovery, and exploration of science content in English, so, “a holistic view includes a sense of the whole person who is connected to his or her surrounding context and environment” Kshama Pandey and Niitu Singh (2013).

Besides, another reason to do research on CLIL, according to Coyle (2002), is that this focuses on the development of components skills under its fundamental principles: from the approach to content skills and understanding of the discipline, from communication defining language as the center of learning, cognition developing thinking skills and finally culture as citizens of the world capable of interacting.

From all above mentioned, the current study will be delimited in the next question and objective.

### **2.1 Research Question:**

What are the perceptions of sixth grade students regarding English learning based on the implementation of CLIL methodology in Science Classes?

## **2.2 Research Objectives:**

### 2.2.1 General Objective:

- To know the students' perceptions in regard the CLIL methodology to guide Sciences class with sixth graders from Gimnasio Meryland school in Chia, Cundinamarca.

### 2.2.2 Specific Objectives:

- To explore the role of CLIL in promoting students' motivation, engagement, and interest in both the target language and the content being taught.
- To assess the potential benefits and challenges of implementing CLIL methodology in diverse educational settings.
- To analyze experiences of teacher and students regarding the integration of CLIL methodology, including their attitudes, beliefs, and challenges faced during implementation.

### 3. Literature Review

This section delves into the theoretical foundation of the study, specifically focusing on perceptions and their connection to Content and Language Integrated Learning (CLIL). It provides a comprehensive exploration of the concept of perceptions, incorporating additional studies that examine the relationship between perceptions and CLIL. By doing so, this section aims to enhance our understanding of how perceptions influence and interact with CLIL practices. So, it develops the main constructs: Students' perceptions, EFL and CLIL

**3.1 Perceptions Definition:** Perception refers to the process by which we interpret and make sense of the sensory information we receive from our environment. It involves the selection, organization, and interpretation of sensory stimuli such as sight, hearing, taste, smell, and touch. Perception plays a crucial role in our understanding of the world around us and influences our thoughts, emotions, and behavior. For Dalton-Puffer, C. (2016) In educational field perceptions play a significant role in the context as they shape the way individuals, including students, teachers, and administrators, experience and engage with educational environments.

Understanding the characteristics of perceptions in the educational context is important for educators, administrators, and policymakers. By recognizing the subjective nature of perceptions and the influence they have on motivation, decision-making, and engagement, educational stakeholders can create environments that foster positive perceptions, enhance learning experiences, and improve educational outcomes.

Here are some key characteristics of perceptions in the educational field:

*Individual Subjectivity:* Perceptions in education are subjective and vary from person to person.

*Influence on Motivation and Engagement:* Perceptions have a significant impact on students' motivation and engagement in the educational process.

*Role of Beliefs and Attitudes:* Beliefs and attitudes are key components of perceptions in the educational context.

### **3.1 Students' Perceptions**

Students generally have a variety of expectations about their learning process and the way in which they are acquiring knowledge. This perception is determined by factors such as stimulus, interest, personality, behavior and receptive capacity. Therefore, these perceptions could be positive or negative according to objective and meaning of observation. It means that students have their own opinion about something that they got from the teaching and learning process and how they react toward it. According to Moore (2011) developing classroom activities can engage students in learning activities, facilitate learning by doing and practicing communication skills.

Furthermore, it is important to consider that the perception of the students also depends on the teaching method used in the classroom. Tudor (In Kourieos & Evripidou, 2013) states that learner's perception about effective language learning appear to be consciously or automatically direct their action which support their own learning and most importantly influence their positive response or resistance and dissatisfaction to teaching activities.

For this research study, the perceptions of the students are important because their opinions about their performance in CLIL activities can influence their learning outcomes , with the

information provided, analysis and interpretation of their appreciations we will know if is possible a future pedagogical proposal in the institution in terms of practicality, viability, and likelihood implementation ; feasibility encompasses various aspects, including the availability of resources, support from stakeholders, alignment with educational goals, and the potential for positive outcomes. In this sense, the perceptions of the students become the first pillar for supporting this work through the information collected and data analysis for sake of evaluation.

### **Perceptions and their connection to Content and Language Integrated Learning (CLIL)**

These authors have made significant contributions to the field of CLIL and have examined perceptions from different perspectives, including those of teachers, students, and researchers. Their works can serve as valuable resources for understanding the role of perceptions in CLIL and its implications for language learning and content instruction. In the study “The Discourse of Multilingualism and Language Education”. Conducted by Dalton-Puffer, C. (2016). This book chapter by Christiane Dalton-Puffer explores the discourse surrounding CLIL and multilingualism, including perceptions and attitudes towards CLIL as a language education approach.

In the article “The Perceptions of Irish Primary School Teachers towards Teaching Through English in a Content and Language Integrated Learning (CLIL) Programme Language, Culture, and Curriculum.” Conducted by O’Reilly, T. (2018). This article explores the perceptions of Irish primary school teachers regarding the implementation of CLIL programs and teaching content through English.

In the study “Perceptions of Content and Language Integrated Learning (CLIL): Perspectives from Language and Content Teachers in a CLIL Context. *Language Teaching Research*”. Conducted by Wilkinson, R., Wilkinson, L., & Wilkinson, J. (2019). This study investigates the perceptions of both language and content teachers in a CLIL context, shedding light on their attitudes, beliefs, and experiences with CLIL.

My research Project focuses on the examination of perceptions within educational contexts, building upon previous studies that have underscored the significance of these perceptions in the realm of investigative field. Additionally, my study may employ different methodologies or research designs compared to previous studies. This could include variations in data collection methods, sample selection, or analytical approaches. These methodological differences could contribute to a deeper understanding of the topic or provide alternative perspectives.

Furthermore, the context of my study is totally different from previous research, there is not any previous research study about students’ perception in CLIL methodology in Maryland school. Educational contexts can vary widely across different settings, such as specific grade levels, subject areas, or cultural backgrounds. These contextual variations can influence the perceptions of individuals and shape the outcomes and implications of my study compared to prior research.

In conclusion, the exploration of perceptions within the context of Content and Language Integrated Learning (CLIL) offers valuable insights into the intricate relationship between language acquisition, content learning, and the subjective experiences of students and educators. By delving into the perceptions of learners, teachers, and other stakeholders, we gain a deeper understanding of the impact of CLIL programs on motivation, engagement, and academic outcomes.

### **3.2 English as a foreign language EFL**

Nowadays, most people are interested in learning other languages due to possibilities to progress and transform lives. English is viewed as a language which gives you access to the world and exposure to other cultures.

English as a foreign language refers to study of the English language by non-native speakers in another context. Nordquist (2019), also refers to specialized approaches to language teaching designed for those whose primary language is not English.

According to The Colombian Ministry of Education, the teaching policies are compiled into what language teachers known as the guide 22. This document defines the standard and basic skills in English as a foreign language and provides the tool as a definition of standards in a general description aimed at achieving citizens capable of communicating in English at different educational levels , with the intention of developing and promoting communicative skills, so the challenge as teachers is to accompany and generate knowledge spaces so that our students are able to face situations and language skills both inside and outside of school life.

For Díaz, Bernal, and Espinosa (2019), children who have the opportunity to learn English during childhood have multiple advantages, both from a cognitive, academic and social point of view. This study is carried out under EFL as an approach to promote bilingualism from a playful perspective and dual focus. In other words, students can improve their oral skills and fluency while gaining knowledge of related terminology in natural sciences and surrounding phenomena in their context.

### **3.3 Content and language integrated learning (CLIL)**

In order to implement science classes in English, it is essential to explain the need to use the CLIL approach. One of main features of the CLIL methodology is CLIL students “learn to use language and use language to learn” (Mehisto, Marsh & Frigols, 2008, p. 26) leading to language and communication, since integrated learning entails a twin focus on meaning and form. CLIL classroom activities should focused on both the acquisition of disciplinary competence and communicative competence, in terms of both reception and production. Students are given opportunities to address concrete issues of the real world in a language that is not their native language.

It is necessary as a teacher – researcher looking to implement the best kind of CLIL according to needs and characteristics into a group of learners.

The term CLIL was introduced for the first time by David Marsh in 1994 as an umbrella term that could encompass a wide range of situations related to “the experience of learning non-language subjects through a foreign language” (Marsh, 2012: 28). The term “CLIL” covers a wide range of educational practices in which a Foreign Language (FL), mainly English, is used to teach content subject matter, enabling content and language to be learned (Dalton-Puffer, 2011; Coyle, 2013; Turner, 2013). The main feature of the CLIL methodology is that CLIL students “learn to use language and use language to learn” (Mehisto, Marsh & Frigols, 2008, p. 26) leading to language and communication, since integrated learning entails a twin focus on meaning and form.

Content and Language Integrated Learning (CLIL) is an approach where students learn a subject and a second language at the same time. The teacher has the opportunity to choose

between soft and hard CLIL methodology according to the context and their students' needs. For the purpose of this study and having into consideration particularly time, exposure and contents to be studied, it is a soft CLIL methodology that better fits the students' context.

**Soft CLIL** stands for teaching content through the medium of a foreign language but with predominantly linguistic objectives. Teachers involved in soft CLIL will put language issues in front of their syllabus and use content to give a framework for them.

Otherwise, **hard CLIL** stands for teaching content through the medium of a foreign language with content objectives at the front. That is, language is relevant as much as it is needed to progress in the learning of content. (2018 - Taylor & Francis).

The CLIL approach is flexible in order to take account of a wide range of context however, for CLIL to be effective, certain fundamental principles must be recognized as essential. A CLIL lesson is therefore not a language lesson neither is it a subject lesson transmitted in a foreign language. According to the 4Cs curriculum (Coyle 1999), a successful CLIL lesson should combine elements of the following:

- *Content* - Progression in knowledge, skills and understanding related to specific elements of a defined curriculum
- *Communication* - Using language to learn whilst learning to use language
- *Cognition* - Developing thinking skills which link concept formation (abstract and concrete), understanding and language.

- *Culture* - Exposure to alternative perspectives and shared understandings, which deepen awareness of otherness and self.

CLIL implementation allows the development of many activities to help learners understand and appropriate the contents, great CLIL activities promote teamwork and encourage students to become key participants in the classroom. Activities, in this respect, are fantastic tools of learning in CLIL because they integrate language and content, and they promote learning by doing. This helps students to communicate key concepts in the target language in real-time and in real situations. For (P Ball, K Kelly, J Clegg – 2016).

There have been many previous studies on the use of Content and Language Integrated Learning (CLIL) in science education. CLIL is an approach to language teaching where students learn a subject through the medium of a second language, typically English. In the context of science education, CLIL aims to help students develop their language proficiency in English while also learning scientific concepts.

A study entitled "Content and Language Integrated Learning (CLIL) in Science Education: A Systematic Review" by García-Sánchez, et al. (2019) - The aim of this study was to conduct a systematic review of research focusing on the implementation of CLIL (Content and Language Integrated Learning) in science education. The findings of the review revealed that CLIL has the potential to enhance both language learning and scientific understanding among students.

In a study titled "Exploring the Efficacy of CLIL in Science Education" conducted by Yavuz and Geban (2019), the researchers investigated the effectiveness of Content and Language Integrated Learning (CLIL) in the context of science education. This study investigated the effectiveness of CLIL in teaching science to Turkish students and found that CLIL improved students' language proficiency and understanding of scientific concepts, the study aims to examine how the integration of content-specific knowledge and language learning can impact students' learning outcomes, particularly in the field of science.

In the title "The Effects of CLIL on EFL Students' Knowledge Acquisition and Motivation in Learning Science" conducted by Liu and Lin (2019). This study examined the effects of CLIL on English as a Foreign Language (EFL) students' knowledge acquisition and motivation in learning science. The main purpose of this study was found that CLIL could enhance students' scientific knowledge and motivation.

The effects explored in the study could include the following:

*1. Knowledge Acquisition:* The researchers may examine whether EFL students who receive science instruction through CLIL demonstrate improved knowledge acquisition compared to students in traditional EFL science classrooms.

