

**The impact of nature-based vocabulary on pre-schoolers' environmental awareness in  
EFL settings**

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## Table of contents

|                                                                |    |
|----------------------------------------------------------------|----|
| Abstract.....                                                  | 5  |
| Resumen.....                                                   | 5  |
| Chapter 1. Introduction.....                                   | 7  |
| Introduction.....                                              | 7  |
| Statement of the problem.....                                  | 8  |
| Rationale.....                                                 | 9  |
| Research Question.....                                         | 11 |
| Research Objective.....                                        | 11 |
| Specific objectives.....                                       | 11 |
| Chapter 2. Theoretical Considerations.....                     | 12 |
| Literature review.....                                         | 12 |
| Theoretical framework.....                                     | 17 |
| Vocabulary instruction.....                                    | 18 |
| Awareness of the importance of caring for the environment..... | 23 |
| Chapter 3. Methodological framework.....                       | 27 |
| Qualitative research.....                                      | 27 |
| Action Research.....                                           | 28 |
| Context of the study.....                                      | 29 |
| Participants.....                                              | 30 |
| Data Collection Instruments.....                               | 31 |
| Observation.....                                               | 31 |
| Field diary.....                                               | 31 |
| Semi-structured interview.....                                 | 32 |
| Ethical considerations.....                                    | 33 |
| Data Analysis Approach.....                                    | 34 |
| Chapter 4. Instructional design .....                          | 36 |
| Vision of language .....                                       | 36 |
| Vision of learning .....                                       | 37 |
| Vision of teaching .....                                       | 38 |
| Teaching approach .....                                        | 38 |
| Vision of the Classroom .....                                  | 41 |
| Outdoor classroom .....                                        | 41 |
| Inner classroom .....                                          | 41 |
| Pedagogical implementation.....                                | 42 |
| Chapter 5. Data analysis.....                                  | 48 |
| Environmental awareness.....                                   | 49 |
| Recognizing immediate and further ecosystems.....              | 50 |

|                                                                         |    |
|-------------------------------------------------------------------------|----|
| Reflecting on the environmental issues evidenced in the ecosystems..... | 53 |
| Vocabulary Learning.....                                                | 60 |
| Understanding meaning by context.....                                   | 60 |
| Repetition of new nature-based words.....                               | 64 |
| Using new nature-based words.....                                       | 68 |
| Chapter 6. Conclusion.....                                              | 73 |
| Challenges and limitations.....                                         | 74 |
| Pedagogical recommendations.....                                        | 76 |
| Further studies.....                                                    | 77 |
| References.....                                                         | 78 |
| Appendix 1. Kindergarten survey.....                                    | 82 |
| Appendix 2. Sample of Field Diary – Observation.....                    | 82 |
| Appendix 3. Sample of Field Diary – Implementation.....                 | 83 |
| Appendix 4. Interview questions of each cycle.....                      | 83 |
| Appendix 5. Sample of flashcards used in the first cycle.....           | 84 |
| Appendix 6. Sample of flashcards first cycle.....                       | 84 |
| Appendix 7. The African Jungle in danger.....                           | 85 |
| Appendix 8. The African Jungle in good conditions.....                  | 85 |
| Appendix 12. Good and bad human actions for the animals in cycle 1..... | 87 |
| Appendix 13. Sample of flashcards used in the second cycle.....         | 88 |
| Appendix 14. Didactic material in cycle 2.....                          | 88 |
| Appendix 17. Sample of flashcards used in the third cycle.....          | 90 |
| Appendix 18. Sample of slides about Andean animals' behaviors.....      | 90 |
| Appendix 19. Sample of couples of cards about animals' behaviors.....   | 90 |
| Appendix 20.Tasks and behavior of Andean Forest animals.....            | 91 |
| Appendix 21. Paced repeat count of the vocabulary of Cycle 2.....       | 92 |
| Appendix 22. Paced repeat count of the vocabulary of cycle 3.....       | 93 |
| Appendix 23. Slide of Amazon rainforest animals.....                    | 94 |
| Appendix 24. World map with animals employed in cycle 2.....            | 94 |
| Appendix 25. Sample of the preliminary chart of thematic analysis.....  | 95 |
| Appendix 26. Sample of the ultimate chart of thematic analysis.....     | 96 |

## **Abstract**

Although vocabulary is a bridge between linguistics and the conceptualization of the world (Nation, 2003), vocabulary instruction often remains disconnected from learners' realities, limiting opportunities for reflection on their immediate contexts. This qualitative action research aimed to examine how vocabulary instruction informed by environmental themes could foster both linguistic competence and environmental awareness in preschoolers from a public school in Bogotá. This study comprised a pedagogical proposal which included McCarthy's (2008), Richards and Renandya (2002), Terrel (1977), Miller (1956) vocabulary instruction approaches. Data was collected through field diaries, audio recordings, unstructured interviews, and students' artifacts. It was examined under the thematic analysis method. The study's findings suggest that nature-based vocabulary instruction effectively supported both vocabulary development and the emergence of environmental awareness among preschool EFL learners. Students progressively moved from recognizing isolated lexical items to understanding environmental interdependence and expressing concern for environmental issues. Contextualized, multimodal, and repeated exposure to vocabulary enhanced comprehension, retention, and meaningful language use, including creative cross-linguistic production. The findings highlight the potential of integrating environmental content into early EFL instruction as a dual pathway for linguistic and conceptual development.

**Keywords:** vocabulary instruction, environmental awareness development, English as a foreign language

## **Resumen**

Aunque el vocabulario es un puente entre la lingüística y la conceptualización del mundo (Nation, 2003), la instrucción del vocabulario a menudo sigue desconectada de las realidades de los estudiantes, limitando las oportunidades para reflexionar sobre sus contextos inmediatos. Esta investigación cualitativa de acción tenía como objetivo examinar cómo la instrucción del vocabulario informada por temas ambientales podría fomentar tanto la conciencia lingüística como ambiental en los niños preescolares de una escuela pública en Bogotá. Este estudio incluyó una propuesta pedagógica que incluía los enfoques de McCarthy (2008), Richards y Renandya (2002), Terrel (1977) y Miller (1956) para la instrucción del vocabulario. Los datos se recopilaron a través de diarios de campo, grabaciones de audio, entrevistas no estructuradas y artefactos de estudiantes. Se examinó bajo el método de análisis temático. Los hallazgos del estudio sugieren que la instrucción de vocabulario basada en la naturaleza apoyó eficazmente tanto el desarrollo del vocabulario como el surgimiento de una conciencia ambiental entre los estudiantes de preescolar EFL. Los estudiantes pasaron progresivamente de reconocer elementos léxicos aislados a entender la interdependencia ambiental y expresar preocupación por las cuestiones ambientales. Exposición repetida, multimodal y contextualizada al vocabulario para mejorar la comprensión, la retención y el uso significativo del lenguaje, incluida la producción creativa interlingüística. Los hallazgos destacan el potencial de integrar contenido ambiental en la instrucción temprana de EFL como un camino dual para el desarrollo lingüístico y conceptual.

**Palabras clave:** Enseñanza de vocabulario, desarrollo de consciencia ambiental.

## **Chapter 1. Introduction**

### **Introduction**

In recent years, there has been an increasing interest in integrating environmental education into early childhood curricula, as developing environmental awareness from a young age is considered key to fostering lifelong habits of care, respect, and responsibility toward Nature<sup>1</sup> (Tilbury, 1994; UNESCO, 2017). This perspective aligns with global initiatives that encourage educators to not only transmit knowledge but also promote values and behaviors that contribute to environmental sustainability. In this context, vocabulary acquisition emerges as a fundamental component, especially for preschool learners, whose linguistic development is closely linked to their cognitive and socioemotional growth (Britton, 2017).

This research explores the intersection between environmental awareness and early foreign language instruction by focusing on vocabulary learning as a tool for building awareness about the importance of caring for the environment. By introducing nature-based vocabulary related to ecosystems, natural elements, and their conservation, this study aims to explore how language can serve as a bridge between knowledge acquisition and value formation in preschool learners. As children begin to recognize and name aspects of their

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<sup>1</sup> The research will maintain “Nature” with a capital letter, because according to Nietzsche (1886), Nature is understood as an autonomous entity with its own laws and dynamics, independent of human values. It is also a continuous process of creation and destruction, where chaos and order coexist and are necessary for evolution and development. In this sense, Nature is composed throughout this research as an entity with its elements, characteristics, processes and intrinsic value. Certainly, I believe Nature is more than just a set of living and no-living elements, but a set of complex relationships between different elements and beings that allows life to co-exist.

surroundings in a foreign language, they also construct mental representations of their world, which supports both their linguistic development and environmental consciousness (Vygotsky, 1978).

The study was conducted in the Colombian school Instituto Pedagógico Nacional (IPN) in a preschool EFL setting where the participants demonstrated a natural curiosity for animals and environmental topics, which served as a foundation for designing meaningful vocabulary instruction. Drawing on cognitive and sociocultural perspectives, the research was grounded in the belief that vocabulary acquisition is not only a linguistic task but also a cognitive process that reflects and shapes learners' interaction with their environment. Through systematic observation and the implementation of vocabulary instruction cycles, this study aims to contribute to pedagogical practices that integrate language learning with global competencies, particularly environmental education at the preschool level.

### **Statement of the problem**

During the observation of regular English lessons attended by Kindergarten 2 at the IPN from October to November 2023, it became evident that EFL instruction was primarily centered on mechanical activities such as following commands, answering yes/no questions, and repeating isolated words related to colors or numbers. While these activities served as classroom management tools and offered basic language exposure, they provided limited opportunities for students to develop a deeper understanding of English vocabulary or to connect language learning with meaningful content.

Interestingly, the students' coursebook demonstrated a clear thematic emphasis on animal care, environmental threats, and global ecological issues, featuring African animals as central characters to promote environmental sensitization. However, this thematic

content was not fully integrated into classroom practice, reducing the potential of the book's content to engage learners in meaningful discussions or reflections on Nature and its care.

At the same time, classroom observations revealed that preschoolers displayed a strong interest in animals and environmental topics, often expressing curiosity about the natural world. This interest represented a valuable, untapped opportunity to strengthen both language development and environmental awareness. The lack of alignment between the coursebook's environmental themes and classroom instruction raised a pedagogical concern: students were not provided with sufficient opportunities to name and describe elements of Nature related to environmental issues. As a result, that instructional approach risked limiting students' ability to build linguistic and conceptual foundations that would foster environmental awareness from an early age.

### **Rationale**

This research arises from a personal and professional commitment to environmental stewardship, recognizing that environmental issues—such as climate change, biodiversity loss, and pollution—are urgent global concerns that require educational responses at all levels (UNESCO, 2017). Early childhood is a particularly critical stage for nurturing ecological values and attitudes, as children's interactions with their environment strongly shape their understanding of the world and their role within it (Escamilla, 2009). Preschool education, therefore, represents an ideal space to introduce environmental concepts and foster empathy for Nature, laying the foundation for responsible behavior in later years.

In the EFL field, vocabulary acquisition plays a central role in language development, serving as a bridge between linguistic form and conceptual understanding

(Nation, 2003). When children learn to name and describe natural elements, ecosystems, and environmental problems, they are not merely acquiring words; they are constructing a representation of the world that is informed by language and shaped by values. The interest to embed English vocabulary acquisition and environmental education was derived from: “a medida que vamos perdiendo maneras de nombrar las cosas: las animales, las plantas, los fenómenos que hay en la Naturaleza, vamos perdiendo el conocimiento y el contacto con ella” (Hueso, 2021). The importance of knowing how to name the elements belonging to Nature allows us to recognize them and the relationships they establish among them and between them and human beings. Consequently, integrating nature-based vocabulary instruction into preschool EFL lessons offers a powerful opportunity to connect language learning with environmental education, creating meaningful contexts that promote motivation, engagement, and retention (Coyle et al., 2010).

This study also emerged from the observed disconnect between the environmental focus of the students’ coursebook and the instructional practices implemented in the classroom. By designing and implementing vocabulary instruction cycles that explicitly integrate environmental content, the research examines how intentional pedagogical planning can enhance both language and content learning.

Ultimately, this research is significant for the pedagogical literature, for me as a researcher-teacher-in-training, and as a citizen of the world. On the one hand, it contributes to the growing body of literature advocating for interdisciplinary approaches in early language education, emphasizing that foreign language instruction can and should address global issues. On the other hand, as a researcher-teacher in training, this project enabled the exploration of pedagogical approaches that position English language teaching as a tool that helps to understand the world, rather than merely a system of formal linguistic elements to

communicate with others. The intervention prioritized preschoolers' environmental understanding, promoted early environmental literacy, and contributed to their EFL development. Last but not least, as a citizen of the world, developing this project was significant because it reaffirms that it is possible to co-construct knowledge that becomes action in favor of the care and conservation of Nature, of life.

### **Research Question**

What impact would vocabulary instruction based on Nature have on preschool English learners' awareness of the importance of caring for the environment?

### **Research Objective**

To examine the extent to which vocabulary instruction based on Nature contributes to the development of environmental awareness among preschool English learners regarding the importance of caring for the environment.

#### ***Specific objectives***

1. To identify how preschoolers might potentially develop environmental awareness of the importance of caring for different natural ecosystems worldwide when learning vocabulary related to these topics.
2. To explore how instruction in English grounded in Nature plays an aiding role in preschoolers' vocabulary learning.

## **Chapter 2. Theoretical Considerations**

### **Literature review**

This section discusses works that are considered relevant to this research, because they are associated with the concepts that, in a transversal way, are interwoven in the research question. These works are briefly described, highlighting their relevance to the research problem proposed, how these studies contribute to encouraging the knowledge gap that is addressed in this study, and a critique analysis focused on the methodology found in the literature review.

González and Adelantado (2021) proposed a didactic project for preschool education in Spain that aimed to transform the immediate environment into an interdisciplinary learning resource. The proposal integrated the curricular areas of self-knowledge and personal autonomy, knowledge of the environment, and communication and language. Its main objective was to encourage young learners to explore and understand their local surroundings while developing values such as respect, responsibility, and appreciation for Nature. The authors argued that direct interaction with nearby natural spaces enables children to identify environmental elements, understand their significance, and develop positive attitudes toward their conservation. Although English was incorporated as a communicative tool through narrative activities, the proposal

primarily emphasized meaningful environmental experiences rather than the systematic development and reinforcement of foreign language vocabulary.

In contrast, Cheng and Monroe (2012) focused on understanding the factors that influence children's connection to Nature. Conducted with elementary school children in the United States, their study examined dimensions such as enjoyment of Nature, empathy toward living beings, environmental awareness, and sense of responsibility. The findings revealed that social interaction and direct experiences in natural settings play a crucial role in fostering positive attitudes toward the environment. Furthermore, opportunities for dialogue and collaborative learning enabled children to share experiences and construct environmental knowledge collectively, strengthening both their emotional affinity with Nature and their willingness to engage in pro-environmental behaviors.

Similarly, Enid et al. (2014) and Giusti et al. (2014) investigated how young children express their environmental awareness and emotional connections to Nature. Using child-centered methodologies such as games, visual prompts, and participatory activities, these studies provided developmentally appropriate opportunities for children to communicate their perceptions, feelings, and concerns about the environment. Their findings demonstrated that preschool-aged children are capable of expressing empathy, responsibility, enjoyment, and attachment toward natural elements when they are encouraged to interact, reflect, and communicate about their experiences. Moreover, both studies highlighted the importance of emotional engagement as a foundation for developing environmental awareness and care for the natural world.

Taken together, these studies emphasize the central role of social interaction and language in the development of environmental awareness. While González and Adelantado (2021) highlighted the educational potential of the nearby environment, Cheng and Monroe

(2012), Enid et al. (2014), and Giusti et al. (2014) demonstrated that children's environmental attitudes, feelings, and sense of responsibility emerge through opportunities to discuss, interpret, and share their experiences with others. However, none of these studies explicitly examined how foreign language vocabulary instruction could contribute to the development of environmental awareness. Therefore, the present study addressed this gap by exploring how nature-based vocabulary learning in an EFL preschool context could simultaneously support vocabulary acquisition and foster children's understanding of the importance of caring for the environment.

However, as the last three mentioned investigations propose different methods to assess children's connection with Nature, some questions emerged in terms of the changes that occur to their views on Nature. For instance, how do children develop a connection to Nature? How does it change over time? And how does it influence children's interest in environmentally friendly actions? These are questions about the manner in which environmental consciousness is developed, but especially the first question is related to the research question of the present study, which looks at the ways in which vocabulary instruction based on Nature may impact a group of preschoolers' awareness of the importance of caring for the environment. In fact, Giusti et al. (2014) provide some light on how children can develop their connection to Nature, when they demonstrated that children with nature-rich routines tend to have a higher cognitive affinity towards the environment compared to those with nature-deficient routines. This suggests that regular contact with Nature can help children develop their own thoughts and awareness about the environment.

That is why this study considered taking into account the close environment in which my students were.

Furthermore, to try to answer the second question mentioned above and considering that teachers have a crucial role in the cognitive development of their students, it was essential for teachers to be familiar with the natural elements that are most known to children. These are elements that children often encounter in fairy tales, stories, songs, and their immediate environment. In addition, to know how the connection with Nature and the consciousness towards it develops over time and according to the level of proximity children have with some elements of Nature, vocabulary instruction transited from a distant environment but known by the students as it is the African jungle, passing through a closer one that shared generic elements of the jungle as it is the Amazon rainforest, until reaching a much nearer environment that is the Andean forest, found in the Eastern Hills students can see from school. Through this proposed transition, I wanted to know how familiarity students have with these environments impacts the development of their environmental awareness and encourages them to acquire knowledge and friendly attitudes towards Nature.

Another group of studies aimed at explaining the importance of naming the world for children can be found in the works of Anglin (1995) and Cohen and Horm-Wingerd (1993). Both studies focused on young children in early childhood and elementary educational settings and explored the relationship between vocabulary acquisition and conceptual development. Their main objective was to understand how children learn new words and how language contributes to the categorization and interpretation of their surroundings. The findings revealed that children learning a first or second language tend to name objects according to the functionality, relevance, and cultural significance those

objects have in their daily lives (Anglin, 1995). This process allows them to develop conceptual distinctions among objects and phenomena in their environment. Furthermore, Anglin (1995) argues that children often possess a certain degree of awareness regarding changes and events occurring around them, including environmental issues influenced by human actions, but they frequently lack the vocabulary necessary to express such understandings. Therefore, the studies by Anglin (1995) and Cohen and Horm-Wingerd (1993) suggest that although children may already demonstrate awareness of their surroundings, further research is needed to determine how verbalizing this awareness through appropriate vocabulary may contribute to the development of environmental consciousness and care for Nature.

Moreover, the transcendence of functionality and relevance when children learn new words leads me to think as a researcher of the importance of teaching vocabulary that is closely related to the real context of my students, it means what they know and acknowledge of Nature.

Following this line of inquiry, Wyner and Doherty (2019) conducted a study with preschool children in an urban educational setting to examine whether young learners were capable of acquiring and retaining specific botanical vocabulary over an extended period. The study took advantage of the children's immediate natural environment by focusing on the street trees located around and in front of their school. The researchers' objective was to investigate how direct interaction with familiar natural elements could support the learning of scientific vocabulary. Initially, the children used only generic terms such as “tree” to describe the vegetation in their surroundings. However, after participating in a series of learning experiences and observations, they were able to identify and recall more specific

botanical terms several months later. The findings demonstrated that preschoolers can successfully acquire and retain specialized vocabulary when instruction is connected to meaningful and familiar environmental contexts. Consequently, the study highlights the educational value of using the nearby natural environment as a resource for vocabulary instruction and suggests that contextualized learning experiences can significantly enhance children's lexical development.

Nonetheless, the last research focuses just on the botanical characteristics of local trees, which help students to develop their awareness about their own territory, but not to enhance their awareness of caring for nature. In other words, Wyner and Doherty (2019) center on vocabulary acquisition just as a way to know the closer environment, without having a real reflection about how children could take care of Nature that surrounded them. This is an interest this study shares with the first study presented in this section (González and Adelantado, 2021), there is no balance between vocabulary acquisition and environmental awareness growth, which means they share the same knowledge gap too, because they took advantage of Nature to vocabulary instruction, whereas in my study I focused on vocabulary instruction having into account students' nearby environment to develop their environmental awareness of caring for Nature

Finally, the studies previously presented and discussed reveal the necessity to carry out this research to solve the questions that emerge to the literature review, since there is a lack of balance and homogeneous integration between the vocabulary acquisition based on Nature as well as the usage of the target language, and the real impact that this proposal would provoke in awareness of caring for Nature on preschoolers. Another contribution from my study is how language is employed as a tool not only to name and know natural

elements, but especially to acknowledge what kind of relationship the different elements belonging to each ecosystem maintain, why those relations are important, and how human actions affect or profit from them. That way, I, as a teacher, attempted to teach for reflection and sensibility regarding the importance of caring for the environment, and as a researcher, could evidence that those attitudes and thoughts were built from that knowledge given.

### **Theoretical framework**

Considering that this research focused on exploring the impact that nature-based vocabulary instruction could have on preschoolers' awareness of the importance of caring for the environment, it is crucial to make the point of what concepts were considered and how they were addressed in this research. Therefore, below, the two main concepts that guide my investigation are presented and discussed. The first concept is vocabulary instruction, which is detailed in terms of what it means for this research, its characteristics, and those considerations that oriented my pedagogical practice. Then, for the awareness of the importance of caring for the environment, both a cognitive and a sociocultural perspective were adopted, attaching how Nature with capital N is born throughout this research.

### ***Vocabulary instruction***

Vocabulary instruction is an essential component in language development, especially for preschoolers who are learning EFL. In fact, "the learning of vocabulary is the key to comprehension and speech production. With a large enough vocabulary, the student can comprehend and speak a great deal of L2 even if his knowledge of structure is, for all practical purposes, nonexistent." (Terrel, 1977, p. 333). For this reason, it is important to choose the most appropriate methodology and content vocabulary for this kind of

instruction that allows children to foster their understanding of EFL and their awareness of environmental issues. Consequently, I embraced the vocabulary acquisition principles stated by Richards and Renandya (2002), which included focusing on different aspects of the words, such as pronunciation and spelling, to achieve an aural and written approach with vocabulary to promote comprehension and speaking (Terrel, 1977). Another principle is careful word selection, in line with accessible basic meanings to learners, seeking progress from less to more demanding vocabulary. Strongly, the progress in terms of demand is also oriented by accommodating the use of contextual cues, a principle that involves the didactic material which was designed taking into account each new word and its representation corresponding to its basic meaning. To promote a challenging vocabulary acquisition process, I started with generic or high-frequency words and then continued with more specified vocabulary based on Nature, which could be considered a low-frequency vocabulary.

Therefore, it poses both a challenge for vocabulary teaching and learning in which there are many more elements to deal with by teachers and learners, as Mekheimer (2025) stated in *Enhancing Primary School Vocabulary Through Task-Based Learning: A Study of Effectiveness and Challenges*. He establishes vocabulary sub-skills such as spelling and word meaning, which are completely aligned with Richards and Renandya's principles, but he involves others, such as sentence formation, antonym identification, word formation, classification, and type identification. In his study, he concludes that vocabulary acquisition, retention, and the above-mentioned sub-skills improvements through Task-Based Learning are due to the implementation of tasks that integrate "contextualized learning, collaborative engagement, and meaning language use" (Mekheimer, 2025).

Certainly, as word selection is crucial in my research, it was necessary to broaden what Richards and Renandya suggested, keeping in mind some additional considerations. For instance, Nation (2003) points out that taking account of the core meaning in teaching and learning vocabulary helps students to acquire it more easily and feel it familiar as well as useful to expand their learned word range. Additionally, Schmitt and McCarthy (2008) define some factors to develop a list of high-frequency words that was defined according to the research objective of my study, including representativeness. That refers chosen words should represent the wide range of uses of language, it means informative, expressive and directive use; frequency and range, that count to recognize the range of occurrence of the target vocabulary; difficulty of learning and the most appropriate way to students have the first approach to new vocabulary; necessity and emotional words, which help learners to express properly their ideas and feelings. With this in mind, I found Richards and Renandya's principles have some limitations in their proposal and I must nourish it considering diverse findings related to vocabulary learning strategies.

Now, following the principles that relate more to the practice of the new vocabulary than to the way learners have a first approach to it, one of the most complex principles is repetition. This principle establishes the need for spaced intervals of repetition from 5 to 16 times per word as soon as the initial approach to each word is carried out (Richards and Renandya, 2008). Additionally, not only the times that new vocabulary is repeated matter, but the number of words instructed is also a factor that affects vocabulary acquisition. Indeed, Miller (1956) recognized that there are limitations in immediate memory concerning the amount of information, in this case words that we can receive, process, and remember, therefore he proposed a range of 7, plus or minus 2 chunks of information for

better retention by the learner. These considerations were taken into account when choosing the number of words and especially their convenience for my research.

Regarding these two principles, especially Miller's range of words to learn, Schmitt and McCarthy state that "a way to manage the learning of a huge amount of vocabulary is through indirect or incidental learning" (2008). These are activities in which learners are exposed to new vocabulary, while the taught target words are not the main focus of the activity. Furthermore, when low frequency vocabulary, which may become increasingly frequent because of the learning objectives, is taught, teachers have to use those words and do exercises based on them but avoid focusing on the words themselves (Nunan, 2003). Hence, the fact that students retrieve the new vocabulary requires the teacher to understand the range of words suitable for presenting the class and the multiple ways in which every activity will promote repetition, thus leading us to the last principles related to the learners' engagement.

There are two more principles that are focused on learners' involvement: exposure to activities other than memorizing words and encouraging interest. The first of them highlights the importance of designing creative dynamics to internalize the vocabulary attentively and implicitly. Certainly, it is useful because of the characteristics of my research participants, for whom the repetition has to be presented attractively, in which they have an active role because, as "los preescolares tienden a recordar mejor aquello que hacen que lo que solo vieron" (Murachver et al., 1996), which influences their remembering retention. The other principle proposes that the vocabulary acquisition process must be interesting and enjoyable to keep learners' motivation high. Hence, the fact that vocabulary instruction proposed in this investigation is based on Nature is closely

related to the interests of preschoolers since "el entorno natural, sus componentes y sus factores son objetos preferentes de la curiosidad y el interés de los alumnos de tres a doce años" (Escamilla, 2009), and they showed curiosity for Nature, especially for animals.

As I mentioned before, specified vocabulary based on Nature could be considered a low-frequency vocabulary, which is why it has to be taught by carrying out varied activities that involve strategies such as guessing from context, using L1 to provide its meaning clearly, simply, and in a comprehensive way when it is necessary (Nunan, 2003). Additionally, the level of engagement students can get depends not only on teachers' efforts, but especially on learners' participation in their own learning process. Then, in parallel with a wide offer of activities, teachers should facilitate different types of vocabulary, and provide opportunities for choosing what to learn and how to do it (Nunan, 2003), so students can realize their learning as a result of their effort or engagement in the class activities. These principles are especially appropriate for my study because of the combination of verbal, visual, and kinesthetic input to foster vocabulary retention in early childhood motivated by the last two principles mentioned above. Hence, didactic materials designed for this study included colorful illustrations, real-life pictures, and physical activities, ensuring that each Nature-related word was connected to concrete representations. This practice not only adhered to Richards and Renandya's (2002) principle of associating words with their basic meanings but also acknowledged the developmental stage of preschoolers, who benefit from tactile and visual reinforcement to internalize new vocabulary.

Additionally, the selection of low-frequency Nature vocabulary followed a scaffolded approach that balanced cognitive challenge with accessibility. In this study,

high-frequency English words served as a foundation, while nature-related words introduced a layer of complexity that required greater cognitive effort and stimulating curiosity to get reflective thinking and environmental awareness. This is consistent with Schmitt and McCarthy's (2008) principle of representativeness, as the selected vocabulary represented concepts central to learners' daily interactions with their environment, thus making low-frequency words meaningful and worth acquiring.

Repetition and retrieval practice also played a central role in consolidating Nature vocabulary. As Richards and Renandya (2008) emphasize, learners need multiple encounters with a word in varied contexts to achieve retention. For preschool learners, these repetitions must be carefully embedded in different kinds of activities, which ensure that words are not merely memorized but internalized through meaningful use. Moreover, the sequencing of instruction adhered to Miller's (1956) findings on cognitive load, presenting small, manageable sets of words in each session, maximizing retention.

The emphasis on engagement was reinforced through inquiry-based and exploratory learning dynamics, which placed learners in an active role within their language acquisition process. As Nunan (2003) suggests, allowing learners to exercise choice and agency in vocabulary learning increases their investment and awareness of their own progress. In this study, activities were designed not only to present Nature vocabulary but also to invite learners to observe, describe, and question elements of three different ecosystems in English.

Finally, this methodological design reflects a holistic approach to early childhood foreign language teaching, one that recognizes vocabulary acquisition as both a linguistic and a cognitive process. By embedding vocabulary instruction within the context of

environmental awareness, this research created opportunities for preschoolers to connect language learning with values and real-world understanding, supporting UNESCO's (2017) framework for Education for Sustainable Development, which calls for early interventions that link knowledge, attitudes, and action. Thus, the principles followed in this study—careful word selection, repetition, learner engagement, and multimodal presentation—proved illuminating and appropriate for the target participants, demonstrating that early EFL vocabulary instruction can simultaneously foster language proficiency and environmental consciousness.

Thus, vocabulary instruction is essential in language development, especially for preschoolers learning EFL. As Terrel (1977) highlights, a robust vocabulary is crucial for comprehension and speech production, even when structural knowledge is limited. That is why the methodology of the pedagogical proposal was based on the vocabulary acquisition principles proposed by Richards and Renandya (2008), which includes principles related to the initial approach to new vocabulary, its practice, and the learners' engagement. These last principles hold evident closeness with the content or reflective theme proposed in this research and described below, the awareness of the importance of caring for the environment, or, in other words, Nature.

### ***Awareness of the importance of caring for the environment***

In this research, raising awareness of the importance of caring for the environment is conceived from a cognitive and sociocultural perspective. Understanding the connotation of Nature, it is now prudent to proceed to the relationship it holds with the awareness of the importance of environmental care. The environment contains some elements that comprise

Nature, but mainly some of which preschoolers were able to comprehend and reflect on the importance of their care.

The cognitive perspective of the proposition mentioned above is given by the fact that preschoolers do not have just curiosity to know about natural elements, but at their age, “la mente del niño es aún «absorbente», pero ahora comienza a aparecer la «conciencia»” (Britton, 2017, p. 20), a process that involves two elements found in this research, knowledge and language. On the one hand, this study introduced knowledge about Nature by exploring various ecosystems with which learners were either familiar or had a certain degree of prior exposure. On the other hand, language served as the primary tool to facilitate this knowledge acquisition, simultaneously increasing learners’ awareness of the importance of caring for those ecosystems, their elements, conditions, and inhabitants. Additionally, when children are exposed to the diversity and richness of the Natural and cultural environment, they foster the development of an emotional connection to it, which promotes attitudes of respect and care for Nature (Escamilla, 2009). That is, preschoolers are sensitive to Nature and emotions are part of the attitudes they can adopt to take care of the environment.

From a sociocultural perspective, raising awareness about the importance of caring for the environment is deeply connected with language teaching and learning. According to Gee’s (1999) idea that “language teaching and learning is always about acquiring new identities, and transforming identities in a context where learners’ previous identities are respected and leveraged in the service of acquiring new ones” (p. 4), this study seeks to integrate nature-based vocabulary to foster both knowledge about Nature and environmental awareness of environmental issues. This includes raising learners’ awareness

of the importance of caring for Nature from a sense of personal and collective identity, while also encouraging them to value their natural surroundings. From this sociocultural perspective, key questions arise: how could teachers prepare learners to participate in this lifeworld? How could we help them to perceive it with a look of care? What roles do, and will they take on? What languages, cultural, and environmental knowledge do they need to care for it? These guiding questions align closely with the purpose and scope of this study.

In an attempt to answer these questions, Gee (1999) introduced “socially-situated identities” and “socially-situated activities”, in which human beings through language build what they are for others and what they do being part of the society, respectively. These socially-situated concepts bring about the role learners can take in society when they have developed their identity, which is a collaborative process influenced by social interactions since it is mediated by language. As environmental knowledge is drawn from "situated meanings" (Gee, 1999, p. 21) which are patterns of understanding derived from their experiences and conversations with others, this sociocultural perspective was relevant for my research because it combines thinking, interacting, believing, valuing, feeling, and acting, which were mediated by language and oriented to building preschool English learners' awareness of the importance of caring for environment or Nature.

This relationship between education, language, and environmental awareness is further strengthened by Kahn's (2010) contribution from the field of eco-pedagogy. Kahn argues that environmental education should move beyond an anthropocentric perspective that views Nature primarily as a resource for human use. Instead, education should encourage learners to develop a broader and more ethical understanding of their relationship with the natural world. In this regard, Kahn (2010) states that education should

involve “*teaching about the world as a place in which scholars can take an interest in the natural world beyond its natural resources for humanity*” (p. 57). This perspective is particularly relevant to early childhood education because it suggests that children should be encouraged to appreciate Nature not only for its utility but also for its intrinsic value. By fostering opportunities for children to observe, explore, discuss, and learn about living beings and ecosystems, schools can contribute to the development of environmental awareness and environmental responsibility from an early age.

Taken together, the contributions of Britton (2017), Escamilla (2009), Gee (1999), and Kahn (2010) provide a comprehensive framework for understanding environmental awareness in preschool education. Britton emphasizes the role of direct experiences with Nature in fostering respect and sensitivity; Escamilla highlights the importance of contextualized learning experiences connected to children's realities; Gee explains how language and discourse shape the ways children understand and relate to the environment; and Kahn expands this perspective by advocating for an ecological vision of education that recognizes Nature as worthy of care beyond its usefulness to humans. Therefore, awareness of the importance of caring for the environment can be understood as a multidimensional construct involving experiential learning, contextual understanding, linguistic mediation, emotional engagement, and ethical reflection. This conception aligns with the present study, which explores how nature-based vocabulary instruction can provide preschool learners with opportunities not only to acquire new language but also to develop meaningful understandings and attitudes toward the care and protection of Nature.

### **Chapter 3. Methodological framework**

This chapter presents the methodological elements that frame this research. First of all, qualitative research and the action research approach are defined. First, the contextualization of the study is presented, outlining the reasons why the integration of environmental education and the teaching of English as a foreign language was considered a relevant focus for this research. In the same vein, the participants involved in the study are described in light of this contextualization. After the participants are characterized, the data collection instruments (DCIs) used in the study are presented, and their relevance is explained. Finally, the ethical considerations of the research are discussed at the end of the chapter.