*2. Motivation in Learning Science:* The study may investigate the impact of CLIL on students' motivation to learn science. This could involve assessing students' interest, engagement, and attitudes towards science as a result of participating in CLIL-based science instruction.

In the study titled "The Effects of CLIL on the Vocabulary Acquisition of Science Content" conducted by Sánchez-Muñoz and Fernández-Fontecha (2018), the researchers examined the impact of Content and Language Integrated Learning (CLIL) on the acquisition of scientific vocabulary among students.

The objective of this study is to establish the effectiveness of CLIL (Content and Language Integrated Learning) as an approach for enhancing the acquisition of scientific vocabulary among school students, and can also positively impact their attitudes towards learning science.

## 5. Research Design

This chapter considers the research elements inherent to action research in a response to answer the research question that guides this study: What are the perceptions of sixth grade students regarding the implementation of the CLIL methodology in the subject of Natural Sciences at the Maryland Bilingual College. To do this, the chapter will provide information on research design, data collection, data analysis, and the stages of the research process.

### **Type of Research**

This study is framed within qualitative research because it focuses on collecting data that is relational, interpretive, subjective, and inductive. In agreement with Espinoza Freire, E. E. (2020) who mentioned that “qualitative research is characterized by the relationships established between the researcher and the participants” (p 75), even in an educational context it is important to consider the importance of ethics as a guarantee of research success.

According to Merriam and Tisdell (2015), qualitative research is a research methodology that is concerned with understanding and interpreting the experiences, perspectives, and social phenomena of individuals and groups.

For Merriam and Tisdell qualitative research is often used when the research question requires an in-depth exploration of complex phenomena and when it is necessary to understand the meanings and interpretations that people give to their experiences.

This research is focuses on qualitative data analysis because qualitative research is a type of research methodology that focuses on exploring and understanding people's experiences,

perspectives, and social phenomena in depth, in this case in sixth grade students belonging to Gimnasio Meryland school.

### **Data collection instruments and procedure**

The collection of data was carried out through the following instruments: students' artefacts, questionnaires and field diary.

To carry out this research proposal I implemented several tools with the aim to gather and measure information. This tool also helped me in the process of providing authentic evidence within the educator evaluation cycle.

### **Students' artifacts**

According to De Hoyos and Tunks (2017), "student artifacts are the products of students' learning that provide evidence of their understanding of the subject matter skills, or competencies they are expected to master" (p.17), for Harris and Brown (2018) define students artifacts as "physical or digital objects created by students that demonstrate their learning, process or achievement".

The students' work began on March 30<sup>th</sup>, 2022 and ended on November 2<sup>nd</sup>, 2022, giving as a result of activities or product that students created during the lessons.

The first activities focused on collecting information and diagnosis of the students, these are evidenced in the open questions of the questionnaires and the pre-diagnostic knowledge workshop from there and complying with the curricular design, the students did a manual work on the planets of the solar system in which in a didactic way they learned about the location and characteristics of the same; In the following lessons they learned to develop mental and concept maps, to infer information, to present their ideas to compete through a

rally on topics such as characteristics of the animal and plant cells, the plant kingdoms, fungi and protists.

In addition, through reading and English riddles they learned about the scientific method by developing reading comprehension questions and vocabulary use in relation to context with the opportunity to evaluate their learning through a self-evaluation checklist.

### **Questionnaire**

A questionnaire is a research instrument used to collect information or data from a sample or population of individuals. It typically consists of a set of questions or items designed to gather information about attitudes, beliefs, opinions, behaviors, or other characteristics of the individuals being studied. According to Fowler, F. J. Jr. (2016) defines a questionnaire as "a set of questions intended to gather information from individuals about themselves, other people, their environment or their behavior" (p. 6).

For this research, two evaluation questionnaires were implemented with the objective of evaluating the effectiveness of the methodology to date.

### **Field Diary**

A field diary or notes keep a record of what happens during the research activities. It can be useful in tracking how and why the ideas and the research process evolved. Thus Mills, Bonner, and Francis (2017), describes "field notes are the written records of the researcher's observation, reflection, and interpretation of their experiences in the field

### **Role of the researcher**

As a researcher in action research, my role was facilitated and support the action research process. This would involve working closely with a group of stakeholders, such as teachers,

students, or community members, to identify an issue or problem that needs to be addressed.

As a researcher, it is important to remain impartial and objective throughout the process, while also being responsive to the needs and concerns of the stakeholders. This requires strong communication and interpersonal skills, as well as a deep understanding of the research methods and data analysis techniques used in action research.

This is relevant because as a researcher, maintaining impartiality and objectivity is crucial to ensure the validity and reliability of the research findings. By being neutral and unbiased, researchers can minimize potential bias and ensure that their interpretations and conclusions are based on evidence rather than personal opinions or preferences.

For this research proposal 9 field diaries were recollected (See annex A research questions), each one corresponding to the date of activity and topic proposed in class. Each field journal consisted of a research question, a detailed description of the lesson, evidences on important facts related to the research topic and finally my personal reflections.

### **Context and participants**

The students belonging to Gimnasio Meryland are from the upper-middle socioeconomic stratum, for this research we count with the participation of sixth grade group students 11 boys and 10 girls for total to 21 students in ages between 11 and 12 years old. The group shows favorable change in activities that promote creativity, teamwork, innovation and hand work. Most of them has a general knowledge of the English language having the following characteristics:

Regarding to use of language the institution began to implement greater hourly intensity in the English subject as of 2020, where students acquired greater vocabulary and grammatical structures, however there is evidence of difficulty in communication and shyness when speaking and expressing their ideas in English, in addition we have to consider that 2020 was a time of pandemic situation and the students had received class at home. On another hand the group is characterized by the lack of discipline and the follow-up of instruction given by their teacher, it is evident the change of thought and attitude according to the ages of the participants.

### **Ethical aspects in educational Research context**

As an educational researcher, I have the responsibility to adequately handle the data obtained through this research-action, considering ethical aspects such as school consent, honesty, and goodwill among all the participants included in this research project.

Educational research entails finding out what we do not know and is dependent on a clear question, purpose and methodology. Ethical rigor, then, demands that it seeks the trust and integrity not only of the researcher and the broader research community, but also of the wider education community (Clarke, 2006; Henderson and Esposito, 2017; Sikes and Piper, 2010). In order to facilitate the pedagogical implementation, I possess both the endorsement from the institution's rector and the signed consent from the parents of the sixth-grade students.

As an important aspect of implementation, I highlight the part that arises: *it should be noted that the project is governed solely for academic purposes with a view to reviewing and reflecting on the teaching-learning process of English within the CLIL methodology.* (See annex B and annex C)

## **Description of pedagogical implementation**

***Pre- diagnostic Workshop:*** As a starting point, I have implemented a pre-diagnosis workshop in order to show the concepts and previous knowledge, strengths and weaknesses that sixth grade students have in the subject of science. it was applied on March 30<sup>th</sup> 2022 This lasted 45 minutes and consisted in development 4 activities included exercises of multiple choice, read and match, choose true or false and reading comprehension. (See annex E)

This project was implemented from March 30<sup>th</sup> applied the diagnostic workshop and finished on November 2<sup>nd</sup> with the implementation of questionnaire CLIL methodology 2nd part, having a total of 9 lessons in which activities were implemented through the preparation of class plans taking into account the following CLIL parameters: Prior knowledge, Prior skills, aim, teaching objectives, learning outcomes, Cognition (functions: evaluate, analyze, understand) Communication and Language learning. With this, mainly sought was to integrate learning between science and English, proposing dual learning objectives. (See annexes G CLIL Lesson Planning)

The development of the class was carried out under the following steps, each one has a duration of 60 minutes once a month in which we develop various activities according to a thematic objective (Annex A questions for CLIL lessons).

1. *Warm-up activity:* Starting with a warm-up activity that connects the students to the topic or theme of the lesson. This can be a brief discussion, a brainstorming session, or a relevant video clip.

2. *Activate prior knowledge:* Activated students' prior knowledge of the subject area by asked them to recall or summarize what they already know about the topic.

3. *Introduce language objectives:* Introduce the language objectives for the lesson, which could include specific vocabulary, grammar structures, or language functions, I am sure that the language objectives are clearly connected to the content objectives.

4. *Introduce content objectives:* Introduce the content objectives for the lesson, which could include specific concepts, theories, or ideas. Explained why the topic is important and relevant to the students' lives and interests.

5. *Connected language and content:* Connect the language and content objectives by highlighting how the language objectives will help students achieve the content objectives. For example, if the content objective is to understand the process of how living beings get energy, I explained how learning specific vocabulary and grammar structures will help students better understand the scientific concepts.

6. *Review the aim for the lesson:* including how language and content will be integrated throughout. We Emphasized that language is not just a tool for communication but also a means of learning subject content. (Annex D Student`s Artifacts)

Finally, I completed the diary field as a reflection and analysis tool to consider our next lesson

(See Annex F Field Diaries)

***Questionnaire about CLIL lessons 1st part:*** This questionnaire was applied on September 12<sup>th</sup> 2022, this lasted 45 minutes and it contained 6 open questions with the main objective of collecting the impressions, reactions and feelings of the students in relation to the implementation of the CLIL methodology in the teaching of sciences in English in the first cycle of implementation, this information was collected anonymously and was not used for evaluation purposes. (See annex E)

Questionnaire about CLIL lessons 2nd part: Final questionnaire was applied on November 2<sup>nd</sup> 2022, this lasted 45 minutes the students found 5 open questions where they wrote the perceptions, reactions and final suggestions regarding the activities proposed during implementation of CLIL methodology in science. (See annex E)

## 6. Data Analysis and Discussion

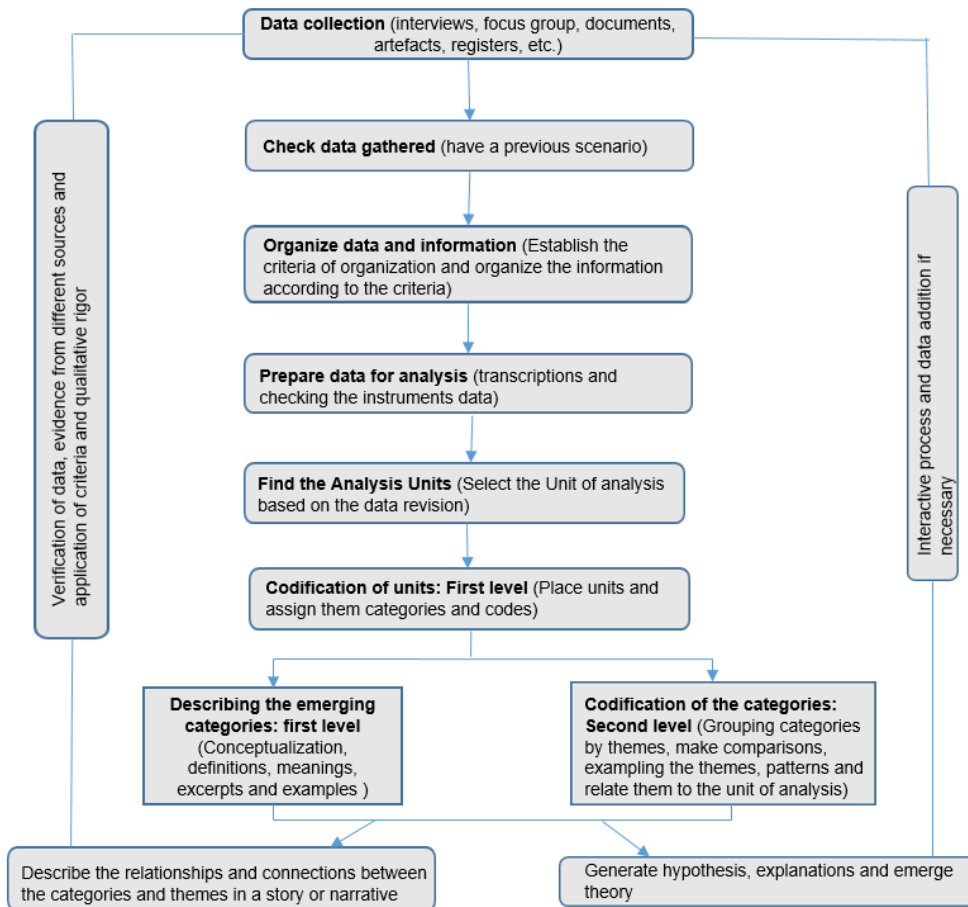
To start with, the method to analyze data was done using grounded theory.