#### **Qualitative research**

This research falls within a qualitative approach, which is defined as a humanistic and interpretive approach by Jackson et al. (2007). Since the focus of this study is the development of awareness around caring for the environment based on vocabulary instruction, its intention is to reveal how the experiences they have through vocabulary instruction help them to grow their personal perspective (Cropley, 2022, p. 60) around the care of Nature. In other words, a qualitative approach was appropriate because the research

interest was promoting environmental awareness while teaching English. In the same line, Ronald et al. (2007) remark that qualitative research attempts to understand “human beings’ richly textured experiences and reflections about those experiences”, which goes along to discover students’ opinions, perspectives, and attitudes on the importance of caring for the environment from experiences related to recognition of the elements that belong to specific ecosystems in Nature. Furthermore, as collected data is about thoughts, reflections, and doubts that arise in students, this research is not focused on measuring knowledge through statistics, it is centered on interpretations and on what Josselson and Liebech (1995) refer to as narrative analysis. Since it is based on human experiences, perspectives, and how they make meaning of human beings’ lives, it works to guide these researchers to understand how preschoolers construct their environmental awareness through the pedagogical proposal focused on nature-based instruction.

### ***Action Research***

This study is framed within action research (AR), defined by Zuber-Skerritt and Perry (2002) as a way of driving research that focuses on a workgroup belonging to a community, where all its members are involved in the planning, acting, observing, and reflecting process (p. 174). It means that AR requires social dynamics where both participants and the researcher are part of this "self-reflective, critical, and systematic approach" (Burns, 2010, p. 2), which allows teacher-researchers to have a wider perspective of their own teaching context and praxis. Additionally, AR engages complex problems and situations like the one raised in this study: develop environmental awareness of the importance of caring for Nature, inspired by the emergence of environmental issues provoked by human actions in which fauna has been affected, as well as its ecosystem. The

above is reinforced by one of the goals of action research (AR) as described by Edge (2001), which is to be "society oriented." This means AR aims to promote values that benefit students, teachers, and society as a whole, such as universalism, which involves appreciating and protecting nature, as noted by Bouman, Steg, and Kiers (2018). Hence, this investigation has social responsibility above that of an academic one, considering this approach can impact not only social relationships between participants and Nature, but also their perceptions and actions in the face of social and environmental issues.

Additionally, as AR is embedded in qualitative research, experiences are essential to promote the self-reflection proposed in this approach. These experiences require participants to maintain social relationships with both teacher and their classmates, as well as relationships between themselves and Nature, which can influence their learning, and especially their awareness growth. For this purpose, it is accepted that the phases defined by Kemmis and McTaggart (1988) as part of the spiral cycle are pertinent to carry out this AR: observation, planning, action, and reflection. It is important to mention that although they are proposed as a cycle, it goes beyond a linear sequence, because the researcher must return as often as necessary to each of the phases mentioned. That is, the researcher has to observe, plan, act, and reflect throughout the entire study.

### **Context of the study**

This study was developed at the school IPN (Instituto Pedagógico Nacional). According to its Institutional Educational Project, it is a public educational establishment that serves as the Academic and Administrative Unit of the Universidad Pedagógica Nacional, being a reference in national education due to the high quality of its curricular programs, which are updated in line with new pedagogical trends, innovation, and research

that emerge from the needs of the students (Universisdad Pedagógica Nacional and Instituto Pedagógico Nacional, 2019, p.10). The school is located in Bogotá in the neighborhood Santa Bárbara Oriental, Usaquén locality, where most dwellings are buildings; there are some spaces dedicated to entertainment, recreation, education, and economic activities. It is next to Bogota's River, which, in this urban area is called Canal Callejas, and from the school it is possible to view the Andean Mountain Range, known as Cerros Orientales.

The IPN offers pre-school, basic, intermediate, and special education in a single shift, and adult education as well. Its institutional objective is focused on offering students appropriate spaces for human development: corporal, personal and social, communicative, and scientific-technological. The latter aspect is closely related to the purpose of this study, because it is defined as a field to promote the exploration of capacities to observe and inquire into phenomena and issues found in the social and natural environment in order to create alternatives for their benefit.

### ***Participants***

The participants of this study are twenty students that belong to Preschool 2, composed of eight boys and twelve girls, whose ages ranged from 5 to 6 years old. The research was carried out with all the twenty children, because their legal representatives accepted the fact that they were participants by providing a signed knowledge consent. Through a survey (see Appendix 1), preschoolers reveal data regarding their fondness for learning the English language, the way they like to learn it, and how interested they are in Nature, especially in animals. According to their answers, most students enjoy learning English, in fact, it is their favorite subject; they like to do activities such as dancing and singing in their favorite class; but most of them prefer to learn English by songs, videos,

and exploring places they like. However, regarding their interest in Nature, most students seem to enjoy activities related to the natural world. They show preferences for one of the four natural elements, particularly water and air, and they often select their favorite animal based on its habitat and diet. Additionally, they are curious about learning the abilities and characteristics of those animals. The principal criterion for selecting this population was based on convenience (Merriam and Tisdell, 2016, p. 98), which is a non-probability sampling technique where subjects are selected because of their convenient accessibility and proximity to the researcher. This group of students was accessible because of the availability of options given by the university to carry out the pedagogical practice, and the IPN school was close to the researcher's place of residence.

## **Data Collection Instruments**

### ***Observation***

One of the data collection techniques used in this research was observation, which, according to Morrison (1993, as cited in Griffie, 2018), enables investigators to gather data in terms of physical, intellectual, human, and programmed settings. Observation, understood as a purposeful, detailed, systematic, and intentional technique, was central to the success of this research. Its focus, typology, and data collection tools were adapted to align with the study's objectives, ensuring accurate and relevant findings. Throughout the entire intervention, I employed observation as a primary method to monitor the teaching and learning process, carefully documenting students' responses to the nature-based vocabulary instruction and their evolving awareness of environmental care. Hence, the data collected was both rich and precise, providing a reliable foundation for analysis and interpretation. Additionally, the observation items are predetermined to focus on areas of

interest such as listening comprehension and stimuli, which, according to Fradd and McGee (1994), enables the researcher to explore specific data to focus on my research concerns. On the one hand, this instrument allows me to know how students are exposed to different listening stimuli, how they respond to these, and what difficulties or phenomena preschoolers have during English class.

### ***Field diary***

A field diary was an observational technique to collect data throughout the research time. A diary is an instrument employed in qualitative research to log daily events and feelings (Schuman, 1980), impressions and circumstances in a specific environment (Bailey, 1995). This kind of document, written *in situ*, ensures that information is gathered of situations at the same time they're occurring (Cohen et al., 2007). It is significant for this study and the researcher, as it allows me to carefully register the immediate reactions students have when they listen to some expressions or words during the class. That is why this instrument enabled me to check out how this study advances, but also it helped to find any changes in the listening comprehension of the students. The diaries used for this research were semi-structured because their design has default categories considering the research aim and specific objectives. One of them was used to gather information in the first stage, characterized by participant observation (see Appendix 2). The other diary was designed for the next stage of the pedagogical implementation, featuring more specific categories and a dedicated space for reflection. This reflection focuses on both the teaching practice and the evidence of preschoolers' learning and environmental awareness (see Appendix 3).

### ***Semi-structured interview***

In this qualitative research, interviews were selected as a data collection instrument because of their ability to capture participants' experiences and reflections, which were essential for answering the research question. As Riessman (1993) notes, this form of analysis helps "impose order on the flow of experience to make sense of events and actions" (p. 2), allowing participants to recall and structure their learning experiences during the researcher's interventions. In this study, the semi-structured interview was specifically designed to guide students in retrieving and organizing the knowledge and reflections they had developed throughout the lessons. This aligns with Cropley's (2022) view of interviews as an instrument that enables respondents "to reveal their construction of reality (their internal picture of the world) as openly and fully as possible" (p. 144). Thus, this method provided valuable insights into how students understood and reconstructed their perception of reality as a result of acquiring new knowledge.

For carrying out this kind of interview, "the researcher attempts to establish how respondents structure the area in question in their own thinking about it" (p. 149), which enables to discover through the students' responses their environmental awareness of taking care of Nature. Likewise, the semi-structured interview begins with a broad opening question, but eventually the researcher can orient the discussion to a particular direction (Cropley, 2022, p. 150), for which prompts are used (Knapper and Cropley, 1980). In conducting these semi-structured interviews, prompts include exploratory questions designed to consider both the children's ability to reflect on the concrete and familiar situations described above, as well as the use of wh- questions such as what, when, where, and how. According to Cropley (2022), these questions "encourage respondents to express

their views" (p. 147). In this study, interviews are conducted in groups of up to six students, in order to hear the voices of all students and analyze the growth of environmental awareness of these preschoolers. The questions in each cycle vary according to the objectives of the lesson plans that were developed (see appendix 4). All the interviews were audio-recorded and transcribed with an online transcriber (TurboScribe), because in this way it was possible to know the reasoning students develop on environmental issues and care, and how they express their own thoughts regarding the instructed vocabulary of each cycle.

The above mentioned data collection instruments were essential to maintain the validity and credibility of this study through the triangulation process between the data collected, the theoretical constructs, and the researcher's analysis and interpretations. Reliability was supported through systematic transcription revision and thematic coding procedures, which was constantly reviewed by the advisor of this research work in order to minimize the confirmation bias.

### **Ethical considerations**

To maintain the most comfortable environment throughout the pedagogical implementation, the following considerations were taken into account: first of all, all preschoolers participate in the activities designed for each lesson; however, reflections, comments, or actions of those students whose informed consent has not been signed are not part of the data analysis. Secondly, the identity of students is completely protected, which is why in the data analysis each student is assigned a capital letter rather than their name. Furthermore, during all the last lessons of each cycle, when reflective spaces are opened, students are invited to participate voluntarily and express their own opinions and

perceptions. For interviews, the seven randomly chosen students are asked if they want to participate in that space asking some questions and having a kind conversation with the teacher every two cycles about topics reviewed in the English class. Finally, it is necessary to highlight that the teacher-researcher also expresses their opinions and reflections as long as the preschoolers ask her, otherwise the information the teacher includes in the lessons is based on scientific evidence about natural elements and ecosystems, the relationships there are, and environmental issues. In this way, the research seeks to promote reflection in students.

### **Data Analysis Approach**

In this section, the data approach and the procedures followed to analyse the data are presented. The data analysis process was carried out following a thematic approach (Braun and Clarke, 2021). It allows for identifying, organizing, and gaining insight into the entire data set to answer the research question. It gets its name due to *themes* that are solid pieces of analysis composed of *codes*, simpler pieces found and extracted from the data collection instruments. In this research, the data set is consolidated mainly by semi-structured interviews and lesson recordings, in which reference is made to the students' artifacts.

The procedures followed to generate codes, themes, sub-themes, and analyze the data consisted of familiarization with the data, code generation, classification into preliminary themes, identification of sub-themes, and production of the analytical report. To become familiar with the data, the lesson recordings and the semi-structured interviews were carefully listened to, and transcribed using the online transcription tool TurboScribe, and the transcripts were subsequently reviewed and corrected by comparing them with the original recordings. This revision was necessary because some segments were inaccurately

transcribed due to external noise, overlapping students' speech, or low voice volume. In the transcription process, the data were organized as dialogues, indicating who produced each utterance. TS refers to the teacher-researcher, and students were identified using numerical codes to protect their identities; thus, Sn° indicates which student was speaking.

After familiarizing with the data, the codes that could fit within the themes taken from the research question: Vocabulary learning, and Environmental awareness, were identified. Although they were classified into these two themes, the set of codes remained broad, and the researcher found it pertinent to search for sub-themes to facilitate the analysis of the codes. That is why the same codes were grouped again according to common aspects, resulting in the following sub-themes for Development of Environmental Awareness (Recognizing immediate and further ecosystems, and for Reflecting on the environmental issues evidenced in the ecosystems), and for Vocabulary Learning (Understanding meaning by context, Repetition of new nature-based words, and Using new nature-based words). Finally, the codes were filtered to get the most illustrative ones for this study, and the report was written. In it are collected the interpretation of data in the light of vocabulary acquisition principles (Richards and Renandya, 2002) and reflections, which were enriched by the frequency of the target words (see Appendices 21 and 22).

#### **Chapter 4. Instructional design**

This section defines the specific visions through which language, learning, teaching, and the classroom are conceived within this study, following the question and research

objectives. In addition, the detailed definition of the types of activities carried out in the implementation phase, as well as a chart where the whole process of the cycles of this pedagogical intervention is described.

### **Vision of language**

In this research, “language” appears in three different conceptions. First of all, language, as the human faculty, allows children to think, understand, and act in the world in which they live. As Cárdenas (1999) said, “como proceso cognitivo, el lenguaje es soporte del pensamiento lógico y analógico” (p.26), where inferential processes are carried out as well as problem-solving, two procedures that students must develop not only when they receive aural inputs, but also when they are in contact with Nature because of the possibility to compare, contrast, and try to solve problems. This conception includes the other conception of “language” where it is considered a signal system in which words are signs conformed by the physical form of the word called the signifier, and the meaning or reference of the word (Saussure, 2011). To distinguish the latter from the former, “mother language” (ML) and “foreign language” (FL) are used. While ML is conceived in this study as the scaffolding language to mediate how students perceive the world from their own culture and context and how that world’s knowledge contributes to the FL learning, FL is the target language through which students will learn not only to name the natural world, but also to reflect on it.

Due to the vocabulary-oriented approach of this study, it is important to consider one of the challenges children face when learning a language: establishing correspondences between linguistic forms, such as sounds, and their referents in the world (Clark, 2009; Bloom, 2000). Indeed, this lexical nature referred to the capacity to name natural elements,

helps students to hold knowledge and contact with it (Hueso, 2021). In the same way, language allows to express “vivencias, emociones, pasiones y sentimientos que constituyen la base de actitudes y valores” (Cárdenas, 1999, p. 26), which supports that through both ML and FL, children can develop reflections of their attitudes to Nature and, thus, develop their environmental awareness.

### **Vision of learning**

This research envisions learning as a process whose progress can be assessed through multiple activities that involve language learning as well as content learning. Additionally, following the learning insight from Richard and Rodgers (2014), it is necessary to consider two basic elements about language learning: first, the predispositions for learning language, which is related to how human beings start off communicating with others and involves the listening disposition; secondly, the right brain hemisphere, because it is linked to creativity, imagination and movement that preschoolers are allowed to use regarding how many possibilities Nature offers them. These elements must combine with the environmental content for enabling students to develop their environmental awareness, since as Coley (2010) states, one of the principles when language and content learning are together is to promote learning and thinking processes in learners. This makes it possible for students to create their own knowledge and interpretations around the chosen content, in this case, around environmental elements, in such a way that they can develop reflection and awareness about the correlation among them while they acquire vocabulary in the foreign language.

For this purpose, this study considers learners not as subjects who passively receive whatever an objective external reality offers them, but as actors who from external stimuli,

either sensitive, social, cultural, or linguistic, “construct” the world they live in” (Cropley 2022, p. 56), therefore that external reality has to be nearby such as their school or city where they live, or at least familiar such as those environments they know from songs or tales. The relationship students can sustain with those realities presented to them is important to help learners to acquire knowledge, develop values and skills that enable students to propose solutions to the problems identify there, as was mentioned in the Intergovernmental Conference on Environmental Education organized by UNESCO (1997).

### **Vision of teaching**

Teaching is understood in this research as a reflective process about pedagogical practice and learners’ learning context. It means teaching is a *praxis* in which the teacher considers, on the one hand, the environmental content that is necessary but also pertinent for students to develop their reflections and raise their environmental awareness. On the other hand, the teacher takes into account that both instructed vocabulary and her ML and FL usage have “to be related to the learning context, to learning through that language, to reconstructing the content, and as mentioned, to related cognitive processes” (Richards and Rodgers, 2014, p. 119). That is how the teacher, as a facilitator, guides students to construct knowledge about their nearest and familiar environments and helps them to produce reflections around that knowledge.

### ***Teaching approach***

Considering the focus on vocabulary instruction and the critical perspective this research takes on, it was not limited to only a teaching approach. To carry out this pedagogical proposal, I involved my knowledge about different foreign language teaching approaches, my experience teaching children in diverse contexts, and not only my students’

interests but also my genuine desire to help students develop their environmental awareness by learning how to talk about elements of Nature, their menaces, and alternatives to take care of it.

In the attempt to integrate knowledge about Nature and L2 enhancement, some components of CLIL (Content and Language Integrated Learning) were taken into account. According to Coyle et al. (2010), CLIL seeks to provide opportunities for learners to construct their own understanding of content while simultaneously developing language skills. Rather than treating language as an end in itself, CLIL positions it as a vehicle for learning and meaning-making. This approach is commonly characterized by the integration of content, communication, cognition, and culture, which promotes the development of both subject knowledge and higher-order thinking skills through meaningful interaction. In the present study, this perspective was reflected in the use of nature-based vocabulary as a means for preschoolers to explore and understand environmental concepts while using English in authentic communicative situations. Through vocabulary instruction, students were encouraged not only to identify and describe elements of Nature but also to engage in cognitive processes such as observation, classification, comparison, problem-solving, and critical reflection regarding the importance of caring for the environment. Furthermore, interaction was prioritized as a core element of learning. Classroom activities and didactic materials were designed to create meaningful opportunities for communication in English, allowing preschoolers to use new vocabulary in context and progressively construct both linguistic knowledge and environmental understandings. In this sense, language learning and content learning occurred simultaneously, reinforcing one another throughout the pedagogical intervention.

To take vocabulary instruction beyond a superficial approach to the natural elements present in the three ecosystems explored during the intervention, the pedagogical proposal also drew upon principles of TBLT (Task-Based Language Teaching). This approach is grounded in the idea that language is best learned through meaningful use rather than through the isolated practice of linguistic forms. TBLT emphasizes the completion of purposeful tasks that require learners to communicate in order to achieve specific outcomes, thereby promoting authentic language use and learner engagement. Among the pedagogical tasks proposed by Pica, Kanagy, and Falodun (1993), problem-solving tasks, decision-making tasks, and opinion-exchange tasks were particularly relevant to the objectives of this study. Through these tasks, learners discussed environmental issues, shared ideas about the importance of ecosystems, negotiated meanings related to the protection of animals and habitats, and expressed personal opinions regarding ways of caring for Nature. In addition, TBLT contributed to the systematic reinforcement of vocabulary learning by providing repeated exposure to lexical items across diverse communicative situations. As Leaver and Kaplan (2004) suggest, tasks allow learners to revisit and recycle vocabulary naturally and meaningfully, reducing the monotony often associated with repetition. Consequently, preschoolers had multiple opportunities to encounter, practice, and use nature-based vocabulary while remaining actively engaged in activities connected to their interests and experiences.

Although CLIL and TBLT emerge from different theoretical traditions, they share several principles that make them particularly suitable for this study. Both approaches prioritize meaningful communication over the memorization of isolated linguistic forms, emphasize learner-centered participation, and promote the construction of knowledge through interaction and experience. Likewise, both recognize language as a tool for

understanding and engaging with the world rather than merely as an object of study. In the context of this research, CLIL provided the content dimension by integrating environmental education into English learning, whereas TBLT offered the methodological framework through which learners actively used language to accomplish meaningful tasks. Together, these approaches enabled a dynamic learning environment where vocabulary acquisition was not an isolated linguistic exercise but a pathway to fostering environmental awareness. By engaging students in communicative, problem-solving, and reflective tasks about ecosystems and their preservation, the teaching approach aligned with the research aim of examining how vocabulary instruction based on Nature contributes to developing preschoolers' awareness of the importance of caring for the environment.

### **Vision of the Classroom**

This research distinguishes two types of classrooms because of the importance of a learning environment for significant learning. In the following lines, the conception of outdoor classroom and inner classroom, their relevance, and their pertinence in the pedagogical proposal of this action research.

#### ***Outdoor classroom***

An outdoor classroom is the term assigned to the school's natural environment, a place where preschoolers can establish a direct relationship with natural elements experientially. At the same time, this is a place featured for being a learning environment where students can explore because "reading the world always precedes reading the word, and reading the word implies continually reading the world" (Freire, 1987, p.23). Namely, expanding the classroom beyond the four-walled room is an opportunity for students to look for and find new possibilities to learn in a more substantial manner.

### ***Inner classroom***

Inner classroom is assumed as a four-walled room, which is a place where preschoolers' socialization, interpretations and new perspectives around the relationships they build amongst the natural elements found in different ecosystems or in the outdoor classroom. The classroom can be understood as a structured pedagogical space where social interaction, interpretation, and the construction of new perspectives take place. Its organization and spatial arrangement shape the relationships between teacher and students and influence the development of communicative activities (Cohen et al., 2007). Additionally, the inner classroom represents a controlled learning environment, because I could arrange its elements according to each activity proposed, making it suitable for activities that require a high level of concentration from children, such as listening to a song, practicing new vocabulary, working in groups, and painting or writing the elements of different ecosystems.

### **Pedagogical implementation**

This section describes the pedagogical proposal designed and developed in this action research, outlining its structure and detailing the procedures implemented. The procedures related to vocabulary instruction were established with the help of the principles related to vocabulary learning stated by Richards and Renandya (2002), such as the importance of selecting the appropriate vocabulary for students, the relevance of repetition in spaced intervals to work on the recognition and assimilation of new vocabulary, and explain the basic meaning of the new word for students to be able to comprehend and use these new words when they consider it necessary. Whilst procedures for students to develop their environmental awareness of the importance of nature care are based on the idea that

“environmental education involves learning from the environment as well as about the environment” (UNESCO, 1997, p. 12) and when the elements that belong to a specific ecosystem are known by students, it is essential to identify a problem there that harms its living and unliving beings, its causes and effects, and finally, think about possible solutions (Cain, 2010).

The above-described procedure shapes the three cycles: *African Jungle*, *Amazon Rainforest*, and *Andean Forest*, which were compounded by 4, 3, and 4 lessons, respectively. Each planned lesson took two sessions to complete, which were held at a frequency of 6 sessions per month. Each cycle was developed approximately in two months, and the line that followed them began with sessions in which special emphasis was placed on vocabulary instruction of the elements corresponding to each ecosystem. In this stage, I kept in mind that the new 7-plus or minus 2 words (Miller, 1956) had to be accompanied by repetition of the previous vocabulary instructed to reinforce vocabulary and help students to establish relationships among all the vocabulary they were exposed to. Thus, the last part of the cycle involved reflection activities, allowing students to use the acquired vocabulary while developing their awareness of these ecosystems, their elements such as fauna, their needs, threats, and problems. That is why I planned the lessons to promote preschoolers to have the opportunity to talk about their experiences and share background knowledge that help the class to build a common situated meaning by collective participation. Therefore the implementation of both stages in each cycle demanded different didactic materials such as flashcards of the elements found in those ecosystems, pictures of their ideal conditions and the damages they have suffered, songs, and realia. Below there are more detailed explanation of these cycles:

***African jungle:*** This cycle leads students to practice the jungle animals' vocabulary they learned in kindergarten, know the elements and ideal environmental conditions of this ecosystem, and identify the threats to the jungle and the animals living there, reflecting on the causes and consequences of specific human actions that endanger the jungle. This cycle took place during March and April 2024.

***Amazon rainforest:*** In this cycle, students learned how to name different Amazon rainforest animals, which are their abilities and relations established between all those animals as well as the threats to them. The development of this cycle began in May and ended in the second week of June 2024.

***Andean forest:*** This cycle is meant to show students some of the most representative but unknown species of animals that live in Bogotá, especially in the Eastern Hills. Then students learned those animals' names, their behavior, their importance for the city, and particularly how they can protect the Andean forest animals. This last cycle took place during August and September 2024.

The following chart outlines all the lessons of these two cycles:

| FIRST CYCLE: AFRICAN JUNGLE                     |                                                    |                                              |                                                                                                    |                                                                                                                                        |                                                                               |
|-------------------------------------------------|----------------------------------------------------|----------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| Session                                         | Learning objective                                 | Skills                                       | Vocabulary                                                                                         | Activities                                                                                                                             | Didactic material                                                             |
| Nº 1.<br>Think of jungle animals                | Practice the names of 10 jungle animals            | Listening<br>Speaking                        | Ten jungle animals (lion, elephant, tiger, giraffe, rhino, bird, monkey, snake, crocodile, spider) | See a flashcard and say the name of the animal that appears there. Say their name and the name of the students' favorite jungle animal | Flashcards with the animals' graphic representation and name (see appendix 5) |
| Nº 2.<br>My body moves at the rhythm of animals | Reflect on the importance of the body parts of the | Listening<br>Speaking<br>Reflective thinking | Body parts of jungle animals (fur, horn, hand, tail, teeth, mouth, nose,                           | Identify the body parts of eight jungle animals, repeat these parts in English, and reflect on why these body parts are                | Flashcards with the animals' graphic representation and name (see appendix 5) |

|                                         |                                                                              |                                 |                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                      |
|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                         | jungle animals                                                               |                                 | eyes)<br>Ten jungle animals (lion, elephant, tiger, giraffe, rhino, bird, monkey, snake, crocodile, spider)                                                | important for the animals                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | A black cardboard with a hole to show just the target animals' body part (see appendix 6)                                                                                                                                                            |
| N° 3.<br>The jungle looks like this     | Learn the habitat conditions and its importance for the jungle animals' life | Speaking<br>Reflective thinking | Natural elements found by students (river, waterfall, tree, liana, sunshine)                                                                               | Identify different Nature elements found in an image of the ideal conditions of a jungle.<br>Share the discoveries with the rest of the class.<br>Compare an image of a good condition jungle and a damaged jungle.<br>Discuss the consequences bad conditions bring to jungle animals.                                                                                                                                                                                                                | Images of African jungle damaged (see Appendix 7) and in good condition (see Appendix 8)<br><br>Flashcards with the animals' graphic representation and name (see appendix 5)                                                                        |
| N° 4<br>Why is the jungle in bad shape? | Recognize the causes that damage the jungle conditions                       | Speaking<br>Reflective thinking | Nature elements (river, waterfall, tree, trunk, moss, branch, earth,, liana)<br><br>Elements involve in human actions (tree, land, animals, body parts...) | Practice the natural elements found in the jungle and repeat their names with the help of a traffic-light game and images of the jungle.<br>In groups, take from the board an image where the jungle looks damaged and draw on that image with a marker what they would change or improve. Share their drawing interventions with another group.<br>Reflect about the possible causes of those damages and classify some graphic representations of human actions as Good / Bad actions to the jungle. | Personal flashcards with the graphic representation and the name of natural elements (see appendix 9)<br><br>a drawing of the jungle to complete (see appendix 10)<br><br>Images that show actions that harm or benefit the jungle (see appendix 11) |
| <b>SECOND CYCLE: AMAZON RAINFOREST</b>  |                                                                              |                                 |                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                      |
| <b>Session</b>                          | <b>Learning objective</b>                                                    | <b>Skills</b>                   | <b>Vocabulary</b>                                                                                                                                          | <b>Activities</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Didactic material</b>                                                                                                                                                                                                                             |

|                                                       |                                                                  |                                 |                                                                                                                                                                        |                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------|------------------------------------------------------------------|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| N° 1<br>What animals live in the Amazon rainforest ?  | Recognize some of the animals that live in the Amazon rainforest | Listening<br>Speaking           | Rainforest animals (frog, jaguar, ant, sloth, toucan, red macaw, ocelot, anaconda)                                                                                     | Identify and name some Amazon rainforest fauna through videos and a game finding hidden animals.<br>Color their favorite rainforest animal according to the visual reference. | National Geographic. (2019, March 29th). <i>Rainforests 101   National Geographic</i> [Archivo de video]. YouTube.<br><a href="https://www.youtube.com/watch?v=3vijLre760w&amp;t=13s">https://www.youtube.com/watch?v=3vijLre760w&amp;t=13s</a><br>Flashcards with the animals' graphic representation and name (see appendix 13) |
| N° 2<br>The Amazon rainforest animals have powers     | Recognize the abilities of the Amazon rainforest animals.        | Listening                       | Rainforest animals (frog, jaguar, ant, sloth, squirrel monkey, toucan, red macaw, ocelot, anaconda)                                                                    | Identify names and the most important characteristics of Amazon rainforest animals in a song. Imitate the abilities and movements of these rainforest animals.                | Collection of songs about the Amazon rainforest.<br><a href="https://drive.google.com/file/d/1y5nrMWRaUBLtQvYDHR5vs7erJdtGc-WA/view?usp=sharing">https://drive.google.com/file/d/1y5nrMWRaUBLtQvYDHR5vs7erJdtGc-WA/view?usp=sharing</a>                                                                                           |
| N° 3<br>The net made by the Amazon rainforest animals | Understand the relationship among the rainforest animals         | Speaking<br>Reflective thinking | Rainforest animals (frog, jaguar, ant, sloth, squirrel monkey, toucan, red macaw, ocelot, anaconda)<br><br>Animals' actions (throw seeds, eat, help trees grow, clean) | Discover the relationship between all animals in this ecosystem using images of the animals and actions they do.                                                              | Find the Amazon rainforest with a magnifier (see appendix 14)<br><br>Activity to connecting animals with the elements they interact with (see appendix 15)                                                                                                                                                                        |
| <b>THIRD CYCLE: ANDEAN FOREST</b>                     |                                                                  |                                 |                                                                                                                                                                        |                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                   |
| <b>Session</b>                                        | <b>Learning objective</b>                                        | <b>Skills</b>                   | <b>Vocabulary</b>                                                                                                                                                      | <b>Activities</b>                                                                                                                                                             | <b>Didactic material</b>                                                                                                                                                                                                                                                                                                          |
| N°1<br>Bogota's unexpected neighbors                  | Learn the most representative Andean Forest animals              | Listening<br>Speaking           | Andean Forest animals (hummingbird, spectacled bear, glass frog, deer, sabanera snake, possum, Andean rabbit)                                                          | Recognize the Andean Forest and its regions of Bogotá by images of popular places of the city. Identify and name the most interesting Andean Forest animals.                  | A picture of Monserrate (see appendix 16)<br><br>Flashcards with the graphic representation and the name of natural elements (see appendix 17)                                                                                                                                                                                    |

|                                                      |                                                                    |                                              |                                                                                                                                                                                                    |                                                                                                                                                                         |                                                                                                                                                     |
|------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| N° 2<br>The Andean performance                       | Know about behavior of Andean animals                              | Listening<br>Speaking                        | Andean Forest animals (hummingbird, spectacled bear, glass frog, deer, sabanera snake, possum, Andean rabbit)<br>Verbs (jump, eat, walk, run, live)                                                | Guess which are the daily activities Andean animals need to do to survive.                                                                                              | Slides to guess what is the Andean animals' behaviors (see appendix 18)<br><br>Couples of cards related to the animals' behaviors (see appendix 19) |
| N° 3<br>Why are Andean animals important for Bogotá? | Reflect about the ecosystem importance Andean animals have         | Listening<br>Speaking<br>Reflective thinking | Andean Forest animals (hummingbird, spectacled bear, glass frog, deer, sabanera snake, possum, Andean rabbit)<br>Verbs (plant, take care, pollinate)                                               | Match animals with those activities they do to take care of their ecosystem.                                                                                            | Workshop about behavior and function of Andean forest (see appendix 20)                                                                             |
| N° 4<br>I will protect Andean animals                | Explore suitable actions students can do to protect Andean animals | Speaking<br>Reflective thinking              | Andean Forest animals (hummingbird, spectacled bear, glass frog, deer, sabanera snake, possum, Andean rabbit)<br>Use of DON'T in imperative sentences.<br>Verbs (plant, take care, throw, pick up) | Remembering all previous information about Andean animals.<br><br>Discuss what actions each student can take to protect their favorite Andean animal and its ecosystem. |                                                                                                                                                     |

## **Chapter 5. Data analysis**

The objective of this chapter is to analyze data gathered throughout this study, including recordings of classes, semi-structured interviews, and artifacts made by the students, taking into account the theoretical constructs mentioned above. This analysis is aligned with the research question and objectives, following the thematic analysis discussed in the methodological chapter. That is why the data analysis falls into two categories: Development of environmental awareness, and Vocabulary learning, which shape the framework of this research, described in chapter 2, in terms of integrating language and environmental knowledge. These categories emerged from the collected data, which aligns with the theoretical framework presented in Chapter 2. For a deeper analysis of the categories, it was necessary to divide them into subcategories. To illustrate the relationship between the categories and their sub-categories, the following structure was designed (see Figure 1).

On the one hand, the subcategories associated with the Development of environmental awareness, Recognizing immediate and further ecosystems, and Reflecting on the environmental issues found in them, trace the cognitive and perceptual processes through which preschool learners begin to understand their natural surroundings and identify environmental concerns. On the other hand, the subcategories linked to Vocabulary learning, Understanding meaning by context, Repetition of new nature-based words, and Using new nature-based words, represent the linguistic mechanisms that support meaning-making, lexical retention, and productive use of the target vocabulary.

These subcategories are interconnected because they operate through a reciprocal dynamic: as students learn new nature-related vocabulary, they become more capable of identifying and describing ecosystems, which, in turn, fosters their ability to reflect on the environmental issues present in those contexts. Similarly, the processes of recognition and reflection foster meaningful opportunities for contextualized vocabulary learning. As learners encounter new concepts, they express them using the linguistic resources provided during instruction. This reciprocal influence illustrates how language learning and environmental awareness mutually build on each other, reinforcing the pedagogical intention of integrating linguistic development with environmental understanding in an EFL early childhood context.

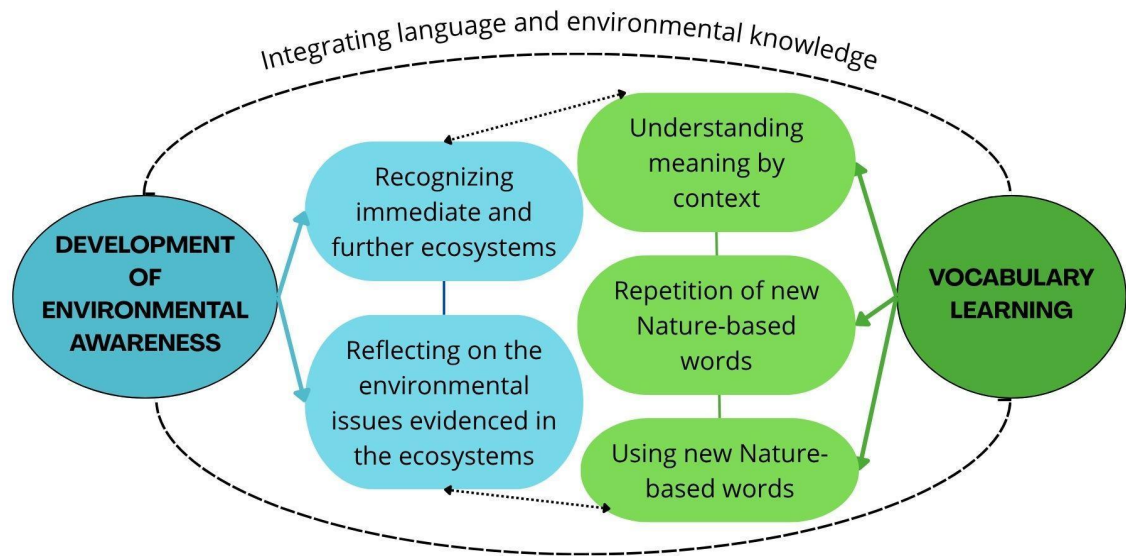


Figure 1. Data analysis categories: Integrating language and environmental knowledge

It is essential to clarify that in the data collected through audio recordings and semi-structured interviews presented in this chapter, TS refers to the teacher-researcher, Sn° designates individual students, where n° corresponds to an assigned number used to protect their identity, and SS refers to the entire class.