Grounded theory is a research methodology that aims to develop a theory or explanation of a social phenomenon based on data that has been systematically gathered and analyzed. In grounded theory, the researcher aims to identify patterns and themes in the data and to develop a theory that explains these patterns. The theory is then refined and revised as further data is collected and analyzed. The goal of grounded theory is to develop a rich and detailed understanding of the social phenomenon being studied, and to produce a theory that is grounded in the data and has practical applications. Charmaz, K. (2015) defines grounded theory as a qualitative research method that "systematically and inductively generates theory from data in order to provide an explanation for a particular phenomenon". Charmaz emphasizes the importance of the researcher's reflexivity and involvement in the research process, and the iterative nature of grounded theory in which data collection, analysis, and theory development are intertwined.

According to Clarke, A. E. (2019) defines grounded theory as "an approach to qualitative research that focuses on the systematic collection and analysis of data to develop theories that are grounded in the experiences and perspectives of research participants".

Clarke emphasizes the importance of situational analysis in grounded theory, which involves examining the social, cultural, and historical contexts in which the data is collected and analyzed. This approach acknowledges that the meaning of social phenomena is not fixed, but rather is shaped by the social and cultural contexts in which they occur.

Graphic 1: Grounded Theory Process.



Note: Taken and adapted from Hernandez Siampieri, Fernandez and Baptista, 2014, Metodología de la investigación, p. 423.

In the development of this research, the process followed to analyse data was using the steps in graphic 1. First, the researcher analysed the students' artefacts and questionnaires (see annex D and E) and those where applied. In 2022, field diary process was done (see 1annex F) in ELSIS. The instruments were designed based on the fact that those must have had to collect data enough in order to answer the research question. Once all the instruments were applied, the researcher organize the information according to most common pattern repeated in the information collected.

After organizing the information according to patterns and themes, three categories were established to report the results and findings meanwhile all the information presented were supported using excerpts from the three instruments to provide real arguments that evidence the reliability from the data collected and make this research trustful in terms of findings.

## 7. Results and discussions

In order to establish categories based on the data collected, a systematic process of coding and analysis was employed. Here is a narrative on how the codes were developed and how they eventually led to the formation of categories:

*Data Familiarization:* Initially, I carefully reviewed and familiarized myself with the gathered data, which consisted of students' perceptions, feelings, and behaviours related to the CLIL methodology.

*Open Coding:* During the open coding phase, I read through the data line by line and assigned descriptive codes to specific segments or phrases that represented key ideas or concepts. This process involved identifying recurring patterns and themes within the data.

Example: One code that emerged during this stage was "increased engagement," which captured instances where students expressed enthusiasm and active participation in the CLIL classroom, leading to the formation of the category "interaction and communication crucial components of CLIL lessons"

*Axial Coding:* Building on the open codes, axial coding involved making connections between the codes to identify broader categories. It involved grouping related codes under overarching themes to establish meaningful relationships between different aspects of the data.

Example: The code "increased engagement" was linked with other codes like "active participation" and "elevated motivation," leading to the formation of the category "Students' reactions towards CLIL Methodology "

*Selective Coding:* During the selective coding process, I focused on refining and consolidating the categories that had emerged. I ensured that each category captured a distinct aspect of students' reactions to the CLIL methodology.

Example: The category "positive student attitudes and involvement" was further refined to include subcategories like "enhanced motivation," "active participation," and "deepened understanding." leading to the formation of the category "Increasing science knowledge acquisition"

By following this iterative process of coding and analysis, the initial codes were grouped and refined, ultimately leading to the emergence of distinct categories that represented different facets of students' perceptions, feelings, and behaviours towards the CLIL methodology.

### **11.1 Category 1: Students' reactions towards CLIL Methodology**

This category explains how the students refers to the attitudes, beliefs, opinions, and understanding that they have about Content and Language Integrated Learning (CLIL) methodology, and how they through development activities, they were able to have dual learning that is, while they were learning scientific concepts, English became a means of instruction and communication.

The sixth-grade students of Meryland School had never had contact with the CLIL methodology before, although it is a bilingual school, the subjects are taught in isolation without any type of interdisciplinary approach.

Through students' artifacts might find that some students carried out individual and group activities learning differently as well it was evidenced in that some of the students found

CLIL a good approach to carry out the science classes but there were some students who did not find this strategy meaningful from the traditional class.

AS: *“Yes it has a lot of differences, the method that we were using is so bored with this new one is better and funny”*. [Questionnaire excerpt].

GR: *“Yes, but no so much because in science talk in English but in CLIL we talk so mush in English and we learn vocabulary of English but at same time we learn term of science”*. [Questionnaire excerpt].

JS: *“I like the activities and I enjoy work outside in group and on the grass”* [questionnaire excerpt].

On the other hand, just as there were positive perceptions of the CLIL methodology some students felt that they did not evidence any difference between CLIL and the traditional teaching method.

NB: *“Sometimes I feel confused I don’t know if it is science or English activities”* [questionnaire excerpt].

MA: *“I don’t know understand some words meaning, it is difficult for me”* [questionnaire excerpt].

LC: *“I don’t find difference between normal class and CLIL methodology it is the same thing”* [questionnaire excerpt].

Thus, how students’ self-perception about their abilities and competence in CLIL instruction can affect their motivation to learn. If students perceive themselves as capable and confident in CLIL, they are more likely to be motivated to learn and engage in the instructional activities.

Students who perceive themselves as successful in CLIL are more likely to achieve higher learning outcomes and perform better on assessments.

LO: *“The CLIL method was very fun since we had classes with details on the subject, I enjoyed it”* [questionnaire excerpt].

As part of the researcher’s duties in this study, I used student’s feedback and self-perception data to adjust their teaching strategies and improve the effectiveness of their CLIL instruction. In the field diary I made every effort to collect comprehensive evidence,

aiming to gather diverse perspectives, emotions, and behaviours regarding students' reactions. *With this first data collection activity, I can get a first impression about how the students feel about the activities carried out with CLIL methodology, the difficulties presented, the activities they liked the most, what they understand by CLIL methodology, if they observe any difference between the implementation of the methodology and a class without it and especially their suggestions for the following classes*” [field diary Monday, September 12<sup>th</sup>, 2022 excerpt].

Throughout this study and development of activities, understanding students' self-perception of CLIL methodology provided with valuable insight into the effectiveness of the approach and helped me improve instructional practices to improve student learning outcomes.

*“Finally the students finished their participation in this investigative project, for this their last class there was no major difficulty or questions on the part of the students, they were already clear about the step by step of the questionnaire since they had already developed a first part in previous months, some students responded in English, their interaction was more trusting and secure, which at first glance shows that their communication skills improved and their nervous talking in English”.* ” [field diary Wednesday, November 2<sup>nd</sup>, 2022 excerpts].

Concluding this category perception of a student regarding the CLIL methodology may depend on several factors. It was contrasted through the three instruments and reveal some the main findings such as: firstly, language proficiency: students who are more proficient in the language may have a more positive perception of CLIL as they may find it easier to understand the content and engage in the instructional activities, secondly, content difficulty: if the content is too difficult or unfamiliar, students may struggle to understand it and feel discouraged, leading to a negative perception of CLIL and finally, personal motivation: students who are interested in the content and motivated to learn may have a more positive perception of CLIL since they found in the approach an ally to learn and

reinforce in two-fold: language and sciences content. Undoubtedly, the more knowledge in terms of language the students have, they are willing to accept different tendencies in classes as a way to tackle the content and study their classes.

### **11.2 Category 2: Interaction and communication crucial components of CLIL lessons**

This category was a result of the evidence of Interaction and communication in (CLIL) lessons around eight months of follow-up. In fact, group work was highlighted present in the activities proposed through CLIL approach, allowing a strong emphasis on the use of the language as a tool for communication, collaboration and interaction, with the aim of helping students to develop both content knowledge as well as language proficiency.

*LR: "I love to work as a group I feel excited when we develop activities outside" [questionnaire excerpt].*

*SB: "I prefer to work in pairs, I feel better and I can ask if I don't understand something" [questionnaire excerpt].*

Cooperative work was used as a tool that encouraged the use of English both in class activities and outside of them, this allowed students to learn to work and communicate as a team, support each other and also be a space for fun.

*IA: "In a group one can help each other, if one does not turn on the other yes, being able to help is more fun" [questionnaire excerpt].*

Collaborative work is a fundamental principle of CLIL, not only among students but also among all members involved in the learning process.

McNiff (2017) defines collaborative work as a process in which two or more individuals or groups work together to achieve a common goal. McNiff emphasizes that the process of

collaboration involves shared responsibility, shared decision-making, and mutual support among team members.

The activities proposed through CLIL foster critical thinking, creativity and language skills by providing opportunities to practice reading, writing, listening, and speaking in a meaningful context.

*ME: "My favourite activity was a solar system hand work because I learned in funny way" [questionnaire excerpt].*

As a researcher I had the opportunity to record all the evidences activities and wrote it in my field diary, these are some of important reflections about students' group performance through the time of execution of research proposal.

*Crafts activities made the class more dynamic; the activity allowed the exchange of ideas, vocabulary and expressions on the topic worked on. The students show a willingness to work by actively participating in the entire class session, they really enjoyed the activity and crafts activities. [Field diary excerpt, April 20<sup>th</sup>, 2022].*

*At this point, the development of activities is more controlled and directed, there is evidence of improvement in following instructions, the response of the students up to now has been positive and their level willing increases as activities other than working on the notebook are proposed or the book. I look forward to working on another outdoor session that involves more movement and teamwork and then evaluating how effective the CLIL sessions have been in science [Field diary excerpt, May 11<sup>th</sup>, 2022].*

*Working of exploration and dynamism has allowed the students to enjoy the CLIL classes more, in this specific class they had to interact, work as a team, use their communication and organization skills to achieve the objective, the students were able to complete a lesson synthesizing the information by themselves, analyzing and without the need for the permanent presence of the teacher [Field diary excerpt, June 15<sup>th</sup>, 2022].*

To wrap up this second category interaction and communication are crucial components of CLIL lessons. By integrating language learning with subject content, CLIL encourages students to use language in meaningful contexts while developing their content knowledge.

Effective interaction and communication in CLIL lessons can be achieved through a variety of strategies such as collaborative group work, games, didactic work, and discussions. In the artifact's analysis, it was evidenced that the activities provide opportunities for students to practice using subject-specific language, expressing their ideas, and negotiating meaning with their peers. Therefore, the students' interactions increase when developing activities under CLIL, as a result of this implementation, the students perceive they were able to learn in a collaborate way.

### **11.3 Category 3: Increasing science knowledge acquisition.**

The last category is related to the perception of students about the advances in science content obtained throughout the application of CLIL classes. Taking into account that there are several factors that determine whether or not there was an advance in science knowledge. Specifically, this can be classified according to the motivation, interests, dynamics and pace of learning of each of the students.

*AC: "Yes, I learned more about solar system, animal kingdom, I've understood the topics easier and so on" [questionnaire excerpt].*

*SM: "It was difficult sometimes I felt confused but I enjoyed the lessons" [questionnaire excerpt].*

*FC: "At the beginning I didn't understand some words but through the time I got it [questionnaire excerpt].*

Moreover, CLIL encourages students to engage with science concepts through hands-on, experiential learning activities, which can further deepen their understanding to the subject.