### **Environmental awareness**

This category helps to understand the development of students' environmental awareness, within which they engage in the recognition of immediate and further ecosystems and the reflection of environmental problems evidenced in ecosystems. This analysis was made in light of reviewing how working on environmental awareness, defined by UNESCO (2017) as an urgent global concern, is possible and appropriate with preschoolers. Additionally, I will contrast the findings of this research with those from Britton (2017, p20), Escamilla (2009), and Gee (1999, p.4) about the opportunity that exists to help students build new values or perspectives around this specific topic.

### ***Recognizing immediate and further ecosystems***

It was possible to identify how students name and describe the components of the target ecosystems worldwide, the importance of these ecosystems, and the relationship among them. For this reason, the transcription of the lessons and interviews, as well as some students' artifacts, were the source of analysis.

It is important to highlight that for these reflections, which will be presented below, various activities were carried out that involved visual aids to verify how the students' awareness was developed by receiving the same visual input. On the one hand, the identification of the habitat of the African jungle animals was carried out through a contrast of images that showed the ideal conditions of the jungle and the real damage conditions that exist in part of this ecosystem. Here, it was evident that the students began to identify elements of these ecosystems that were lacking, abundant, or damaged, like in fragment 12.

On the other hand, students began to identify ecosystems in relation to the distance or proximity they encountered in geospatial terms due to a world map (see Appendix 24) that helped them recognize further ecosystems (fragment 2), and more immediate ecosystems (fragments 3 and 4). This geospatial awareness demonstrates how the contextualized teaching of the world in which the child inhabits allows for the understanding of animals belonging to each ecosystem, because it helps the child to establish relationships between them and the world. The latter is in line with what Britton (2017) proposes about how the child not only absorbs what he sees and perceives, but his consciousness of the world begins to emerge.

**TS:** Where are the animals of the jungle? ¿En qué parte, in the image?  
**S6:** En África.  
**TS:** ¿Y dónde está África?  
**S6:** En la cosa amarilla.

#### Fragment 2. First lesson, cycle 2

**S13:** Amazonas.  
**TS:** The Amazonas!  
**S13:** ¿Así grande es el Amazonas?  
**TS:** Y Bogotá queda por acá.  
**S6:** Ah, está cerca, está cerca!

#### Fragment 3. First lesson, cycle 3

**TS:** ¿Y en dónde encuentran todos estos animales?  
**SS:** En las montañas.  
**TS:** ¿En cuáles montañas?  
**S5:** En las frías.  
**TS:** ¿Y dónde quedan esas montañas frías?  
**S4:** En los cerros. En los cerros.  
**TS:** ¿Y desde el cole' podemos ver los cerros? ¿Los Easter Hills?  
**S4:** No.  
**TS:** Yo los puedo ver.  
**S4:** Digo, yes, pero no desde acá.  
**TS:** Ah, desde aquí dónde estamos, no, ¿pero afuera?  
**S11:** Yes.

#### Fragment 4. Interview cycle 3

The students also began to notice that animals of the same order or class as defined by taxonomic categories could exist; they started to make distinctions between species according to the ecosystems in which they inhabit. In particular, the students began naming animals from another ecosystem, but using previously learned words to describe new animals (fragment 5). From there, with the introduction of new vocabulary and association with already learned vocabulary, such as colors or generic names of animals like "bird", "bear", "snake", "frog", students were making distinctions between birds, bears, snakes, and frogs belonging to different ecosystems.

**TS:** What animal did you see in the video?  
**S1:** A tiger.  
**TS:** A little tiger, it's the ocelot.

#### Fragment 5. First lesson, cycle 2

Furthermore, the students engaged in discussions on the importance and the relationships that components of ecosystems maintain among them, but also how we are all connected to those ecosystems and the animals that inhabit them. For example, in fragment 6, students recall the actions that animals perform within their ecosystems and recognize the relationship between different natural components and animals, as well as how a daily element, such as an apple, could be related to the ants. In addition, they can illustrate what they mean through one-off examples where they mention elements of their reality, such as an apple, which shows how much they have understood about the different relationships in the ecosystems to talk about them with property and clarity to others.

**TS:** ¿Se acuerdan cuál de esos animales recogía the trash?  
**S1:** ¿Con la boca?  
**TS:** ¿Se acuerdan cuál recogía la basurita?  
**S10:** Ah, ya sé, ya sé...  
**S1:** La hormiguita. Ant  
**S15:** Como si fuera una manzana y se cayó pues y las hormiguitas se la llevarían.

#### Fragment 6. Interview cycle 2

However, one of the most relevant findings aligned with this capacity of establishing coherent and logical relationships among elements is that students found that the actions of an animal can benefit and affect to some extent certain species, as revealed by fragment 7.

**SS:** Insects.  
**TS:** ¿Y a qué nos ayudan? ¿O por qué es bueno que el frog coma...?  
**S9:** Nos ayudan para que no nos picarnos.  
**TS:** ¿Para que los mosquitos no nos piquen?  
**S18:** Sí, pero no sirven de nada porque matan a todos. A los que recogen el polen, a hacer más...

#### Fragment 7. Interview cycle 2

Thus, students begin to feel increasingly involved and point out the interdependence of humans with the animals mentioned in the different ecosystems. Students recognized that the existence of certain animals is related to their welfare, showing that an interrelationship exists between these animals and themselves (fragments 8 and 9).

**TS:** ¿Qué pasaría si los animales que nos ayudan a sembrar desaparecieran?  
**S18:** No hay plantas, no hay árboles.  
**S9:** No tenemos oxígeno.  
**TS:** ¿Y por qué no tendríamos oxígeno?  
**S8:** Porque... porque no hay animales.

#### Fragment 8. Interview cycle 2

**TS:** What about this?  
**S17:** Frogfrog  
**TS:** Frog ¿Qué nos dice el frog?  
**S18:** Que **nos cuida** el agua  
**TS:** Y sabemos si el agua está..  
**S18:** Bien o mal.

#### Fragment 9. Interview cycle 3

The exposure to the diversity and enrichment of African, Amazon, and Andean ecosystems throughout was essential to develop a connection on different extents between students and Nature. At the most basic level, the recognition of animals as part of the ecosystems, and then the recognition of relationships of benefits and prejudices due to the animals' actions. These two principal levels are the basis of emotional connection and promotion of an attitude of respect and care (Escamilla, 2009) that will be evident deeper in the following subcategory.

#### ***Reflecting on the environmental issues evidenced in the ecosystems***

This subcategory was necessary because students were further beyond just making relationships among the ecosystems, their beings, and humans. They discussed the

responsibility that humans have for the damage or potential danger to the animals in those ecosystems. In the middle of those reflections and discussions, they express empathy and environmental concern from a global and collective perspective.

First of all, by making hypotheses about what would happen if the animals they saw became extinct, the students are included in those consequences and imply that what happens to the animals also affects them directly. In fragment 10, they are concerned because animals are really important for their lives, ultimately, their food.

**TS:** ¿Y qué pasaría si, por ejemplo, los animales que  
siembran se extinguieran?  
Es decir, desaparecieran.  
**SS:** ¡Nooooo!  
**S5:** Ya no podemos tener esperanza...  
**S14:** Ya no podemos sufrir nada.  
**S5:** Porque no podemos comer nada, tocaría no cocinar.  
**S10:** No tenemos ni manzanas porque las manzanas caen de  
los árboles.  
**S5:** Y tocaría comer comida que no es saludable.

#### Fragment 10. Interview cycle 2

A phenomenon was identified in the first cycle, which became more pronounced when the teacher asked about animals or a specific ecosystem (third-person plural or singular). In students' responses, they engaged with the consequences of certain animals disappearing (first-person plural). For instance, at the very beginning, students had a vague idea of the relation, or importance of taking care of the animals and their ecosystems (fragment 11). Then, students began to relate certain rainforest animals to the existence of plants in that ecosystem and suggested that if such animals disappear, so will trees and plants, which in turn relate to air, heat, and shade (fragment 12). Finally, students accept that caring for animals is necessary because it offers them certain benefits, care, and even allows human life, recognizing an interdependence with animals (fragment 13).

**TS:** ¿Qué más podemos hacer para cuidar la jungle?  
**S9:** Para cuidar la naturaleza, si somos exploradores, no debemos matar a los animales porque si no, ellos son los que nos dan la respiración.  
**TS:** ¿Los animales nos dan la respiración?  
**S9:** Entonces, la naturaleza a matamos.  
**S18:** Noooo.  
**TS:** ¿Por qué dices que no?  
**S18:** Porque los animales no nos dan la respiración, son los árboles.

#### Fragment 11. Interview cycle 1

**TS:** Sí. ¿Qué pasaría si nuestros animales, sloth, tucan, ant, and red macaw disappear, desaparecen? ¿Qué pasaría?  
**S4:** Ya no tuviéramos más plantas en el bosque.  
**TS:** ¿En el bosque o en el Amazonas?  
**S4:** Amazonas, perdón, siempre me equivoco.  
**TS:** ¿Y qué más pasaría?  
**S13:** Pues...No podríamos tener aire.  
**S12:** Tendríamos mucho calor  
**TS:** ¿Y por qué tendríamos mucho calor?  
**S4:** Como el sol a veces hace mucha potencia, sin los árboles no nos podemos estar en una sombra.

#### Fragment 12. Interview cycle 2

**TS:** ¿Y por qué creen que es importante cuidar a estos animales que viven allá?  
**S17:** Porque hacen todas esas cosas para cuidarnos.  
**TS:** Para cuidarnos.  
**S18:** Esto es la noticia de hoy.  
**TS:** ¿Por qué creen que es importante cuidar estos animals?  
**S19:** Porque nos cuidan la vida y ayudan a dejar existir a los humanos.  
**S18:** Porque nos cuidan el agua.

#### Fragment 13. Interview cycle 3

The transcription of the interviews illustrates how the phenomenon from third-person plural to first-person plural discourse developed progressively over time. It shows how students' environmental background expanded in terms of their understanding of living organisms and ecosystem components, and the interconnection between these beings and humans, their coexistence. As students' environmental knowledge increased, their environmental awareness regarding the care of Nature also grew. Students started to

recognize their interrelation with both distant and immediate ecosystems and to understand the implications of ecosystem conditions for human well-being. As a consequence of this growing environmental awareness, preschoolers began to express their thoughts, ideas, positions, and reflections on the impact of human actions on environmental issues. In other words, the discussions promoted during this research fostered a socially-situated learning process (Gee, 1999), in which individual environmental awareness was configured through social interaction.

To start, students mention objects from their communities and relate them to the damage that animals could suffer if they encounter these wastes (fragment 14). They demonstrate an awareness that what we throw away can affect animals, causing them harm and even death. Moreover, it was evidenced how emotional connection promotes thought about the importance of taking care of Nature (Escamilla, 2009). For instance, when students classified human actions as good or bad for animals (see appendix 12), they justified their choices by thinking about animals' needs, harm, and even feelings, and including how their ecosystems are supposed to look like (some samples of students' drawings), and how it is shown when human actions provoke damage. In particular, when the teacher asked if having zoos is a good or bad action, it was a discussion about zoos, and some students expressed that they are bad "porque los animales están tristes y encerrados y no están en su casa", but another part of the class was in favor because "algunos zoológicos los cuidan bien" (Third lesson, cycle 1).

**TS:** ¿Y qué haríamos para cuidar a esos animalitos que siembran?  
**S10:** No echar basura.  
**S15:** No echar mucha basura porque los otros animales se pueden enredarse o pueden como...  
**S1:** Morir.  
**TS:** ¿Se asfixian?  
**S10:** Acá, acá, como si fuera una manilla y se ahogaría.  
**S10:** Las cositas de las latas les puede caer encima y se pueden asfixiar.

#### Fragment 14. Interview cycle 2

Consequently, the teacher asked them what is necessary to do to protect or take care of the animals or the specific ecosystem, according to the cycle. For instance, in an interview of the first cycle (fragment 15), the student shows a single perspective because of the home reference. Nevertheless, that perspective became increasingly global when the teacher asked about how we would keep the animals of the ecosystems alive, students replied most of the time, “SS: proteger el planeta” (interview 1, 2, and 3).

**TS:** Ok. Listo, ¿y tú cómo cuidarías a los animales?  
**S9:** Yo cuidaría a los animales... si encontramos un animal chiquito, no lo debemos llevar a la casa, porque si no, el resto de animalitos en su familia lo estarán buscando como si un salvaje se lo hubiera comido.

#### Fragment 15. Interview cycle 1

From this point, children claim that the existence of an ecosystem depends on the health of the planet as a global concept. But what is even more significant for the aim of this research is the evolution and reconfiguration of their specific proposals to protect the “planet”. For instance, in an interview of cycle 2 (fragment 16), students established a connection between rainforest animals and another ecosystem as the sea, which sheds light on how students have found shared elements on this planet, such as water found in the river, but also in the sea, and how important it is to take care of one ecosystem to protect the other and the planet.

**TS:** ¿Cómo podríamos cuidar a estos animales?  
**S11:** No, botando la basura al mar y dejando la basura en los árboles o en la tierra.  
**TS:** ¿La tenemos que dejar en los árboles y en la tierra?  
**SS:** No!  
**TS:** Ah, no dejándola.  
**S14:** Pero sí las semillas.

#### Fragment 16. Interview cycle 2, St 14

Besides, a personal responsibility is evidenced when the student mentioned elements of her daily life and perhaps the memory of an action that she has already identified in her close environment: "leaving a glass in the grass". This may be an indication of how the student relates her closest environment as a scenario to take action to take care of animals from another ecosystem that is not where she lives. Clearly, she has found that the actions in Bogotá can have negative impacts on the Amazon rainforest, or even globally, as is shown in fragment 17.

**TS:** ¿Y estos animales dónde viven?  
**SS:** En los cerros.  
**TS:** ¿En cuáles cerros?  
**SS:** En los de Bogotá. En los de Bogotá.  
**TS:** ¿Y por qué son importantes cuidar a estos animales?  
**S6:** Porque cuidan nuestro país y nuestro planeta.

#### Fragment 17. Interview cycle 3

In this particular case, students demonstrate understanding that ecosystems are interdependent by referring to the importance of caring for animals in an ecosystem in order to care for something more general, such as the country, and even more global, such as the planet. When they mentioned “nuestro país” evidenced that they really recognized where that ecosystem is located, but at the same time, when they said “nuestro planeta” realized that our country is connected to the rest of the world, and those two places are shared from a collective idea with the remarkable possessive adjective “our”, which this time was instead of the definite article “the”. The attitude of respect and care (Escamilla, 2009) was

the result of a contextualized approach to the beings that constituted different ecosystems, multiple discussions and conversations about the relationship among those beings, and a growing emotional connection with them.

Finally, when students were asked about the importance of caring for the Andean forest animals, their answer included the concept of development, which is really new, and explain conclusively what they understood about how the ecosystems work, how their components are in constant relationship, how those relations impact their ecosystem, the lives of living beings, natural elements, and the health of the planet. This idea is completely aligned with what Nietzsche (1886) defined as “Nature”, that more than living and non-living beings, is an “autonomous entity” that works by processes and its own laws. Moreover, their response involves a term less concrete than “planet” and as abstract as inclusive: “nature”. This is one of the most intangible concepts students have used during all the interviews, and it may be an indication of how they understand what “taking care of Nature” means. Because in that answer, they involved not only the living beings, the components of the ecosystems in the “planet”, or the relationships among them. But they also include the good and bad human actions that can negatively impact the development of Nature, the interdependence of humans on the ecosystems worldwide:

**TS:** ¿Por qué creen que es importante? ¿Por qué es importante cuidar todos estos animales que están en los cerros?  
**S11:** Para que la naturaleza tenga un desarrollo más rápido.  
**TS:** Más rápido y más..  
**S4:** Natural.

#### Fragment 18. Interview cycle 3

In conclusion, the findings presented in this subcategory reveal that vocabulary instruction based on Nature significantly contributed to the preschoolers’ progressive

construction of environmental awareness. Through language use and reflection, students moved from identifying isolated elements of ecosystems to understanding the interdependence between tangible and intangible components of Nature. This development was evident in their ability to recognize environmental problems, express empathy toward animals, and propose concrete and abstract ways to care for the world. The integration of nature-based vocabulary not only expanded their linguistic repertoire but also became a meaningful tool for articulating thoughts and emotions about the environment.

Consequently, this approach proved effective in fostering a sense of responsibility and belonging to the natural world, highlighting that even at an early age, children can engage critically and sensitively with global environmental issues through language learning.

### **Vocabulary Learning**

This category examines how vocabulary instruction grounded in environmental content supports the comprehension, learning, and creative use of lexical items in meaningful contexts in the light of theoretical proposals put forward by Miller (1956), Richards and Renandya (2002), Nunan (2003), Schmitt and McCarthy (2008), and Mekheimer (2025). Thus, the subcategories that shape this category are: understanding meaning by context, repetition of new English Nature words, and the use of new Nature words.

#### ***Understanding meaning by context***

Based on the findings reported throughout the cycles, the analysis revealed that preschool learners began to demonstrate an emerging use of nature-based vocabulary in English related to the African animals they recognized as principal characters of their workbook. Although they demonstrate a significant retention of that vocabulary, they had

to make an effort to learn new nature-based words. That is why I have chosen the target vocabulary carefully, prioritizing students' previous knowledge, such as colors and names of animals that they have already learnt.

**TS:** But most of the body parts of the animal are red.  
¿La mayoría del animal es de qué color?  
**SS:** Red.  
**TS:** So, we are going to call this one: Red Macaw.

#### Fragment 19. Second lesson, cycle 2

In fragment 19, the word that was introduced in cycle 2 is highlighted, taking into account the knowledge about colors that the students evidenced in the previous non-participatory observations. In addition, I included, within the target vocabulary, species of animals whose names contained words that students already mastered in cycle 1, because also in the African jungle, there are snakes and frogs. It is evident in appendices 21 and 22 that the students had a high recall of these target words despite the fact that the input was less than other target words in which the students did not have any linguistic element with which they were familiarized.

These findings align with Nunan's (2003) proposal on how defining a basic meaning for vocabulary teaching helps students to better and easier retention of the target vocabulary. In the specific case of fragment 18, it is evident that students manage to remember words like "red", "frog" and "snake" through visual aids and how this allows me to introduce new words contextually (e.g. "red macaw", "glass frog" and "savannah snake") to expand their range of learned words, as well as rapid familiarization, retention and subsequent use of them. This is how a careful selection of words allows students to move from accessible basic meanings (e.g. colors and generic names of animals) to a more demanding and specific vocabulary (e.g. red macaw, glass frog and savannah snake), which

highlights Richards and Renandya's (2002) principles on the importance of word selection as well as how pronunciation and spelling are important in vocabulary learning. The latter two were involved in activities where visual aids and interactive sources served as a mediator for contextualized understanding and retention of new nature-based words.

Still, it was evident that understanding words and short statements in English was made easier through the use of images, flashcards with the names of corresponding animals, videos, slides, posters, and illustrated books. The integration of visual cues functioned as an effective mediational tool, enabling students to interpret teacher input and negotiate target word meanings (see fragment 20).

**TS:** These are mountains.  
**SS:** Ah, las montañas.  
**TS:** The mountains that we can see, right? The eastern hills.  
Do you know this? (see index 2)  
**SS:** ¡Ay, yo fui allí!  
**TS:** What is this? ¿Cómo se llama?  
**SS:** Monserrate.  
**TS:** ¿Y en dónde queda Monserrate? ¿Encima de qué?  
**SS:** En las montañas.  
**TS:** On the mountains, cierto?  
**S4:** Y desde Monserrate se puede ver eso.  
**TS:** Sí, desde Monserrate se puede ver otra iglesia que se llama Guadalupe.  
¿Y en dónde queda, encima de qué?  
**Some SS:** De las mountains.

#### Fragment 20. First lesson, cycle 3

The above fragment illustrates that learners attempted to extend their lexical repertoire by making connections between nature-based concepts and their surroundings, familiar places, and experiences. With the image of Monserrate (see Appendix 16), students understand what “mountains” are, and they implemented the new word as soon as possible to answer the teacher’s question. The use of Spanish was a facilitator to the comprehension of new words. Particularly, in fragment 20, students say “ah, las montañas”, then they hear the word “mountains” for the first time, and finally, the teacher did use of Spanish to ask

about the location of Guadalupe's Church, and how the question was clear for them, students successfully replied "mountains". However, this is not an isolated case, but it happened in other classes when learners said a concept in Spanish to confirm its meaning after being heard (see fragment 20).

Additionally, the teacher's scaffolding, through rephrasing, questioning, and offering categorical clarifications, supported learners in refining their understanding and distinguishing between related concepts as the fragment 21 illustrates below.

**TS:** Yes ¿Quién nos ayuda a plantar?  
**S18:** Él  
**TS:** Spectacle bear. And what else?  
**S18:** Humming bird  
**TS:** No.  
**S1:** Savanna snake.  
**TS:** Savanna snake, yes. What about the insects? Now insects.  
**S18:** Humming bird  
**S17:** ¿No insectos?  
**TS:** No, hummingbirds are more related to flowers. Now insects.  
**S17:** Ah!  
**TS:** And what is this? Po...  
**S18, S17:** Possum!

#### Fragment 21. Interview cycle 3

In this case, the students had a better understanding of what the teacher said due to contextualized visual aids (see appendix 20) that helped them to remember what we discussed in previous classes, resulting in the ease of students to understand statements completely in English, such as "No, hummingbirds are more related to flowers. Now insects", and to respond accordingly. I immediately identified that they had understood my clarification because their answers corresponded to the animals whose actions are related to insects (eg. possum and glass frog). As a result of using contextualized visual aids and Spanish to introduce the target vocabulary, students showed signs of emerging verbal

autonomy, as reflected in their willingness to speculate, self-correct, and reformulate their responses according to what they comprehended and remembered.

The latest cases presented support Nunan's (2003) contribution about how low-frequency vocabulary can be introduced by guessing from context, giving throughout images that make them remember and make connections with previous discussions (appendix 21). Moreover, both Nunan and Schmitt and McCarthy (2008) raised the need for activities with different strategies to familiarize students with the target vocabulary, such as using the first language to provide it simply and clearly. Nevertheless, the data presented above showed that students, in more than one case, were those who translated the target words into L1 to verify they had understood their meaning, but not the teacher.

This shows that students have a greater facility for understanding new vocabulary and utterances through visual aids, especially if these are contextualized. Contextualization from their immediate context as images of familiar places in their city (eg, Monserrate) makes students understand a new word by reference, while contextualization focused on employing learners' previous knowledge (eg, colors and animal generic names) makes target words familiar and comprehensible for students.

### ***Repetition of new nature-based words***

For the analysis of this subcategory, a detailed count was made of the number of times the teacher mentioned each target word, which was considered the input for the whole group. Additionally, the number of times students produced these same words was recorded. However, what constituted the output for some students who said it must simultaneously be considered as the input for the remaining students of the class, since the peers received exposure when classmates used the target vocabulary. This exercise allowed

me to understand how often repetition was necessary for them to retrieve the new vocabulary taught.

Considering that the sessions were held every three days, the analysis indicates greater retention of the words used across all classes within each cycle, particularly the names of animals. For instance, Appendices 21 and 22, show that the words most frequently repeated in the input section were also those with the highest level of recall in the output section. This finding aligns with Richards and Renandya's (2002) vocabulary acquisition principle regarding the importance of repetition, because not only the times vocabulary is presented matters, but also how spaced activities demand remembering and using the target words. Words that appeared frequently in a single lesson were not remembered, even if the number of times students heard them was high, as those that were presented consistently across the entire cycle, even when the per-lesson input was lower. Consequently, spaced intervals facilitated more effective retention and use of the target vocabulary, as well as the kind of activities that demand the use of new vocabulary engagingly for learners.

Notably, the first lesson of the cycles had a greater input, and throughout the cycles, priority was given to repetition exercises with different engaged activities in which the students were the protagonists and made an effort to remember. On the one hand, in one of these activities, where students had to find Amazon rainforest animals hidden in a rainforest representation using a magnifier (see Appendix 14), most of the class participated as the teacher moved the magnifier to discover the animals, and the children recognized and remembered their names, as the following fragments 22 and 23 illustrate:

**SS:** Up. Up. Stop teacher!  
**TS:** So, one more... We have there an animal.  
**SS:** Three animals!  
**TS:** We have three animals.  
**S10:** One, two, and three.  
**TS:** What is that?  
**S6:** Es una ant.  
**TS:** So, turn the image. The ant! What is this?  
**SS:** Ant! Ant!

#### Fragment 22. Session 2, cycle 2

**TS:** We have, for example, this animal. What's this?  
**SS:** Snake!  
**TS:** And what is its name?  
**SS:** Anaconda!  
**TS:** Okay, so, we are going to continue with this very, very little animal...  
**SS:** Ant!

#### Fragment 23. Session 2, cycle 2

In fragment 22, the students not only recognize the animal, but point out that there is no "an animal" as pointed out by the teacher, but that there are three animals. In this case, first recognize the name of the animal by raising the flashcard, which is the graphic representation of the animal and its name. Then we repeat the name of the animal to confirm its name. In fragment 23, students first mention the generic name of the animal "snake", but to the question of "what is its name?" remember that this animal has a specific name "anaconda". In addition to this, the use of L2 throughout the activity should be highlighted, because the activity was novel for students, their commitment and trying to understand everything the teacher said to develop the activity were key to making this activity immersive and meaningful for students. In this exercise, the students also had to collaborate to instruct the teacher to move the magnifying glass until she found a hidden animal. And at the same time, they should be attentive to the person who had the flashcard of each animal so that they could raise it and be able to say together the name of the animal to continue discovering animals with the magnifying glass.

The collaborative engagement and the meaningful use of the target language within a contextualized repetition activity were essential to develop what Mekheimer (2025) stated as useful elements to improve the vocabulary sub-skills of learners, especially that related to sentence formation, where, through complete English sentences and questions, students replied successfully, making use of the target vocabulary as in fragment 22 when a question made them retrieve from a generic animal name to its specific one. And the use of L2 became crucial to develop the activity, making it meaningful and useful for both students' instructions to the teacher and to retrieve the rainforest animals' names.

Apart from contextualized, interactive, and learner-centred repetition activities, the teacher needed to perform small cues to help students remember correctly, such as in fragment 24, when students recall the expected word with the help of the teacher, who just pronounced the first sound of the animal name.

**TS:** Yes. What is this animal?  
**S13:** Hormigas. Estas son hormigas también.  
**TS:** In English? A...  
**SS:** Ant!

#### Fragment 24. Interview cycle 2

Something similar happened with those names that were composed of more than one word. In that case, the teacher chose to use strategies such as associating some visible physical characteristics with the name of the animal (as was illustrated in fragment 2) and pronouncing the first word to help students retrieve the name of the animals during the practice sessions. For instance:

**TS:** This one.  
**SS:** Toucan!  
**TS:** And this? What is the name? Red...  
**S18:** Red macaw.

#### Fragment 25. First lesson, cycle 3 (appendix 21)

**SS:** Stop teacher.  
**TS:** What is this?  
**S18:** Spectacled...  
**TS:** What is it?  
**SS:** Spectacled bear!

#### Fragment 26. Second lesson, cycle 3

This was the case until, as shown in Appendices 21 and 22, the students were able to demonstrate a better recall of these names so that their output was superior to the input needed for such an interview. However, some words were more complicated to remember, even with the techniques mentioned above, as in fragment 27, where the students were much more aware of the word "snake", which had also been used in the previous cycle, and as it shares the same sound with the expected word "sloth". Appendices 21 and 22 show that this word had greater or equal input than output, that is to say that no matter how much it was demanded or repeated by the teacher, a meaningful connection and recall could not be established easily.

**S17:** Oso perezoso  
**TS:** ¿Ese cómo se llamaba in English?  
**S13:** S...  
**SS:** Snake  
**S:** S-l-o-t-h  
**SS:** Sloth  
**TS:** ¿Y cuál más?  
**S4:** Y el último...  
**S17:** Y hormiguitas.

#### Fragment 27. Interview cycle 2

This indicates that the words with the highest recall are those most frequently used during class. On the contrary, as Appendices 21 and 22 show, there were some words, such as some natural elements or verbs, that were introduced in a session, but I did not focus a lot on them in the next lessons, so the repetition was not enough for a wide internalization. Employing them across varied contexts and incorporating them into participatory activities

that require students to retrieve the target vocabulary supports not only retention but also initial productive use. As the following subcategory illustrates, students begin to use these words in contextually appropriate and coherent ways.

### *Using new nature-based words*

During the cycles, the students were able not only to identify and repeat new vocabulary, but to be as familiar as encouraged with the target vocabulary, so that they started to include English words in their Spanish sentences to describe images, and talk about experiences, perceptions, feelings, and reflections around the animals of the different ecosystems studied. In their attempt to use the new words, they realized when a word was not really well-pronounced, and they corrected themselves until the teacher or another partner confirmed they said the word correctly, as shown in fragment 28, where students were describing an image of the African jungle (see appendix 8)

**S4:** Y la diferencia con este es que este tiene más ramas,  
todo está atrás, y todo lo demás está acá como lastimado.  
**TS:** Lastimado. ¿Qué está lastimado aquí?  
**S4:** Acá y esto es para nosotros lastimarnos.  
Y estos son muchos árboles, pero están al fondo. Este es raro.  
**S12:** Esa es diferente, profe.  
**TS:** Sí, lo cambié. ¿Qué tiene este?  
**S12:** Elefants.  
**S4:** Rivers, trivers... digo, trees.  
**TS:** Trees!

### Fragment 28. Interview cycle 1

In this case, when I asked them for the elements of that image, they mentioned elements like the animals they observed, and natural elements we have involved in the activities of previous sessions. Even though the word list proposed could be considered low-frequency, it became a list of high-frequency words because they use it to express different ideas. Due to the data collected, it can be identified how a wide range of uses of

language was addressed in this research: informative, expressive and directional use, as proposed by Schmitt and McCarthy (2008).

For informative use of the language, both in fragments 28 and 29, students show an informative use of L2 to describe an image. However, in fragments 29, 30, and 31, students introduced new English vocabulary in their Spanish sentences to express facts, hypotheses, and arguments that are directly connected to non-isolated vocabulary learning, because they found it useful to express ideas in activities when they felt engaged. When students use L2 to inform about animals, the elements of their ecosystem, and the relationship among them, they demonstrate an ease in recognizing immediate and further ecosystems employing the target language naturally to talk about them.

On another occasion, students found it pertinent to use these new nature-based words to tell me about a recent experience they had in a zoo (see fragment 32).

**S13:** Hay poquita agua.  
**TS:** Hay poquita water.  
**S7:** Como que se secó.  
**TS:** Como que se secó nuestro river.  
**S7:** Sí.  
**TS:** ¿Cuál imagen les gusta más?  
**SS:** ¡Esta!  
**TS:** ¿Por qué, por qué les gusta más?  
**S19:** Porque tiene un river muy bonito.  
**S9:** Sí, tiene un río.

#### Fragment 29. Fourth lesson, cycle 1

**TS:** ¿Y se acuerdan cuáles de estos había, por ejemplo, el frog?  
**S18:** El frog come animales.

#### Fragment 30. Interview cycle 2

**TS:** ¿Y cuáles animales? De estos rainforest animals, ¿cuáles quedarían sin casa?  
**S11:** El tucán, el sloth, el red macaw y la anaconda no podría cazar al ocelot.

### Fragment 31. Interview cycle 2

**S6:** Profe, mira que cuando fuimos con la profe a un zoológico del Jaime Duque, fuimos al zoológico y vimos un ocelot.

**TS:** ¿Vieron un ocelot?

**S:** Y también jaguar.

**TS:** ¿Y también a jaguar?

**S:** Y también vimos una anaconda verde gigantesca.

### Fragment 32. Interview cycle 3

This was a significant event, because students did not reply to a question from the teacher, but they used the new words to tell me their experience and connected it with what they learned recently in English class. In other words, students just use their previous knowledge to name rainforest animals spontaneously to talk about what they lived and saw in the zoo. It illustrates how familiar the target vocabulary became for them, especially related to an ecosystem they felt much closer to than the African one. So, students used the nature-based vocabulary to express their own ideas without the need for an activity where they should perform a specific task or where the focus is on contextualized repetition.

Nevertheless, the result presented above was not accidental. Throughout the sessions and since the first cycle, pedagogical strategies were implemented to encourage students to recall and use the target vocabulary. For instance, when students expressed an idea completely in Spanish, the teacher asked them what they wanted to say to recall the corresponding target word they previously learnt in English, thereby encouraging learners to integrate it into their speech. In other cases, the teacher scaffolded learners' production by repeating students' answers while omitting a key target word or by inserting prompts such as "¿qué?" to invite students to complete the sentence using the nature-based vocabulary, as it is illustrated in fragments 33 and 34.

**TS:** Okay, this image. Good or bad? Good or bad?  
**Some SS:** Good!  
**Some SS:** Bad!  
**TS:** ¿Quién dice good? ¿Quién dice bad?  
**Some SS:** Bad. Bad. Bad.  
**TS:** Why bad? Why bad?  
**S11:** Porque está botando la basura al mar.  
**TS:** Al mar o al...  
**Some SS:** River!  
**TS:** Al river, ¿cierto?  
**S7:** Y en el river hay pececitos, animales, tiburones, patos...

#### Fragment 33. Fourth lesson, cycle 1

**TS:** Listo, ¿qué conocen de la Amazonía? Raise your hand.  
**S13:** Que hay muchos árboles.  
**TS:** Hay muchos...  
**SS:** Trees. Trees.  
**TS:** Hay muchos trees. What else?  
**S11:** Hay muchos animales.  
**TS:** ¿Hay muchos que?  
**SS:** ¡Animals!