These activities included race rally, oral presentations, hand work, infer information, conceptual maps that allowed students to apply scientific concepts in real- world situations.

Regarding to students' perceptions I can show that across methodology evaluation questionnaire through CLIL application several students perceive positively their learning through use of CLIL.

*LS: "Yes, since these activities everything has been clearer for me" [questionnaire excerpt].*

*AP: "Yes, since I was able to solve many questions that I had from science classes" [questionnaire excerpt].*

*LN: "Yes, since I learned more in CLIL than in the original sciences" [questionnaire excerpt].*

*SM: "yes with the activities we have had and I understand science in an easier way" [questionnaire excerpt].*

Through the field diary I was able to document their learning journey, including their experiences with scientific concepts, language, and real-world applications. I could also write about what they have learned, the challenges they have faced, and how they have applied their knowledge to solve problems. I could also reflect on my own learning, identifying areas of strength and areas that need further development.

This is a brief excerpt of the first class we have had:

*In our first activity and I started to implemented CLIL methodology I wrote in my field diary "the students did not know several words vocabulary so, they felt insecurity. However, the group was receptive and willing to carry out the workshop, it is worth noting their good understanding of English and the justification for the reading comprehension question. Vocabulary questions were answered through examples or word spelling, but the dictionary was not used and also avoid asked they partners for help" [field diary excerpt, March 30<sup>th</sup>, 2022].*

In contrast this is a final excerpt about their advance:

*When I concluded this research implementation I wrote "the students finished their participation in this research project, for the last class there was no major difficulty or students' questions. They were already clear about the step by step of the questionnaire since they had already developed a first part in previous months, some students responded in English, their interaction was more trusting and confidence, which at*

*first glance shows that their communication skills improved and their nervous talking in English.” As time goes by, the students become familiar with the CLIL methodology and are interested in learning in a more autonomous way. [Field diary excerpt. November 2<sup>nd</sup>, 2022].*

In this order of ideas and based on the results obtained from the instruments and its categories based on the evidence gathered, it can be inferred that the CLIL methodology has the capacity to enrich the simultaneous learning of both content and language. By seamlessly integrating language acquisition within subject-specific instruction, CLIL offers students a more significant and genuine environment for language learning.

## 8. Conclusions

Concluding this research study, I can say that sixth-grade students belonging to Gimnasio Meryland School could be able to experience the CLIL methodology through the activities proposed during this time of implementation, the data collection tools such as questionnaires, student artifacts and diary field provided me the necessary information about the perceptions that the students had during the time of implementation of the CLIL methodology in their science classes around eight months.

Students perceive that CLIL is useful because CLIL provides students with the opportunity to learn a subject in a second language, which improves their language proficiency. By constantly using and practicing in a meaningful context, students develop stronger reading, writing, listening, and speaking skills, moreover through the activities development in the implementation increased student motivation and engagement who found the learning experience more interesting and relevant because they could apply their language skills to meaningful tasks and real-life situations. This motivation fostered a positive attitude towards language learning and encouraged continued effort and progress.

Some of them state that they have learned in a more dynamic way where activities were developed that allowed them to work in a group sharing ideas and opinions, which fostered communication and constant language practice, working with their peers facilitated the understanding of the proposed topics and encourage the practice of coordination exercises.

On the other hand, some students consider that the CLIL methodology is not useful because they did not found differences between traditional Science lesson and apply CLIL lessons in classroom, they perceived that that their language skills are not developed enough to

understand a complex subject, which generated frustration and difficulty keeping up with the curriculum.

Some Students who prioritized language proficiency above science content knowledge perceived CLIL as a hindrance, they felt that the emphasis on content areas detracts from dedicated language instruction and prevented them from mastering the language skills effectively.

After the development of this research project, and regarding to Student's perceptions about CLIL methodology I can divided into two points of view:

#### Positive Perception of Students Regarding CLIL Methodology

1.Enhanced Language Proficiency: Students perceive that CLIL methodology improves their language skills in the target language, as they are constantly exposed to and actively using it in various context.

2.Content Integration and Understanding: Students appreciate the integration of language and subject matter in CLIL classes, as it helps them develop a deeper understanding of both the content and the language simultaneously.

3.Motivation and Engagement: Students report higher levels of motivation and engagement in CLIL classes due to the interactive and dynamic nature of the instruction, as well as the real-life relevance of the topics being studied

#### Negative Perceptions of Students Regarding CLIL Methodology:

1.Language Difficulty: Some students may find the use of a foreign language in academic contexts challenging, leading to feelings of frustration, stress, and reduced confidence in their language abilities.

2.. Content Overload: Students may feel overwhelmed by the dual focus on language and subject matter, especially if they struggle with the content itself. This can lead to difficulties in comprehending and retaining the material.

*Contributions to Professional Development:* As a teacher and researcher, this study provided valuable insights into the CLIL methodology's effectiveness. It deepened my understanding of how integrating language learning within subject instruction can enhance students' engagement, motivation, and language proficiency. It also allowed me to reflect on my instructional practices and explore innovative ways to integrate content and language in the classroom.

*Pertinence of the Research Design:* The selected research design, which involved collecting and analyzing students' perceptions, feelings, and behaviors, proved to be appropriate for investigating the impact of CLIL implementation. It provided a rich and nuanced understanding of students' experiences and allowed for the identification of patterns and themes within the data.

*Object of Study:* The study focused on the implementation of CLIL methodology, specifically exploring its potential to enhance the simultaneous learning of content and language. The findings confirmed that CLIL offers a meaningful and authentic context for language learning, promoting deeper understanding and improved language skills among students.

*Limitations:* Despite the valuable insights gained, certain limitations should be acknowledged. Firstly, the study relied on self-report data from students, which may be subject to bias or limited recall. Additionally, the study was conducted in a specific context, and the findings may not be easily generalizable to other educational settings. Furthermore, the study focused primarily on student perspectives, and incorporating teacher and parent

perspectives could have provided a more comprehensive understanding of CLIL implementation.

*Further Research:* To build upon this study, further research is recommended. Firstly, longitudinal studies could be conducted to examine the long-term effects of CLIL on students' language proficiency and academic achievement. Additionally, comparative studies could explore the effectiveness of CLIL in different educational contexts and with diverse student populations. Investigating the perspectives of teachers and parents regarding CLIL implementation would also contribute to a more holistic understanding of its impact.

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## 10. Annexes

### Annex A Questions for CLIL lessons

1. How to analyze data through workshop diagnostic test like a tool for gather information?  
applied on Wednesday, March 30<sup>th</sup>, 2022

2. How to learn about the planets through handwork? applied on Wednesday, April 20<sup>th</sup>,  
2022

3. How to identify the differences and similarities between animal and vegetal cells?  
applied on Wednesday, May 11<sup>th</sup>, 2022.

4. How to infer information about the kingdom's topic making a mental map across rally  
competence? Applied on Wednesday, June 15<sup>th</sup>, 2022.

5. How to gather information with a questionnaire like a tool to know if the students  
understood CLIL methodology? Applied on Monday, September 12<sup>th</sup>, 2022.

6. How to recognize the way which living beings obtain energy? Applied on Thursday,  
September 22<sup>nd</sup>, 2022

7. How to improve reading skills through a scientific text developing a reading  
comprehension exercise applied on Wednesday, October 19<sup>th</sup>, 2022.

8. To identify if the students are able to relate words in context across riddles games  
Wednesday, applied on November 2<sup>nd</sup>, 2022

9. How to evidence the CLIL activities improve their competence in science and English subjects? Applied on Wednesday, November 2nd, 2022.



## Annex C Parents' consent form sample



Chía, febrero de 2022.  
Padres de familia grado sexto  
Gimnasio Meryland Bilingüe.

Respetados padres de familia.

Como estudiante- maestra próxima a recibir mi grado del programa licenciatura en lengua extranjera inglés de la Universidad Santo Tomás debo implementar un proyecto investigativo para llevar a cabo un cumplimiento a la totalidad de los requisitos establecidos institucionalmente, es así que contando con el permiso institucional en cabeza de la licenciada Maribel Rodríguez rectora de la institución me dispongo a implementar mi idea investigativa dentro del grupo del grado sexto.

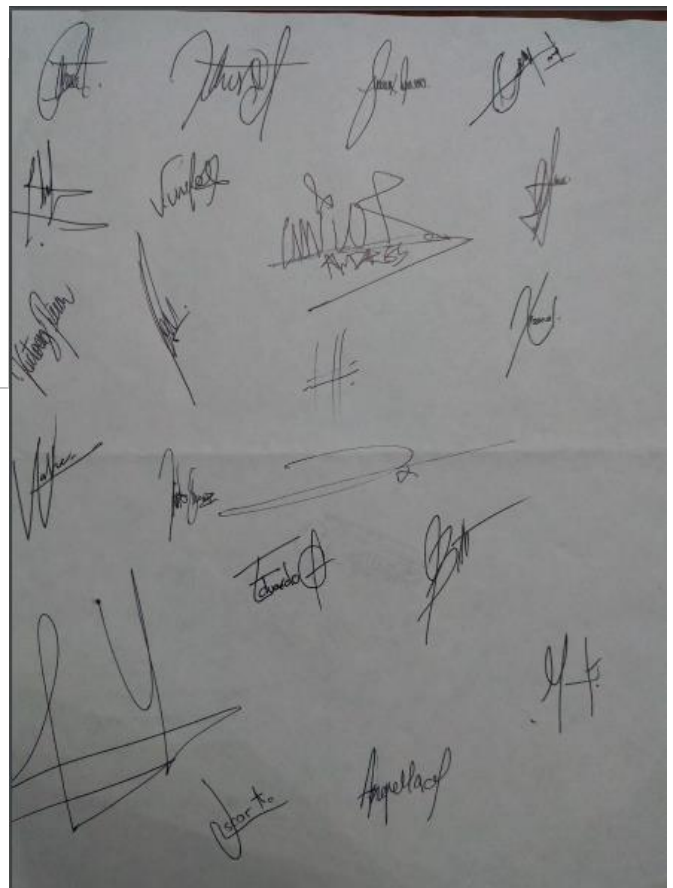
De manera sucinta informo que mi proyecto se basa en la implementación de la metodología CLIL que en resumen es la enseñanza de los contenidos de ciencias a través del inglés; en correspondencia con la propuesta del proyecto y por medio de la presente solicito formalmente su autorización para trabajar con sus hijos dentro del año en curso con el objetivo principal de recopilar información acerca de las percepciones que los estudiantes tienen sobre esta metodología.

Cabe recalcar que el proyecto se rige únicamente con propósitos académicos y pedagógicos y que los datos recopilados se analizarán con aras de reflexionar sobre el proceso de enseñanza y aprendizaje.