#### Fragment 34. First lesson, cycle 2

At first, it did not appear as an immediate response, but with the passage of classes, students began to understand the importance of using these words to be able to express their ideas, but they did not limit their interventions to the informative use of L2. They started to communicate their emotions and connect with others on an emotional level. This aligns with what Schmitt and McCarty (2008) presented as the expressive use of the language, and one of the most relevant emotions they express through their Spanish-English sentences was empathy, empathy with animals and their habitat, like in fragment 33, where students not only defined good or bad human actions for animals (appendix 12), but they justify the possible consequences related to “el river” is the home of different species they appreciate and recognize. As well as when students defined the importance of the body parts of the African jungle animals (fragment 35), they not only recognized the body parts of the animals, but also they built together the answer through contributions that reflect the

relationship they established between previous knowledge animals such as cat when they said “y no podrían ver alrededor”, and important actions for beings when they said “no se podrían comunicar”, using a verb.

**TS:** Si no tuvieran ¿qué? M...

**Some SS:** Mouth!

**S6:** Si no tuvieran mouth, los bigotes son una parte de la boca y no podrían ver alrededor.

**TS:** Esto les ayuda a saber where they are. Exactly.

**S17:** Si no tuvieran la nose...

**TS:** The nose? M...

**Some SS:** The mouth!

**S17:** Si no tuvieran la mouth no se podrían comunicar.

#### Fragment 35. Second lesson, cycle 1

Finally, in terms of the directive use of language (Schmitt and McCarthy, 2008), the students managed to structure different reflections during the pedagogical proposal that can have an impact on the individual actions of the students, understanding them as actions that had collective repercussions. This process was mediated by questions in which English and Spanish were used; however, students used Spanish to answer, instead of some English words, as evidenced in the previous category.

## Chapter 6. Conclusion

This study investigated the pedagogical potential of integrating nature-based vocabulary instruction in preschool EFL contexts to foster environmental awareness. The research emerged from an observed disconnection between the environmental themes embedded in curricular materials and the limited integration of these themes in classroom practice, where English instruction was predominantly mechanical and decontextualized. That is why this study aimed to examine how nature-based vocabulary teaching could contribute to the development of environmental awareness in preschool English students.

The findings of this action research study demonstrated that nature-based vocabulary instruction positively influenced both preschoolers' vocabulary learning and their emerging environmental awareness. Thematic analysis allowed the interrelationship between Vocabulary learning and Environmental awareness development, with additional integrative insights into the holistic impact of nature-based instruction on early learning.

Regarding the specific objective of developing environmental awareness through nature-based vocabulary instruction, the analysis revealed that students progressively recognized immediate and distant ecosystems, identified relationships among their components, and reflected on environmental issues. As discussed above, learners moved from naming isolated elements of ecosystems to understanding interdependence among their living and non-living organisms, and to expressing concern about environmental degradation and extinction. This progression indicates that nature-based vocabulary acted as a conceptual scaffold, enabling children to construct increasingly complex environmental understandings and to articulate ethical stances toward environmental care. This aligns with Schmitt and McCarthy's (2008) principle of representativeness in vocabulary learning, in which low-frequency words must be meaningful enough to stimulate curiosity and reflexive thought.

Furthermore, concerning the specific objective of examining how integrating nature-based content in English instruction promotes vocabulary learning, the results showed that contextualized vocabulary instruction facilitated comprehension, retention, and productive use of target words. As noted previously, learners demonstrated understanding through visual scaffolding, prior knowledge activation, and contextual inference. Repetition distributed across cycles promoted stronger lexical retention, confirming Richards and Renandya's (2008) proposal that spaced exposure and meaningful practice are crucial for

vocabulary instruction. Additionally, as evidenced in the data analysis chapter, students produced cross-linguistic sentences creatively in informative, expressive, and directive functions to describe ecosystems, express empathy, and propose actions to protect Nature.

This study contributes to foreign language pedagogy by providing evidence that vocabulary instruction can function as a dual pathway for linguistic and conceptual development in early learners. The findings extend existing vocabulary acquisition theories (Richards & Renandya; Nunan; Schmitt & McCarthy) by showing that lexical learning in preschool contexts is enhanced when words are embedded in meaningful, socially situated, and emotionally engaging content. Moreover, the study contributes to environmental education research by demonstrating that children can engage with abstract environmental concepts such as interdependence, global ecosystems, and human responsibility when these ideas are mediated through age-appropriate vocabulary and interactive pedagogy in EFL.

### **Challenges and limitations**

Despite these findings that address the research question and objectives, several challenges arose during pedagogical practice. First of all, one of the challenges that influenced pedagogical planning and implementation was related to the schedule assigned to the English class, as some sessions took place during the first hour of the day, while others were held after lunch. At both times, the students needed activities that required them to move, participate, practise their mental agility, and keep their attention. Therefore, the different activities developed were thought from an innovative approach that allowed students to maintain their interest, stimulate their surprise, and at the same time, be in contact with the target vocabulary for as long as possible.

Regarding the pedagogical implementation, some activities took longer than expected and had to be continued in the next session, especially those in which students were allowed greater involvement in expressing their perspectives, thoughts, and concerns. Additionally, it was shown that other classrooms, such as the outdoor classroom, can be promoted; however, many external factors, as well as group characteristics, must be taken into consideration, because the activities proposed for such a space may not generate the desired resonance, as occurred in one of the sessions of the second cycle. This challenge, rather than causing trouble, indicated which activities keep students' attention and participation, and I had to consider that these activities might require more time in pedagogical planning or in thinking strategies to develop them appropriately during pedagogical implementation.

However, activities in which students worked in groups of more than 3 were identified as less effective and changed by collective and one-on-one activities, which proved much more beneficial for class learning, concentration, and interest in the topic. Even so, differences were observed among students in their participation frequency, degree of understanding, and use of vocabulary. These differences stemmed from factors such as non-attendance or absence due to various circumstances, as well as from students' dispositions in each class.

In addition to the pedagogical challenges mentioned above, some research limitations were identified. On the one hand, since this study was only developed with a course at this academic level, it is necessary to implement what was proposed in this study with more students from diverse contexts to reach widely perspective of this pedagogical proposal. On the other hand, the implementation time was sufficient to carry out the three cycles proposed and collect the data. It is important to consider that further studies in each

of them could be equally beneficial for observing more closely the development of both linguistic and environmental awareness in students.

Regarding data collection, some limitations were observed in the audio quality of certain recordings due to factors such as environmental noise. In voluntary participation activities, students often spoke simultaneously, which sometimes interrupted the clarity of individual words. Additionally, when activities were conducted in the outdoor classroom, obtaining accurate recordings of students' interventions proved more challenging.

### **Pedagogical recommendations**

Based on the findings of this study, it is recommended that early childhood EFL instruction move beyond decontextualized and mechanical practices toward the integration of meaningful approaches such as nature-based vocabulary instruction. Teachers should intentionally design learning experiences that connect language development with learners' immediate and global environments, using interactive multimodal resources and collaborative activities to scaffold comprehension and engagement. Additionally, vocabulary should be introduced through contextualized and repeated exposure across cycles to promote deeper retention and meaningful use. Pedagogical practices should also allow space for learners' voices by incorporating activities that encourage reflection, opinion exchange, and personal connections with the content, thereby fostering both linguistic development and environmental awareness. Furthermore, teachers are encouraged to adopt flexible classroom management strategies that respond to students' attention spans, participation patterns, and contextual conditions, such as schedule variations and learning environments. Finally, integrating environmental education into EFL curricula from early stages can contribute to the formation of environmentally responsible attitudes, positioning

language classrooms as key spaces for the development of both communicative competence and sustainable worldviews.

### **Further studies**

These limitations call upon other researchers to develop new research, taking into account the methodologies presented in this study, and implementing them in other degrees by adapting them, and including as many data collection instruments as necessary to contrast the initial and the final period of the research. For future studies that aim for an interdisciplinary approach between language teaching-learning and the development of environmental awareness, it is necessary to observe not only the group interests related to this topic, but also to understand the natural context closest to students to start working from it. Additionally, the promotion of collaborative learning and a scaffolding approach in the vocabulary learning process is pertinent to stimulate both individual and collective reflexive thinking in students, regardless of their stage of development.

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## Appendix 1. Kindergarten survey



Encuesta estudiantes Jardín 2



*Holla! I am teacher Sana. Quiérase conoente, oáber qué te gusta y qué te hace feliz.*

*¡Ayúdame respondiendo estas preguntas!*

1. ¿Cuántos años tienes? Escríbela en un ☐ la respuesta correcta

  
**2**

  
**3**

  
**4**

  
**5**

  
**6**

2. ¿Cuál es tu clase favorita en el colegio?

3. ¿Qué actividades te gusta hacer en tu clase favorita?

4. ¿Qué tan divertido es aprender inglés para ti? Escríbela en un ☐ la carita que corresponda

  
 No me divierte

  
 Poco

  
 Mucho

  
 Muy divertido

6. ¿Cómo te gusta aprender inglés? Colorea solo 2 opciones

- ☐ Con dibujos
- ☐ Con canciones
- ☐ Con videos
- ☐ Explorando los lugares que te gustan
- ☐ Con cuentos

7. ¿Qué tanto te gustan los lugares con Naturaleza? Escríbela en un ☐ la carita que corresponda

  
 No me divierte

  
 Poco

  
 Mucho

  
 Muy divertido

8. ¿Qué elemento de la Naturaleza te gusta más? Escríbela en un ☐ solo!

  
 Tierra

  
 Aire

  
 Fuego

  
 Agua

9. Si pudiéramos ser un animal, ¿qué animal serías?

10. ¿Por qué te gusta este animal? Elige 2 opciones

- ☐ Por los colores que tiene
- ☐ Por la comida que le gusta
- ☐ Por el lugar donde vive
- ☐ Otro: \_\_\_\_\_

11. ¿Qué quisieras saber sobre tu animal favorito?

- ☐ Qué puede comer
- ☐ Qué no puede comer
- ☐ Por qué enferma
- ☐ Qué puede hacer para que viva más tiempo
- ☐ Qué habilidades o superpoderes tiene

## Appendix 2. Sample of Field Diary – Observation

| School: Instituto Pedagógico Nacional |                    |          |                                                      | Population: kindergarten students                                                                                             |                                                                                                       |                       |                                               |
|---------------------------------------|--------------------|----------|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------------------|
| Date                                  | Stage of the class | Activity | Distribution of students in the classroom            | How the instructions are given                                                                                                | Which are the doubts                                                                                  | What sources are used | Relationships established during the activity |
|                                       |                    |          | How the students are:<br><br>Where the students are: | Vocabulary<br><br>Fluency<br><br>Use of elements to explain<br><br>Repetition<br><br>Language<br><br>Non-verbal communication | What students understand<br><br>What students don't understand<br><br>What students do not understand |                       |                                               |

### Appendix 3. Sample of Field Diary – Implementation

| FIELD DIARY N° 3                                                                                                                                                                  |                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| <b>Research aim:</b> Discover the influence of vocabulary instruction based on Nature on pre- school English learner's awareness of the importance of caring for the environment. |                                         |
| <b>School:</b> Instituto Pedagógico Nacional<br><b>Grade:</b> Pre-school 2 <span style="float: right;"><b>Date:</b></span>                                                        |                                         |
| <b>Lesson learning goal:</b>                                                                                                                                                      |                                         |
| <b>Environment:</b>                                                                                                                                                               | <b>Spatial arrangement of students:</b> |
| <b>Activities</b><br>a.<br>b.<br>c.                                                                                                                                               | <b>Observations</b><br>a.<br>b.<br>c.   |
| New vocabulary introduced:                                                                                                                                                        |                                         |
| Revised vocabulary:                                                                                                                                                               |                                         |
| Reflection:                                                                                                                                                                       |                                         |

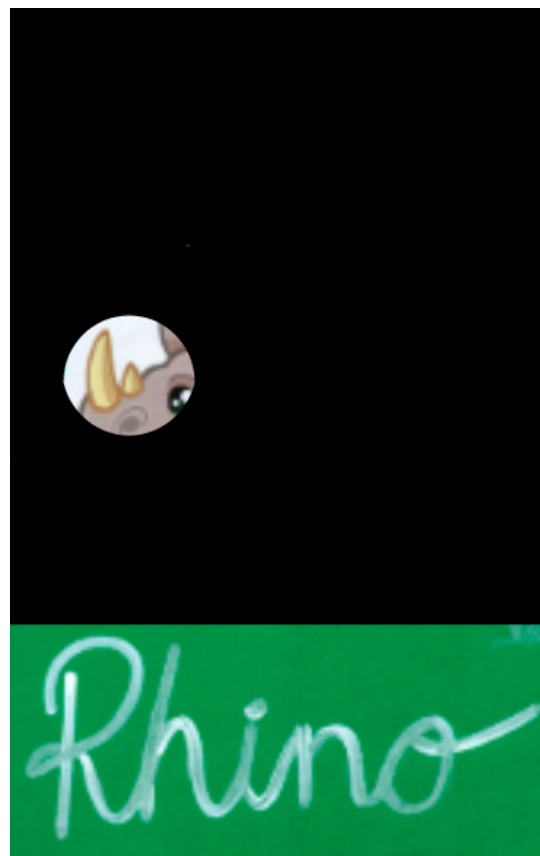
### Appendix 4. Interview questions of each cycle

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>INTERVIEW QUESTIONS</b></p> <p><b>CYCLE 1. AFRICAN JUNGLE</b></p> <ol style="list-style-type: none"> <li>1. ¿Cuál de las imágenes de African jungle les gusta más? ¿Por qué?</li> <li>2. ¿Qué podemos hacer para cuidar la African jungle?</li> <li>3. ¿Qué podemos hacer para cuidar a los animales?</li> </ol> <p><b>CYCLE 2. AMAZON RAINFOREST</b></p> <ol style="list-style-type: none"> <li>1. ¿Cuál es su animal favorito de Amazon rainforest?</li> <li>2. ¿Cuál de los Amazon rainforest animals recoge los residuos?</li> <li>3. ¿Cuál de esos animales ayuda a sembrar árboles?</li> <li>4. ¿Qué pasaría si los animales que siembran se extinguieran?</li> <li>5. ¿Y qué podemos hacer para cuidar a los animales que siembran?</li> </ol> <p><b>CYCLE 3. ANDEAN FOREST</b></p> <ol style="list-style-type: none"> <li>1. ¿Cómo se llaman los animales que vimos de Andean forest?</li> <li>2. ¿Dónde viven estos animales?</li> <li>3. ¿Cuál era el comportamiento de estos animales?</li> <li>4. ¿Qué acciones hacen estos animales?</li> <li>5. ¿Por qué creen que es importante cuidar los animales de Andean forest?</li> </ol> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Appendix 5. Sample of flashcards used in the first cycle**



**Appendix 6. Sample of flashcards first cycle**



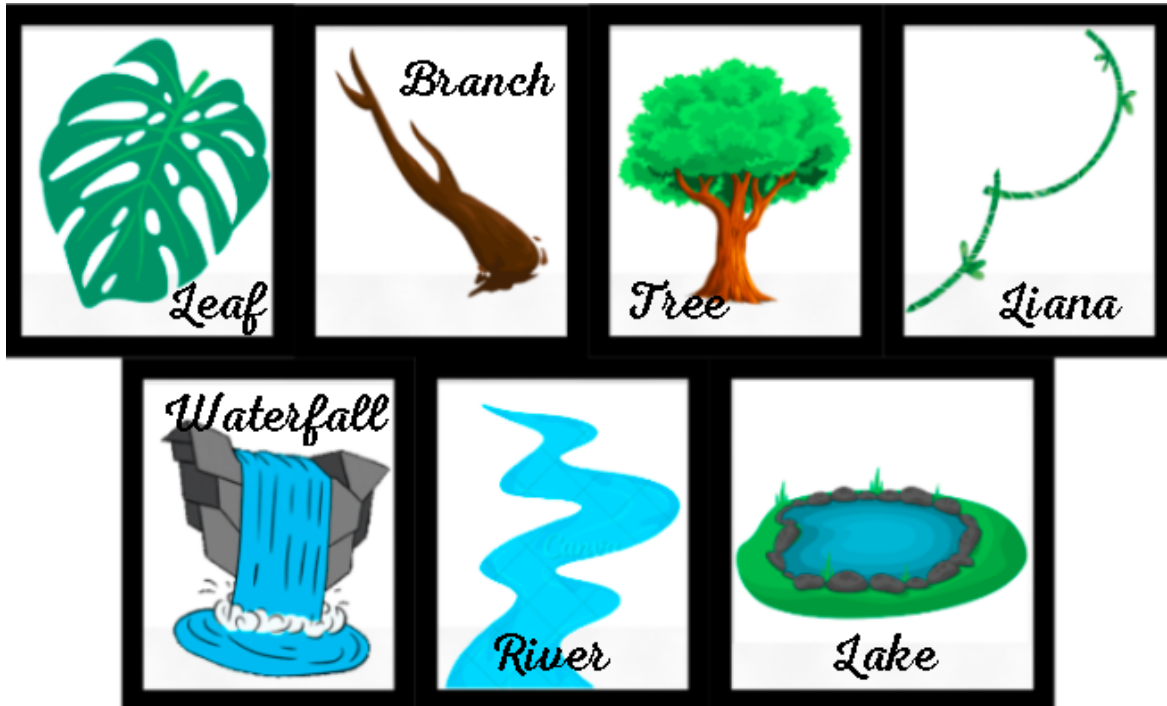
### **Appendix 7. The African Jungle in danger**