Agradezco su valiosa colaboración

Cordialmente,

Rosmery Aguilar Escobar.  
Estudiante- maestra



## Annex D Student`s Artifacts

### Solar system activity



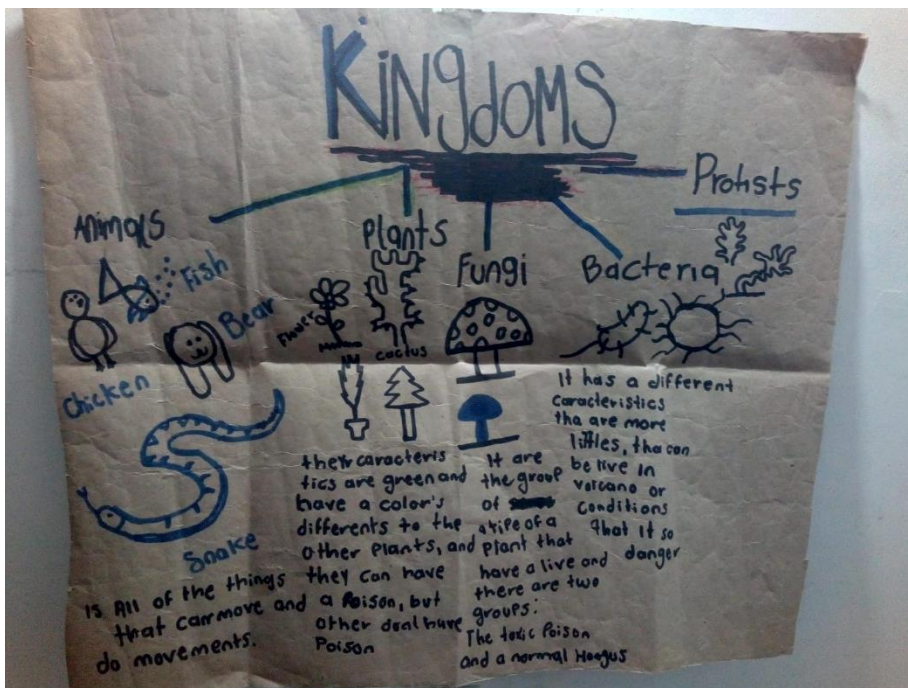
### The cell activity



<b>cell</b>	The basic building block of the body from which all larger parts are formed	<b>organelles</b>	Small structures found in the cytoplasm which have particular jobs to do
<b>cell membrane</b>	A thin covering which encloses the cell and regulates substances that pass through it	<b>mitochondria</b>	The power plants of the cell which convert food into energy the cell uses to grow, divide, and do its work
<b>cytoplasm</b>	A jelly-like material which fills the cell	<b>endoplasmic reticulum</b>	A network of membranes with spaces that store enzymes and help transport substances to various parts of the cell
<b>nucleus</b>	The central center of a cell which stores its hereditary information in the nucleolus and controls the activities of the cell	<b>Golgi apparatus</b>	Flat membrane sacs that process proteins and other substances produced in the cell
<b>DNA</b>	proteins which make up genes which control the passing on of characteristics from parents to offspring	<b>Lysosomes</b>	Round bodies containing enzymes that can break down many substances



.The kingdoms rally



## Nutrition in living beings

# Nutrition in living beings

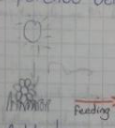
CLIL METODOLOGY

Date: Thursday, September 22nd

09 2022

Detritivores	Decomposers
<ul style="list-style-type: none"> <li>* They do not use chemical processes</li> <li>* They break down organic matter by oral digestion that is they amass it</li> <li>* Consume to obtain energy from matter</li> </ul>	<ul style="list-style-type: none"> <li>Use chemical processes to break down substances</li> <li>Secrete enzymes for decomposition</li> <li>Break down organic matter</li> </ul>

Difference between Autotrophs And Heterotrophs



**Autotrophs**  
They make their own food

Feeding →

**Heterotrophs**  
They consume food made by Autotrophs

Sequence by which living things obtain food from each other in the ecosystem

**The food chain**

An ecosystem consists of three nutritional groups:

- (A) Producers - A
- (B) Consumers -
- (C) Decomposers -

- Saproph

19 09 2022

Book: Frank page 36-37-38

Date: September 21<sup>st</sup>, 2022

Topic: Nutrition in living beings (cell, neuroanatomy)

**Nutrition**

Nutrition is the process by which living things get or make food. All animals get food by eating other living things.

**Autotroph**

It is an organism that can produce its own food using light, water, carbon dioxide, or other chemicals. Because autotrophs produce their own food, they are sometimes called **producers**.

**heterotroph**

Are the organism that cannot manufacture their own food and therefore depend on other organism (usually plants or other animals) to obtain food.

Classification of heterotrophs: omni, etc

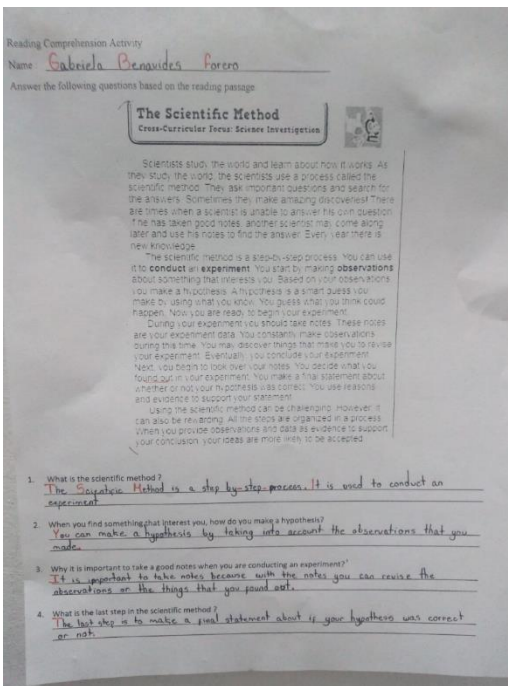
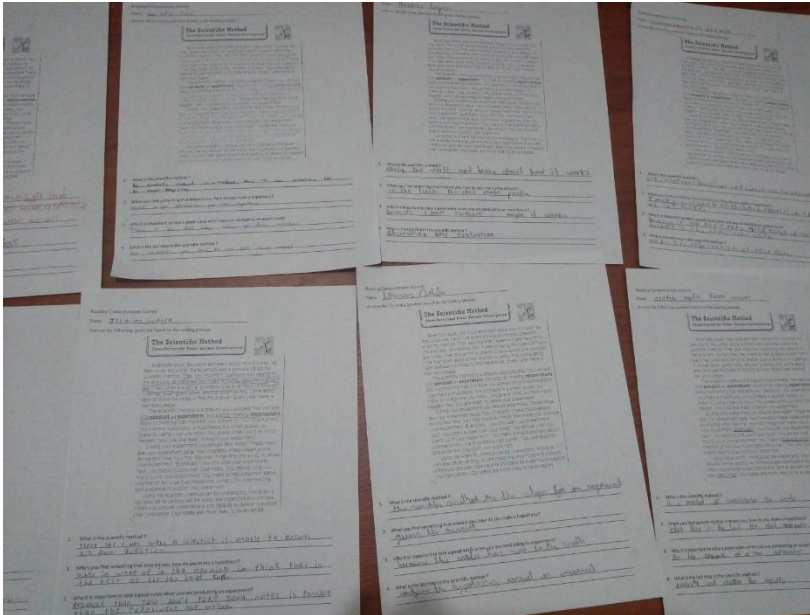
**Detritivores**

Those heterotrophic beings that are responsible for the food residues of large predators or the organic matter that falls from the trees (all about waste organic matter).

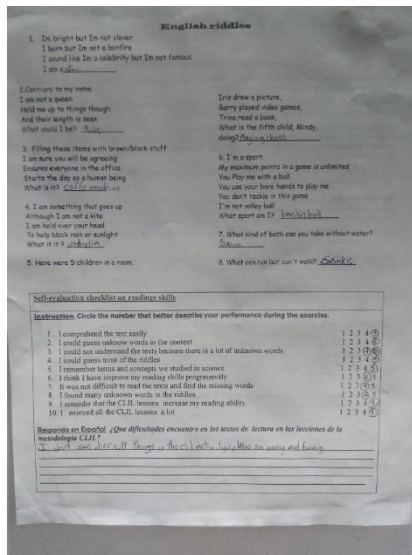
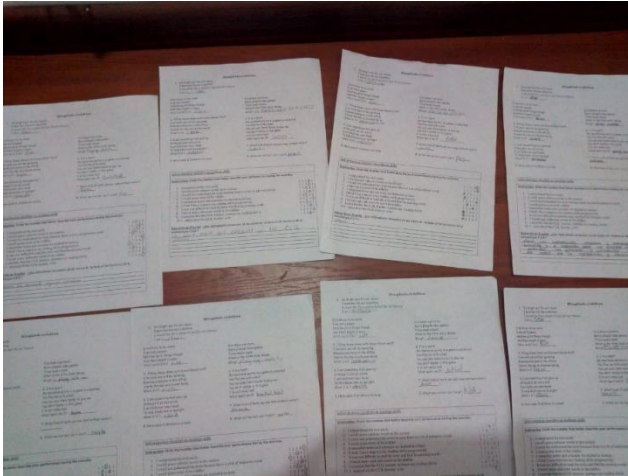
Coprophaga / Coprophaga

... DO YOUR THING ...

## Reading comprehension the scientific method

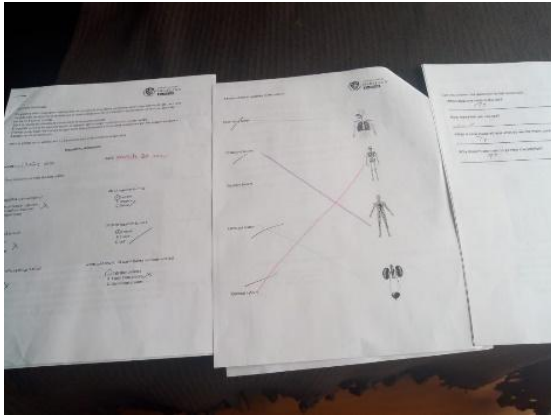


Riddles English in class activity

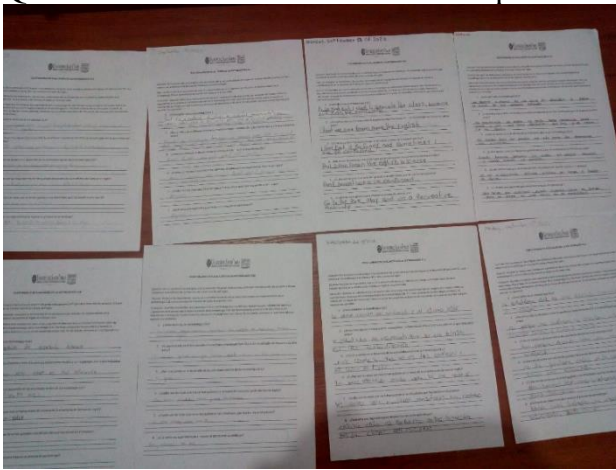


## Annex E Questionnaires

### Diagnostic Workshop



### Questionnaire about CLIL lessons 1st part



12/04/2022

UNIVERSIDAD SANTI DOMINGO  
FACULTAD DE CIENCIAS NATURALES

CUESTIONARIO DE EVALUACIÓN DE LA METODOLOGÍA CLIL

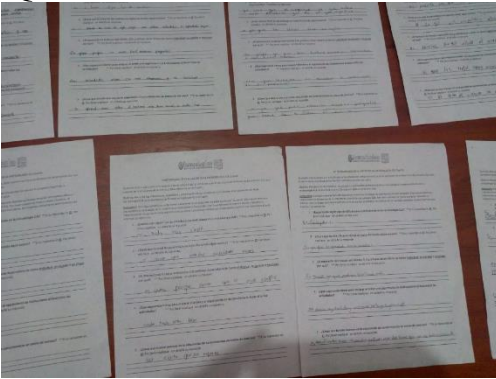
Contexto: Este cuestionario está dirigido a los estudiantes del grado sexto quienes participan en el desarrollo del proyecto CLIL que consiste en la enseñanza de las Ciencias Naturales a través del inglés.

Objetivo: Recopilar las impresiones, reacciones y sentimientos de los estudiantes con relación a la implementación de la metodología CLIL en la enseñanza de Ciencias en inglés en el primer ciclo.

Instrucciones: Cuando completes este cuestionario tiene varias preguntas abiertas que hacen recoger información sobre sus impresiones en el proceso de implementación de la metodología CLIL. Por favor conteste de manera amplia y honesta, la información se recoge de manera anónima y no se usa con propósitos evaluativos. En tal sentido, plantearse en total libertad para expresar sus opiniones.

1. ¿Cómo definirías la metodología CLIL?  
*So cool because the integration that have with the subject of science for me my favorite. It is fantastic.*
2. ¿Encuentras alguna diferencia entre la enseñanza implementando CLIL y la metodología con la que trabajabas antes?  
*yes it has a lot of differences the method that we was using it so better and with this new one is better and funny.*
3. ¿Como le sientes en el desarrollo de las actividades dentro de la metodología CLIL?  
*Happy, it is so funny all the activities.*
4. ¿Cuáles son las cosas que más te han gustado del proceso de la enseñanza de Ciencias en inglés?  
*the method of learning that take you out of the monotony.*
5. ¿Cuáles son las cosas que no te han gustado o las dificultades que has tenido en el proceso?  
*all the things are okay and fun.*
6. ¿Cuál sería una sugerencia para mejorar el proceso de aprendizaje?  
*for the notes of the matter we can go to a folder of each class.*

## Questionnaire about CLIL lessons 2nd part



**UNIVERSIDAD SAN VICENTE**  
FACULTAD DE INGENIERÍA

**CUESTIONARIO DE EVALUACIÓN DE LA METODOLOGÍA CLIL 2 parte**

Contexto: Este cuestionario está dirigido a los estudiantes del grado sexto quienes participan en el desarrollo del proyecto CLIL que consiste en la enseñanza de las Ciencias Naturales a través del inglés.

Objetivo: Recopilar las impresiones, reacciones y sentimientos de los estudiantes con relación a la implementación de la metodología CLIL en la enseñanza de Ciencias en inglés en el primer ciclo.

**Instrucciones:** Queridos estudiantes este cuestionario tiene varias preguntas abiertas que buscan recopilar información sobre sus impresiones en el proceso de la implementación de la metodología CLIL. Por favor conteste de manera amplia y honesta, la información se recoge de manera anónima y no se usará con propósitos evaluativos. En tal sentido, agradezco en total libertad para expresar sus opiniones.

- ¿Encontraste algún tipo de dificultades o confusiones en la metodología CLIL? **\*\* Si su respuesta es SI Por favor explique en detalle su respuesta**  
 No, pude entender con facilidad toda
- ¿Crees que tu nivel de aprendizaje en inglés ha tenido algún avance? **\*\* Si su respuesta es SI Por favor explique en detalle su respuesta**  
 Si, recordando el inglés y practicándolo, he mejorado en mi lectura y gramática
- Al momento de trabajar actividades CLIL, prefieres desarrollarlo de forma individual, en parejas o en grupo? **\*\* Por favor explique en detalle su respuesta**  
 Individual, es más fácil para mí, porque puedo hacer y pensar las cosas más tranquilamente
- ¿Que sugerencias tienes para mejorar el orden y el seguimiento de instrucciones al desarrollar las actividades? **\*\* Por favor explique en detalle su respuesta**  
 Ninguna, me parece que el orden y el seguimiento han estado muy bien
- ¿Crees que tienes avances en la adquisición de conocimientos en temas de ciencias? **\*\* Si su respuesta es SI Por favor explique en detalle su respuesta**  
 Si, porque pude recordar los temas y las actividades pero a veces para el mismo tiempo me agobian a entender

## Annex F Field Diaries

**REFLECTIVE JOURNAL FORM 1****Research Topic:** Workshop diagnostic test**Research Question:** How to analyze data through workshop diagnostic test like a tool for gather information?**Author:** Rosmery Aguilar Escobar**Date /per session:** Wednesday, March 30<sup>th</sup>, 2022

<b>DETAILED DESCRIPTION OF THE LESSON</b>	<b>EVIDENCES ON IMPORTANT FACTS RELATED TO THE RESEARCH TOPIC</b>	<b>MY PERSONAL REFLECTIONS</b>
<p>In this first meeting, the Ss were informed of the activity to be carried out, considering that this project does not affect their performance within the institution in any way. In this class the students began developing a written workshop individually in a stipulated time of 45 minutes this workshop consisted of the development of four sections, in the first section the Ss read and enclosed the answer according to the cellular organization of the body, in the second section they found a visual aid in which they had to match the body system with their respective name, in the third section they had to choose between true and false according to the statement under the theme functions of our body, to finish the Ss they developed a short</p>	<p>At the beginning of the activity, the students were expectant, several of them asked what the purpose of developing science activities in English and they would be agreed to participate in the proposed topics, suggesting to me consider development didactic activities. During the development of the workshop several vocabulary questions arose. The Ss used the English language to always ask using phrases such as How do you say... please give me an example of... How can I write this word, or May I use a dictionary? Vocabulary questions were answered through examples or word spelling, but the dictionary was not used and also avoid asked they partners for help, due</p>	<p>Ss did not know several words vocabulary so, they felt insecurity. However, the group was receptive and willing to carry out the workshop, it is worth noting their good understanding of English and the justification for the reading comprehension questions, however I consider that I had a mistake in choosing the last point of reading comprehension although the guys responded well it was a topic totally isolated from the operation and structure of the human body, I must be careful in the following activities and follow a thematic sequence to avoid confusion. , now I have the information and idea for design activities for the next implementation.</p>

<p>reading activity related to the subject's own vocabulary, finishing their test by answering three questions of reading comprehension. Finally, the workshop was collected to obtain information.</p>	<p>to the idea was to collect information in individual way. Finally, greater difficulty was evident in terminology of the subject but, visual match work and reading comprehension of the final point were facilitated, some students finished faster than others and only three students delivered as soon as the time proposed for the activity was over.</p>	
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### REFLECTIVE JOURNAL FORM 2

**Research Topic:** The solar system

**Research Question:** How to learn about the planets through handwork?

**Author:** Rosmery Aguilar Escobar

**Date /per session:** Wednesday, April 20<sup>th</sup>, 2022

<b>DETAILED DESCRIPTION OF THE LESSON</b>	<b>EVIDENCES ON IMPORTANT FACTS RELATED TO THE RESEARCH TOPIC</b>	<b>MY PERSONAL REFLECTIONS</b>
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<p>In this session we begin with a review of the necessary materials to start the manual work, after giving the instructions and distributing the worksheet, we watched the video and the song about the planets, so that they can color, the Ss have as a guide the planets with their colors and names projected on the board each student began by coloring their worksheet and carefully cutting out each planet. In this class we socialize the reason why Pluto is not considered a planet given its characteristics and conditions, the Ss are clear that today it is a dwarf planet. After the individual work we went on to group work so that the Ss could share ideas and concepts about the planets in addition to hanging the planets starting from the sun in a descending way in order to differentiate how distant each planet is from the sun, to finish our class We projected the planets individually by passing several students to the board to write the names, they all held up their work to show that they had finished.</p>	<p>Although the Ss had later knowledge of the names of the planets in Spanish, they did not know their location with respect to the sun, it was possible to show that manual work made their learning more significant, in addition to allowing them to share their oral skills in a group, questions such as why Pluto is not a planet were answered and socialized in addition to carrying out the most dynamic class and learning new vocabulary</p>	<p>Obviously, the manual work made the class more dynamic, the activity allowed the exchange of ideas, vocabulary and expressions on the topic worked on. As aspects to improve, it should be taken into account to leave the space clean for the next class, reinforce the instruction so that the Ss speed up the work and discipline. The Ss show a willingness to work by actively participating in the entire class session, they really enjoyed the activity and manual work.</p>
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**REFLECTIVE JOURNAL FORM 3****Research Topic:** The Cell**Research Question:** How to identify the differences and similarities between animal and vegetal cells?**Author:** Rosmery Aguilar Escobar**Date /per session:** Wednesday, May 11<sup>th</sup>, 2022.

<b>DETAILED DESCRIPTION OF THE LESSON</b>	<b>EVIDENCES ON IMPORTANT FACTS RELATED TO THE RESEARCH TOPIC</b>	<b>MY PERSONAL REFLECTIONS</b>
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<p>We started the class watching a video about the parts of the cell and remembering the differences between the animal and the plant cell, then we emphasized why the animal cell did not contain chloroplasts and what is the importance of this in the plant cell. Immediately some students came forward and read the parts of both the animal and plant cells, pointing their fingers at their location. Then I gave each one a sheet with a search words activity where they had to underline the parts of the cell with colors. At the end they stuck it in their science notebook. We had planned to work outside in groups but it started to rain so we located ourselves in the gym of the preschool section, the students took off their shoes, went in and made groups of three students, I gave them a plastic bag with a search activity word with definition and paste them on a sheet of paper, finally the students carried out the activity they put on their shoes and we went to lunch time</p>	<p>The Ss related the image to the concept, which made it easier to identify the parts of the cell. They also practiced writing with the activity of finding the parts and coloring them. The group work favored the exchange of ideas and concepts to others of cooperation and dynamism, when carrying out the activities it was clear to them the differences and similarities found in the cell and to identify it as the first unit that makes up a living being.</p>	<p>At this point, the development of activities is more controlled and directed, there is evidence of improvement in following instructions, the response of the Ss up to now has been positive and their level of disposition increases as activities other than working on the notebook are proposed. or the book. I look forward to working on another outdoor session that involves more movement and teamwork and then evaluating how effective the CLIL sessions have been in science.</p>
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#### **REFLECTIVE JOURNAL FORM 4**

**Research Topic:** Rally the kingdoms

**Research Question:** How to infer information about the kingdoms topic making a conceptual map across rally competence?

**Author:** Rosmery Aguilar Escobar

**Date /per session:** Wednesday, June 15<sup>a</sup>, 2022.

<b>DETAILED DESCRIPTION OF THE LESSON</b>	<b>EVIDENCES ON IMPORTANT FACTS RELATED TO THE RESEARCH TOPIC</b>	<b>MY PERSONAL REFLECTIONS</b>
<p>For this activity we begin with a short summary of the kingdoms, identifying on the board a concept map with definitions and characteristics of each kingdom. The instruction for this session was given in the classroom beginning with the formation of the work groups, and the materials to be used were markers and craft paper, after being clear about the objective of the activity, the Ss left the room to locate themselves in their positions, two of them had the indications map in their hand, going through the first station picking up their teammate; then following the map instruction they had to do motor exercises with their body until they completed the rally meeting at each station with a member of their team. Finally, at their meeting point, they had to infer each kingdom and its characteristics through a conceptual map. To finish the class, each group went in front of us for showing the end of their work and</p>	<p>The work of exploration and dynamism has allowed the Ss to enjoy the CLIL classes more, in this particular class they had to interact, work as a team, use their communication and organization skills to achieve the objective, the Ss were able to complete a lesson synthesizing the information by themselves, analyzing and without the need for the permanent presence of the teacher</p>	<p>In the development of this activity I was able to see several stages of the students, the first while we were in the classroom was anxiety and wanting to leave quickly, which did not allow us to pay the necessary attention to some teams and some Ss were not sure what to do, they went out to running without taking into account the map or the indications, which caused them to get lost and finish last in the activity, which indicates to me that we are still failing to follow instructions and knowing how to listen carefully. The next stage that I observed was the positive response to the activity, the enthusiasm, willingness and energy with which they worked, communicated in English, worked as a team and enjoyed the class. Finally, I observe that the outdoor classes have a greater reception by the Ss, they leave the daily routine of the classroom and have more meaning for them, although I would like to take more evidence of the methodology in a more closed space. I will consider another activity like this. for the closure of the investigation</p> <p>In the development of this activity I was able to see several stages of the students,</p>

<p>listening to the instruction to return to the classroom.</p>		<p>the first while we were in the classroom was anxiety and wanting to leave quickly, which did not allow us to pay the necessary attention to some teams and some Ss were not sure what to do, they went out to running without taking into account the map or the indications, which caused them to get lost and finish last in the activity, which indicates to me that we are still failing to follow instructions and knowing how to listen carefully. The next stage that I observed was the positive response to the activity, the enthusiasm, willingness and energy with which they worked, practiced their communication in English, worked as a team and enjoyed the class. Finally, I observe that the outdoor classes have a greater reception by the Ss, they leave the daily routine of the classroom and have more meaning for them, although I would like to take more evidence of the methodology in a more closed space. I will consider another activity like this. for the closure of this research</p>
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### REFLECTIVE JOURNAL FORM 5

**Research Topic:** Apply questionnaire about CLIL lessons 1st part

**Research Question:** : How to gather information with a questionnaire like a tool to know if the students understood CLIL methodology?

**Author:** Rosmery Aguilar Escobar

**Date /per session:** Monday, September 12<sup>n</sup>, 2022.

DETAILED DESCRIPTION OF THE LESSON	EVIDENCES ON IMPORTANT FACTS RELATED TO THE RESEARCH TOPIC	MY PERSONAL REFLECTIONS
<p>This was the first evaluation activity of the CLIL methodology.</p> <p>Its objective was to collect information about the perspectives that students have so far regarding the methodology, it was developed through a questionnaire of six open questions individually, clarifying to the Ss that their answers did not have any modification to their notes in English, in addition to answering it in the most honest way possible, giving the best arguments to their answers. After the indication was given, the students had 35 minutes to respond, the room was silent and as they finished they handed me their questionnaire.</p>	<p>The evaluation as an improvement tool, allows that by having the perspectives of the students, the pertinent adjustments can be made on the implementation of the CLIL methodology. The activity allowed them to respond freely to the Ss without pressure or without any consequence in their grade. Questions arose such as how much time do we have to answer? Do we answer in English or Spanish? How much do I get (score)if I answer everything correctly? These doubts were clarified at the beginning of the questionnaire.</p>	<p>With this first data collection activity, I can get a first impression about how the students feel about the activities carried out with CLIL methodology, the difficulties presented, the activities they liked the most, what they understand by CLIL methodology, if they observe any difference between the implementation of the methodology and a class without it and especially their suggestions for the following classes. The idea is after having all the answers, to make an analysis matrix to verify if the methodology does indeed have an impact on the Ss and their way of learning, or maybe it is necessary to make additional settings.</p>

### REFLECTIVE JOURNAL FORM 6

**Research Topic:** Nutrition in living beings

**Research Question:** How to recognize the way which living beings obtain energy?

**Author:** Rosmery Aguilar Escobar

**Date /per session:** Thrusday, September 22nd, 2022.

DETAILED DESCRIPTION OF THE LESSON	EVIDENCES ON IMPORTANT FACTS RELATED TO THE RESEARCH TOPIC	MY PERSONAL REFLECTIONS
<p>This class had a virtual programming through the classroom since the students could not attend in person way because there was a restriction on municipal mobilization (day without a car) the students connected from their homes with an open camera, most of them attended their class on time and we also had supervision by the academic institutional coordinator, the theme chosen was nutrition in living beings through a presentation in moving slides in which there was active participation by the students.</p>	<p>This class was a challenge proposed due to the distance methodology, which means that CLIL, being a flexible methodology, allows us to adapt to the rhythm and particular circumstance, we were also able to use TICS as a tool for the class, since we were at a distance the Ss They were able to work independently, evaluating their way of learning, it also encouraged more attention because they had to be attentive to learning the topic of the class</p>	<p>Fortunately we did not have technical problems with the distance class however, we had an interruption of supervision by the academic coordination teacher which encouraged the students to disperse for a moment and the common thread of the class was lost, the students were participatory although but I can not guarantee one hundred percent everyone's attention, although many of them had their cameras on, most of them were alone at home without supervision. The advantage of today's remote class was to avoid the indiscipline that usually occurs in the classroom, but in my opinion, yes. It is necessary to be present in person for greater control and security that the students are carrying out the proposed activity.</p>

### REFLECTIVE JOURNAL FORM 7

**Research Topic:** Reading comprehension the scientific method

**Research Question:** How to improve reading skills through a scientific text developing a reading comprehension exercise ?

**Author:** Rosmery Aguilar Escobar

**Date /per session:** Wednesday, October 19th , 2022.

DETAILED DESCRIPTION OF THE LESSON	EVIDENCES ON IMPORTANT FACTS RELATED TO THE RESEARCH TOPIC	MY PERSONAL REFLECTIONS
<p>We started the lesson of the day by clarifying the terms skimming and scanning reading techniques that allow classifying the information, focusing on the questions and having a better reading comprehension, for this occasion I chose a short scientific text with four reading comprehension questions at the end.</p> <p>The activity was carried out individually, with a total duration of 40 minutes and the room was totally silent to maintain concentration and respect individual work. Some of them use colors as a strategy for highlight important information, if any Ss had any questions, they would raise their hand and I would go to their position so that no one would stop avoiding indiscipline and distractions, if they didn't know some word I explained through mimic or synonyms for avoid translate or give them the answer</p>	<p>Carrying out reading comprehension exercises allows the student to understand terms and relate vocabulary in context. During the development of the activity, questions arose such as: should we answer in English or Spanish? Can we use the dictionary? I don't understand this word or I don't know what its meaning is</p>	<p>As time goes by, the Ss become familiar with the CLIL methodology and are interested in learning in a more autonomous way. However, I have been able to observe that they prefer group or pair work over individual work, but obviously the information is collected more detailed and conscientious when activities are carried out in a personalized way.</p> <p>scanning and skimming techniques were effective at the time of preparing the information, the students understood how to put it into practice and how to take information in a faster and more focused way. As an aspect to work on, we still have to learn vocabulary in context since the Ss feel insecure and prefer to use the dictionary.</p>

### REFLECTIVE JOURNAL FORM 8

**Research Topic:** Riddles in English

**Research Question:** : To identify if the students are able to related words in context across riddles games

**Author:** Rosmery Aguilar Escobar

**Date /per session:** Wednesday, November 2nd , 2022.

<b>DETAILED DESCRIPTION OF THE LESSON</b>	<b>EVIDENCES ON IMPORTANT FACTS RELATED TO THE RESEARCH TOPIC</b>	<b>MY PERSONAL REFLECTIONS</b>
<p>We started the class giving the instruction that it is a riddle in English meaning and the objective of the class, I gave each student a sheet of paper with 8 riddles and ten self-assessment questions about the reading exercise to be carried out, then I began to read aloud and paused each of the riddles and try to give them the opportunity to think about the possible answer, When we finished all the riddles they developed the self- assessment in individual way, for close the day and they finished the activity , Ss gave me all the papers and then we socialized together their answer and justification about their chose.</p>	<p>This was the first time that the Ss worked riddles in English, which was quite fun for them, they had the opportunity to think quickly and give their answers, some had more imagination than the others, some Ss were blocked due to lack of knowledge of vocabulary in context, they had an individual and group work space, the reception and motivation on the part of the Ss was good, the activity facilitated being able to analyze and think in English in addition to generating a good work environment.</p>	<p>In this activity I feel that I made a mistake in the design of the riddles, I should have chosen shorter riddles and with a commonly used vocabulary, I did not think that the Ss would feel lost when starting, I also thought that they had already worked on activities like this type in other areas such as Spanish, although they took more than the expected time they were able to develop the activity but with constant monitoring on my part.</p> <p>Another fact that I observed is that they have to translate everything literally, they do not find the meaning of the sentence or word in context, but they have to translate word by word, this activity was interesting to observe and do because I can learn more in depth the group</p>

### **REFLECTIVE JOURNAL FORM 9**

**Research Topic:** Questionnaire CLIL methodology 2 part

**Research Question:** How to evidence the CLIL activities improve their competence in science and English subjects ?

**Author:** Rosmery Aguilar Escobar

**Date /per session:** Wednesday, November 2nd , 2022.

<b>DETAILED DESCRIPTION OF THE LESSON</b>	<b>EVIDENCES ON IMPORTANT FACTS RELATED TO THE RESEARCH TOPIC</b>	<b>MY PERSONAL REFLECTIONS</b>
<p>This was the last class we had implementing CLIL methodology, the Ss developed the last questionnaire of five questions that collects information about their final perspectives on the methodology based on the performance of the activities they had throughout this investigation, as always I indicated that this questionnaire was anonymous, it did not have any type of qualification, they could answer it in English or Spanish and they would fill it out in the most honest way possible, I was grateful with them for the time and willingness to develop during these months, finally they had 30 minutes to resolve and deliver</p>	<p>Finally the students finished their participation in this investigative project, for this their last class there was no major difficulty or questions on the part of the Ss, they were already clear about the step by step of the questionnaire since they had already developed a first part in previous months, some students responded in English, their interaction was more trusting and secure, which at first glance shows that their communication skills improved and their nervous talking in English.</p>	<p>The development of the activities throughout the pedagogical implementation with the sixth grade came to an end, I already have the evidence and perceptions that the Ss had throughout this investigation, for now the respective data analysis will be carried out to conclude in form of reflection if the CLIL methodology allows students to advance both in content and in language in this case in the subject of science, personally I must say that the process was productive but exhausting in the time taken for research, let's hope that the conclusion get along satisfactorily.</p>

## Annex G. CLIL Lesson Plannings

<b>Group :</b> Sixth grade students	<b>Time :</b> 60 minutes <b>Date:</b> Wednesday, March 30 <sup>th</sup> , 2022
<b>Topic:</b> 1. Workshop diagnostic test	
<b>Previous Knowledge</b>	<b>Previous skills</b>
<ul style="list-style-type: none"> <li>• Notions of body system</li> <li>• cell organization</li> </ul>	<ul style="list-style-type: none"> <li>• Contextualize vocabulary of science context</li> <li>• Analyze the correct working into a biological process</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Aim</b> To analyze data through workshop diagnostic test like a tool for gather information To inquiry about students prior - knowledge about science content</li> </ul>	
<b>Teaching objectives</b>	<b>Learning outcomes</b>
<b>A. Content</b>	<b>A.Content</b>
<ul style="list-style-type: none"> <li>• The body systems</li> <li>• Cell organization</li> <li>• Biological process</li> </ul>	<ul style="list-style-type: none"> <li>• Students fill out the questionnaire for gather information</li> <li>• Analyze the results for start to implement CLIL methodology</li> </ul>
<b>B.Cognition (functions)</b>	<b>B. Cognition</b>
<b>Evaluate:</b> Carry out a diagnostic exercise <b>Analyze:</b> the science content comprehension <b>Understand:</b> report a final data	Students understand how the body works Ss identify cell organization
<b>Communication</b>	
<b>C.1 Language of learning</b> Language the body system countable and uncountable Many / much there is / there are Vocabulary: tissue, vessels, blood,organ,system , biotic, abiotic, reef, jellyfish,colourful.	

<b>Group :</b> Sixth grade students	<b>Time :</b> 60 minutes <b>Date:</b> Wednesday, April 20 <sup>th</sup> , 2022
<b>Topic:</b> 2. The solar system	

<b>Previous Knowledge</b>	<b>Previous skills</b>
<ul style="list-style-type: none"> <li>The planets` s names</li> </ul>	<ul style="list-style-type: none"> <li>Observing and taking notes</li> <li>describing characteristics</li> </ul>
<ul style="list-style-type: none"> <li><b>Aim</b> To learn about planets characteristics through handwork To foster language skills in group work</li> </ul>	
<b>Teaching objectives</b>	<b>Learning outcomes</b>
<b>A.Content</b>	<b>A.Content</b>
<ul style="list-style-type: none"> <li>The planets` s names</li> <li>The solar system elements</li> </ul>	<ul style="list-style-type: none"> <li>Ss identify characteristics about each planet in a solar system</li> <li>Ss interchange ideas about why Pluto is not considered a planet</li> </ul>
<b>B.Cognition (functions)</b>	<b>B. Cognition</b>
<p><b>Evaluate:</b> concepts and characteristics about the planets</p> <p><b>Analyze:</b> changes in the solar system over the years</p> <p><b>Understand:</b> The planets distance and location</p>	<p>Ss enhance motivation and self confidence in english language</p> <p>Ss recognize differences and similarities in each planet</p>
<b>Communication</b>	
<p><b>C.1 Language of learning</b></p> <p>Solar system</p> <p>Vocabulary: distance, sun, mercury, venus, earth, mars, jupiter, saturn, uranus, neptune,</p> <p>Classroom vocabulary: cut, hang glue, wool, hook, hole</p>	

<b>Group :</b> Sixth grade students	<b>Time :</b> 60 minutes <b>Date:</b> Wednesday, May 11 <sup>th</sup> , 2022.
<b>Topic: 3.</b> The cell	
<b>Previous Knowledge</b>	<b>Previous skills</b>
<ul style="list-style-type: none"> <li>Notions of micro and macro organism</li> <li>living and non- living things</li> </ul>	<ul style="list-style-type: none"> <li>group strategies</li> <li>making inferences</li> <li>observing and taking notes</li> </ul>

<ul style="list-style-type: none"> <li>• <b>Aim</b> To identify the differences and similarities between animal and vegetal cells</li> </ul>	
<b>Teaching objectives</b>	<b>Learning outcomes</b>
<p><b>A.Content</b></p> <ul style="list-style-type: none"> <li>• Animal cell</li> <li>• vegetal cell</li> <li>• parts and characteristics</li> </ul>	<p><b>A.Content</b></p> <ul style="list-style-type: none"> <li>• Ss recognize differences and similarities between animal and vegetal cell</li> <li>• Ss identify the cell as the first unit in living things</li> </ul>
<p><b>B. Cognition (functions)</b></p> <p><b>Evaluate:</b> to identify the cell parts  <b>Analyze:</b> connection and differences between cells  <b>Understand:</b> which is the component to allow the plants produce their own food</p>	<p><b>B. Cognition</b></p> <p>Determine through a organization online the main parts and functions in a cell</p> <p>Ss explain the importance of chloroplast in vegetal cells</p>
<b>C. Communication</b>	
<p><b>C.1 Language of learning</b>  The cell  Vocabulary: DNA, cell membrane, cytoplasm, nucleus, organelles, endoplasmic reticulum, mitochondria, golgi apparatus, lysosomes , chloroplast, photosynthesis</p>	

<b>Group :</b> Sixth grade students	<b>Time :</b> 60 minutes <b>Date:</b> Wednesday, June 15 <sup>th</sup> , 2022.
<b>Topic:</b> 4. The kingdoms	
<p><b>Previous Knowledge</b></p> <ul style="list-style-type: none"> <li>• The ecosystem</li> <li>• conceptual map definition</li> <li>• nature, animals vocabulary</li> </ul>	<p><b>Previous skills</b></p> <ul style="list-style-type: none"> <li>• listen and follow instructions</li> <li>• Oral and communication skills</li> <li>• Teamwork</li> <li>• drawing skills</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Aim</b> Infer information about the kingdoms topic making a conceptual map across rally competence</li> </ul>	
<b>Teaching objectives</b>	<b>Learning outcomes</b>
<p><b>A.Content</b></p> <ul style="list-style-type: none"> <li>• the kingdoms</li> </ul>	<p><b>A.Content</b></p> <ul style="list-style-type: none"> <li>• Ss organize and produce spoken language in context</li> </ul>

	<ul style="list-style-type: none"> <li>Organize information using a conceptual map</li> </ul>
<p><b>B.Cognition (functions)</b></p> <p><b>Evaluate:</b> Differences and characteristics about elements to compound the kingdoms</p> <p><b>Analyze:</b> element to compound the environment around them</p> <p><b>Understand:</b> report the main kingdom classifications</p>	<p><b>B. Cognition</b></p> <p>Ss are able to identify and classify elements around them according to kingdoms</p> <p>Ss development oral skills for expose their ideas</p>
<b>C. Communication</b>	
<p><b>C.1 Language of learning</b> the kingdoms Vocabulary: animals, plants,protist, bacteria, fungi, teamwork</p>	

<b>Group :</b> Sixth grade students	<b>Time :</b> 60 minutes <b>Date:</b> Monday,September 12 <sup>th</sup> , 2022.
<b>Topic:</b> 5.Questionnaire CLIL lessons 1st part	
<p><b>Previous Knowledge</b></p> <ul style="list-style-type: none"> <li>Notions of CLIL definition</li> <li>Had participated in our CLIL classes activities</li> </ul>	<p><b>Previous skills</b></p> <ul style="list-style-type: none"> <li>Reading comprehension</li> <li>coherence and good redaction</li> </ul>
<ul style="list-style-type: none"> <li><b>Aim</b> Gather information with a questionnaire like a tool to know if the students understood CLIL methodology</li> </ul>	
<b>Teaching objectives</b>	<b>Learning outcomes</b>
<p><b>A. Content</b></p> <ul style="list-style-type: none"> <li>CLIL methodology</li> <li>Six open questions questionnaire</li> </ul>	<p><b>A.Content</b></p> <ul style="list-style-type: none"> <li>Ss has first perception about CLIL methodology</li> <li>Ss explain opinions about carry out CLIL process</li> </ul>
<p><b>B. Cognition (functions)</b></p> <p><b>Evaluate:</b> Six open question focuses on CLIL methodology</p> <p><b>Analyze:</b> Information about students perspectives</p>	<p><b>B. Cognition</b></p> <p>Ss identify CLIL methodology</p> <p>Ss understand the objective to keep working in this research</p>

<b>Understand:</b> How the students think about CLIL methodology	
<b>C. Communication</b>	
<b>C.1 Language of learning</b> CLIL questionnaire Vocabulary: Methodology, Content and language integrated learning, like, dislike, suggestions, perception, ideas.	

<b>Group :</b> Sixth grade students	<b>Time :</b> 60 minutes <b>Date:</b> Thursday, September 22nd, 2022.
<b>Topic:</b> 6. Nutrition in living beings	
<b>Previous Knowledge</b> <ul style="list-style-type: none"> <li>• living and non-living things</li> <li>• ways of nutrition</li> </ul>	<b>Previous skills</b> <ul style="list-style-type: none"> <li>• TICS skills</li> <li>• distance class strategies</li> <li>• attention and participation</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Aim</b> Recognize the way which living beings obtain energy</li> </ul>	
<b>Teaching objectives</b>	<b>Learning outcomes</b>
<b>A.Content</b> <ul style="list-style-type: none"> <li>• Nutrition of living beings</li> <li>• autotroph and heterotroph</li> <li>• detritivores</li> <li>• decomposers</li> <li>• food chain</li> </ul>	<b>A.Content</b> <ul style="list-style-type: none"> <li>• Ss understand how living beings obtain energy</li> <li>• Ss analyze the cycle of feeding through a food chain</li> </ul>
<b>B. Cognition (functions)</b>  <b>Evaluate:</b> a food chain as a process to get energy <b>Analyze:</b> reasoning about the importance of living beings get energy <b>Understand:</b> the vital process in living beings	<b>B. Cognition</b>  SS are able to describe how living beings get energy as a vital process  SS identify the cycle of food chain
<b>C. Communication</b>	
<b>C.1 Language of learning</b> Autotroph and heterotroph Vocabulary: energy, nutrition, food chain, detritivores, decomposer, autotroph, heterotroph	

<b>Group :</b> Sixth grade students	<b>Time :</b> 60 minutes <b>Date:</b> Wednesday, October 19th , 2022.
<b>Topic: 7.</b> Reading comprehension Activity	
<b>Previous Knowledge</b>	<b>Previous skills</b>
<ul style="list-style-type: none"> <li>• notion of reading comprehension</li> </ul>	<ul style="list-style-type: none"> <li>• concentration</li> <li>• individual strategies</li> <li>• individual techniques</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Aim</b> improve reading skills through a scientific text developing a reading comprehension exercise using scanning and skimming techniques</li> </ul>	
<b>Teaching objectives</b>	<b>Learning outcomes</b>
<b>Content</b> <ul style="list-style-type: none"> <li>• Skimming and scanning techniques</li> <li>• low voice reading practice</li> <li>• Scientific method meaning</li> </ul>	<b>A. Content</b> <ul style="list-style-type: none"> <li>• Develops reading strategies to comprehend and analyze literary works determining the purpose structure and meaning of a text.</li> <li>• Implement reading strategies such as skimming and scanning for infer information in a text</li> </ul>
<b>Cognition (functions)</b> <b>Evaluate:</b> use of skimming and scanning techniques in a text <b>Analyze:</b> <b>Understand:</b> how skimming and scanning techniques help them for improve their reading comprehension	<b>B. Cognition</b>  SS identify and apply reading comprehension techniques  Ss learn about scientific method and how help them in a experiment work
<b>C.Communication</b>	
<b>C.1 Language of learning</b> Scientific method Vocabulary: skimming, scanning, search,data, experiment, hypothesis, observation, conclusion.	

<b>Group :</b> Sixth grade students	<b>Time :</b> 60 minutes <b>Date:</b> Wednesday,November 2nd , 2022.
<b>Topic:8.</b> Riddles in English	
<b>Previous Knowledge</b>	<b>Previous skills</b>

<ul style="list-style-type: none"> <li>• Vocabulary</li> <li>• notion of self- evaluation</li> <li>• riddles meaning</li> </ul>	<ul style="list-style-type: none"> <li>• mental agility</li> <li>• analysis</li> <li>• association words in context</li> <li>• imagination</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Aim</b> Identify if the students are able to related words in context across riddles games</li> </ul>	
<b>Teaching objectives</b>	<b>Learning outcomes resultados del aprend</b>
<b>A.Content</b> <ul style="list-style-type: none"> <li>• descriptions</li> <li>• riddles</li> <li>• context meaning</li> </ul>	<b>A.Content</b> <ul style="list-style-type: none"> <li>• Ss acquire vocabulary in context across mental agility activity</li> <li>• Ss analyze words and link in a complete idea</li> </ul>
<b>B.(functions)</b> <b>Evaluate:</b> related words in context across riddles games <b>Analyze:</b> words in context for a whole meaning <b>Understand:</b> linguistic function: specific meaning in specific context	<b>B. Cognition</b> SS self- evaluate their performance in class Ss are able to understand riddles structures
<b>C.Communication</b>	
<b>C.1 Language of learning</b> Riddles activities Vocabulary: guess, improve,unknown,increase,length,context,riddle, ability.	

<b>Group :</b> Sixth grade students	<b>Time :</b> 60 minutes <b>Date:</b> Wednesday,November 2nd , 2022.
<b>Topic: 9.</b> Questionnaire CLIL methodology 2nd part	
<b>Previous Knowledge</b> <ul style="list-style-type: none"> <li>• To know CLIL definition</li> <li>• How CLIL methodology works</li> <li>• Research purpose</li> </ul>	<b>Previous skills</b> <ul style="list-style-type: none"> <li>• Reading comprehension</li> <li>• coherence and good redaction</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Aim</b> To evidence if CLIL activities improve their competence in science and English subjects</li> </ul>	

Teaching objectives	Learning outcomes
<p><b>A.Content</b></p> <ul style="list-style-type: none"> <li>• Five open question questionnaire</li> <li>• CLIL methodology ( results )</li> </ul>	<p><b>A.Content</b></p> <ul style="list-style-type: none"> <li>• To know if students on sixth grade learn through CLIL methodology implementation</li> <li>• To get information about students perspectives</li> </ul>
<p><b>B.Cognition (functions)</b></p> <p><b>Evaluate:</b> advantage and disadvantage about CLIL methodology</p> <p><b>Analyze:</b> if CLIL methodology was a proper method for implement on sixth students group</p> <p><b>Understand:</b> How CLIL methodology works as a dual focus</p>	<p><b>B. Cognition</b></p> <p>SS are able to understand how CLIL methodology works</p> <p>SS identify CLIL steps in a learning process</p>
<p><b>C. Communication</b></p>	
<p><b>C.1 Language of learning</b></p> <p><b>CLIL</b></p> <p><b>Vocabulary</b></p> <p>Meaningful learning, dual, individual, pairs, group, advance, acquisition, instructions.</p>	