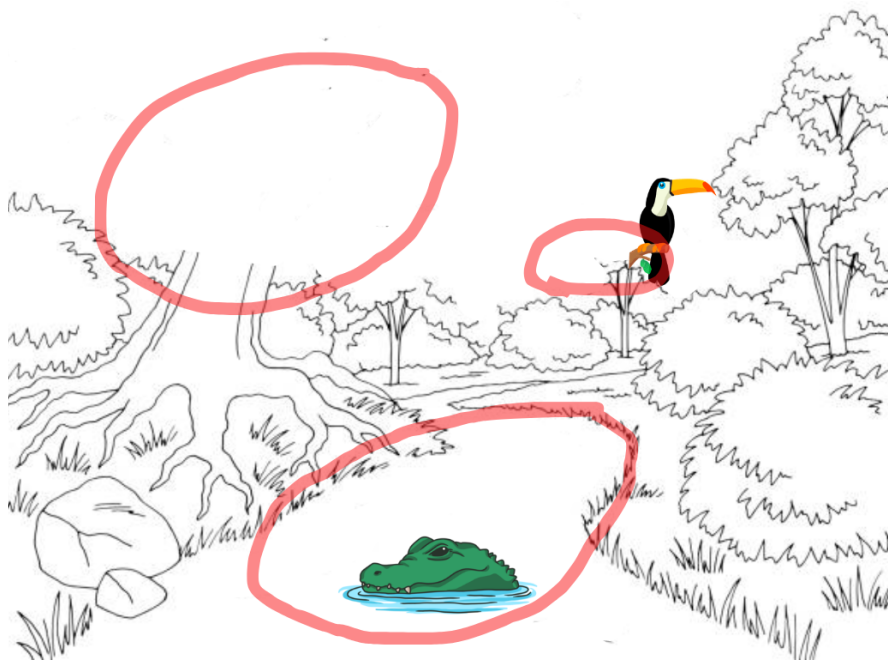
### **Appendix 8. The African Jungle in good conditions**



Appendix 9. Flashcards with the graphic representation and the name of natural elements



Appendix 10. A drawing of the jungle to complete





**Appendix 13. Sample of flashcards used in the second cycle**



**Appendix 14. Didactic material in cycle 2**



**Appendix 15. Relationship between Amazon rainforest animals and natural elements**

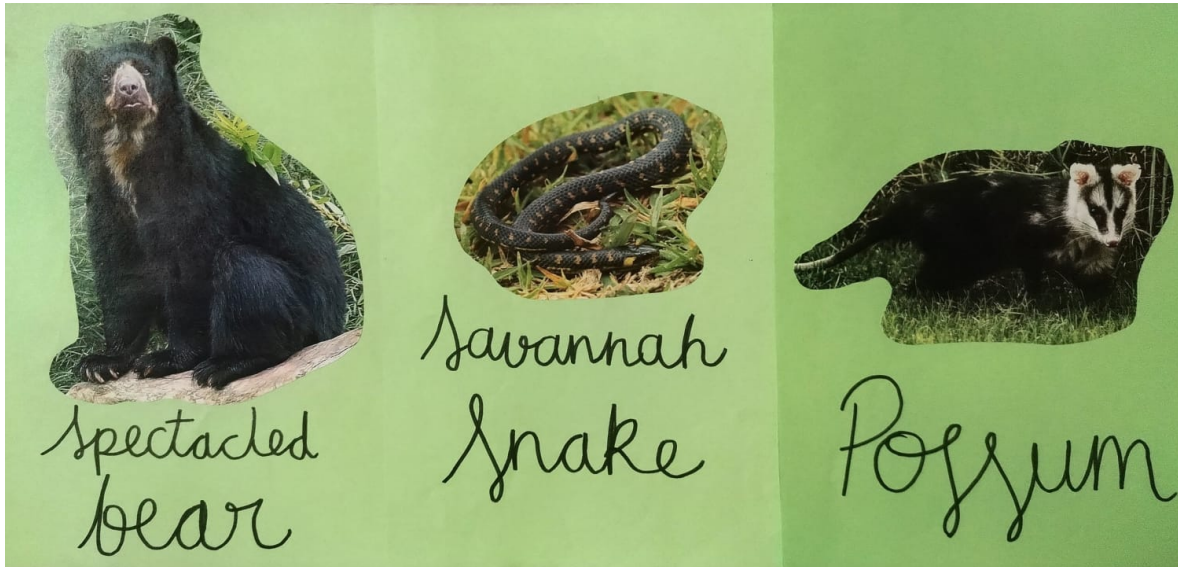
*Name:* \_\_\_\_\_

|                                                                                   |                       |                                                                                    |
|-----------------------------------------------------------------------------------|-----------------------|------------------------------------------------------------------------------------|
|  | <input type="radio"/> |  |
|  | <input type="radio"/> |  |
|  | <input type="radio"/> |  |
|  | <input type="radio"/> |  |
|  | <input type="radio"/> |  |
|  | <input type="radio"/> |                                                                                    |

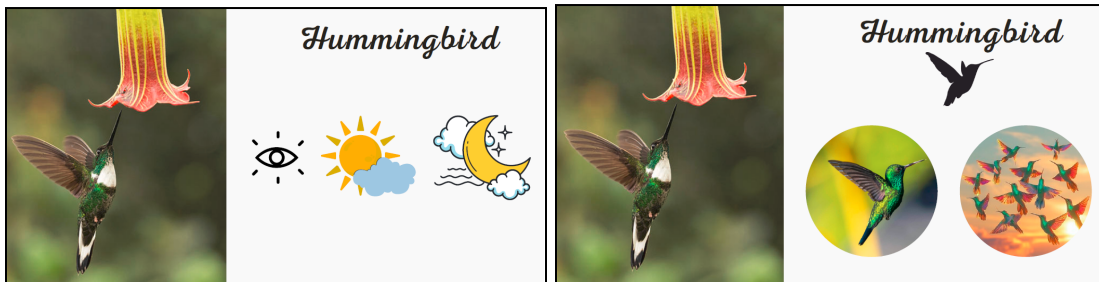
**Appendix 16. Image of Monserrate in Bogotá**



**Appendix 17. Sample of flashcards used in the third cycle**



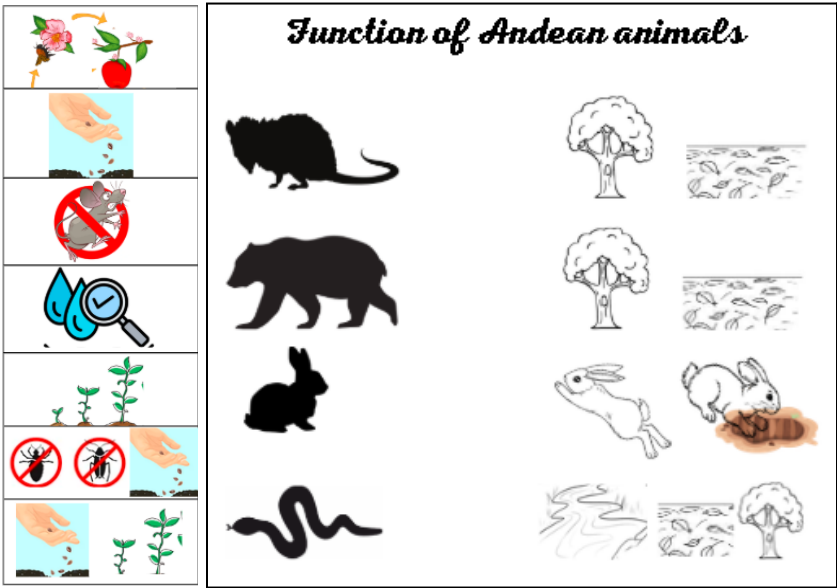
**Appendix 18. Sample of slides about Andean animals' behaviors**



**Appendix 19. Sample of couples of cards about animals' behaviors**



Appendix 20.Tasks and behavior of Andean Forest animals



## Appendix 21. Paced repeat count of the vocabulary of Cycle 2

|               |           | CYCLE 2 |    |    |            |
|---------------|-----------|---------|----|----|------------|
|               |           | L1      | L2 | L3 | INTERVIEWS |
| <b>INPUT</b>  | Jaguar    | 5       |    |    |            |
| <b>OUTPUT</b> | Jaguar    | 6       | 1  | 6  | 1          |
|               | Ant       | 4       |    | 4  |            |
|               | Ant       | 6       | 1  | 1  | 4          |
|               | Sloth     | 4       | 1  | 2  | 1          |
|               | Sloth     | 3       | 1  | 1  | 2          |
|               | Anaconda  | 3       | 1  | 2  |            |
|               | Anaconda  | 4       | 1  | 3  | 2          |
|               | Red macaw | 5       |    | 1  |            |
|               | Red macaw | 5       | 1  | 3  | 5          |
|               | Toucan    | 3       |    | 1  |            |
|               | Toucan    | 9       | 1  | 3  | 6          |
|               | Ocelot    | 7       | 1  | 1  | 1          |
|               | Ocelot    | 5       | 1  | 3  | 7          |
|               | Frog      | 3       |    | 1  |            |
|               | Frog      | 5       | 1  | 2  | 2          |
|               | Monkey    | 1       |    |    |            |
|               | Monkey    | 2       |    |    |            |
|               | Snake     | 1       |    |    |            |
|               | Snake     | 1       | 1  |    |            |
|               | Tiger     |         |    |    |            |
|               | Tiger     | 1       |    |    |            |
|               | Eat       |         |    | 1  |            |
|               | Eat       |         |    |    |            |
|               | Leaf      |         |    | 3  |            |
|               | Leaf      |         |    | 3  |            |
|               | Cacao     |         |    |    |            |
|               | Cacao     |         |    | 3  |            |
|               | Fruits    |         |    | 3  |            |
|               | Fruits    |         |    | 1  |            |
|               | Plant     |         |    |    | 1          |

## Appendix 22. Paced repeat count of the vocabulary of cycle 3

|                |   |   |   |
|----------------|---|---|---|
| Rabbit         | 4 | 2 | 5 |
| Deer           | 8 | 4 | 1 |
| Deer           | 7 | 2 | 1 |
| Possum         | 9 | 1 |   |
| Possum         | 6 | 2 | 6 |
| Glass frog     | 4 | 2 | 1 |
| Glass frog     | 2 | 1 | 4 |
| Savanna snake  | 5 | 3 |   |
| Savanna snake  | 4 | 3 | 4 |
| Spectacle bear | 8 | 2 | 2 |
| Spectacle bear | 5 | 4 | 3 |
| Hummingbird    | 5 | 4 | 1 |
| Hummingbird    | 3 | 6 | 4 |
| Flowers        | 5 |   | 1 |
| Flowers        |   |   |   |
| Tree           | 2 |   | 2 |
| Tree           |   | 1 |   |
| Morning        |   | 8 |   |
| Morning        |   |   |   |
| Night          |   | 8 |   |
| Night          |   | 2 |   |
| Sunshine       |   | 2 |   |
| Sunshine       |   | 1 |   |
| Water          |   | 1 | 1 |
| Water          |   | 2 |   |
| River          |   | 1 |   |
| River          |   |   |   |
| Solitary       |   | 1 | 1 |
| Solitary       |   |   | 2 |
| Group          |   | 1 | 1 |
| Group          |   |   |   |
| Insects        |   |   | 1 |
| Insects        |   |   |   |

### Appendix 23. Slide of Amazon rainforest animals



### Appendix 24. World map with animals employed in cycle 2



## Appendix 25. Sample of the preliminary chart of thematic analysis

| INITIAL CATEGORIES                                              | Extracts from transcripts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Codes                                                                                                                                                                                  |
|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Learning and Use of Nature-Based Vocabulary                     | <p><b>TS:</b> In English. A...</p> <p><b>SS:</b> Ant!</p> <p>(taken from Cycle 2 Interview group 4)</p> <p><b>TS:</b> ¿Es te cómo se llaman? Red...</p> <p><b>SS:</b> Red macaw.</p> <p>(taken from Cycle 3 lesson 1)</p> <p><b>TS:</b> And this? What about this? Spectacle...</p> <p><b>SS:</b> Bear.</p> <p><b>TS:</b> Spectacle bear</p> <p>(taken from Cycle 3 lesson 2)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Phonological cues supporting vocabulary recall                                                                                                                                         |
|                                                                 | <p><b>TS:</b> Ok, so we are going to check the names, ok? I'm going to put the glass.</p> <p><b>S15:</b> Yo, yo, yo!</p> <p><b>TS:</b> I'm going to put the glass.</p> <p><b>S15:</b> Aaaah.</p> <p>(taken from Cycle 2, lesson 2)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Repetition facilitates sentence comprehension<br>Comprehension of L2 without L1 translation                                                                                            |
|                                                                 | <p><b>TS:</b> O sea que ellos ayudan a recoger como el trash, ¿cierto?</p> <p><b>S5:</b> La basura.</p> <p>(taken from Cycle 2 Interview group 1)</p> <p><b>TS:</b> ¿Y cómo haríamos para que estos animales siguan viviendo?</p> <p><b>S4:</b> Proteger el planeta.</p> <p><b>TS:</b> ¿Y cómo podemos proteger el planeta?</p> <p><b>S4:</b> Sin cortar los árboles y no botar la basura.</p> <p><b>TS:</b> Ok, yes, what else?</p> <p><b>S13:</b> También... no arrancar flores ni plantas, nada de eso.</p> <p>(taken from Cycle 2 Interview group 2)</p>                                                                                                                                                                                                                                                                                                                       | Cross-linguistic sentence comprehension                                                                                                                                                |
| Development of Environmental Awareness in the English Classroom | <p><b>TS:</b> ¿Listo? ¿Y qué pasaría si estos animales disappear?</p> <p><b>S11:</b> ¿Desaparecen? ¿Qué pasaría?</p> <p><b>TS:</b> No habría plantas, los humanos nos moriríamos.</p> <p><b>TS:</b> ¿Por qué nos moriríamos?</p> <p><b>S11:</b> Porque los árboles y las plantas nos dan oxígeno</p> <p>(taken from Cycle 2 Interview group 4)</p> <p><b>TS:</b> ¿Y por qué no tálamos los árboles? ¿Por qué no deberíamos talar los árboles?</p> <p><b>S11:</b> Porque sino, no tenemos oxígeno y además los animales se quedan sin casa.</p> <p>(taken from Cycle 2 Interview group 4)</p> <p><b>TS:</b> What about this?</p> <p><b>S17:</b> Frogfrog.</p> <p><b>TS:</b> Frog. ¿Qué nos dice el frog?</p> <p><b>S18:</b> Que nos cuida el agua.</p> <p><b>TS:</b> Y sabemos si el agua está...</p> <p><b>S18:</b> Bien o mal.</p> <p>(taken from Cycle 3, interview group 2)</p> | Emerging global environmental discourse<br>The students show that animal welfare and life depend on "the planet".<br>Human-nature interconnectedness<br>Ecological benefits of animals |
| Language as a mediation of environmental awareness              | <p><b>TS:</b> Take care of the water. ¿Quién puede hacer esto? ¿Se acuerdan?</p> <p><b>SS:</b> Sí, ya sé.</p> <p><b>S4:</b> ¿Cómo se llama? El toucan.</p> <p><b>S11:</b> Red macaw.</p> <p><b>S16:</b> Possum. Possum. Rabbits. Rabbits.</p> <p>(taken from Cycle 3, interview group 1)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Recognizing animals' performance for keeping their ecosystem alive                                                                                                                     |
|                                                                 | <p><b>S6:</b> Profe, mira que cuando fuimos con la profe a un zoológico del Jaime Duque, fuimos al zoológico y vimos un ocelot.</p> <p><b>TS:</b> ¿Vieron un ocelot?</p> <p><b>S11:</b> Y también jaguar.</p> <p><b>TS:</b> ¿Y también a jaguar?</p> <p><b>S14:</b> Y también vimos una anaconda verde gigantesco.</p> <p>(taken from cycle 2, lesson 4)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Using nature-based vocabulary for sharing experiences<br>Cross-linguistic pronunciation patterns<br>Cross-linguistic sentence production                                               |

## Appendix 26. Sample of the ultimate chart of thematic analysis

| FINAL CATEGORIES                       | Subcategories                                | Extracts from transcripts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Codes                                                                                                                                                                                                                                                                                         |
|----------------------------------------|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Development of environmental awareness | Recognizing immediate and further ecosystems | <p><b>TS:</b> Where are the animals of the jungle? ¿En qué parte, in the image?<br/> <b>S6:</b> En África.<br/> <b>TS:</b> ¿Y dónde está África?<br/> <b>S6:</b> En la cosa amarilla.<br/> (taken from Cycle 2, lesson 1)</p> <p><b>S13:</b> Amazonas.<br/> <b>TS:</b> The Amazonas!<br/> <b>S13:</b> ¿Así grande es el Amazonas?<br/> <b>TS:</b> Y Bogotá queda por acá.<br/> <b>S6:</b> Ah, está cerca, está cerca!<br/> (taken from Cycle 3, lesson 1)</p> <p><b>TS:</b> ¿Y en dónde encuentran todos estos animales?<br/> <b>S4:</b> En las montañas.<br/> <b>TS:</b> ¿En cuáles montañas?<br/> <b>S5:</b> En las frías.<br/> <b>TS:</b> ¿Y dónde quedan esas montañas frías?<br/> <b>S4:</b> En los cerros. En los cerros.<br/> <b>TS:</b> ¿Y desde el cole? podemos ver los cerros? ¿Los Easter Hills?<br/> <b>S4:</b> No.<br/> <b>TS:</b> Yo los puedo ver.<br/> <b>S4:</b> Digo, yes, pero no desde acá.<br/> <b>TS:</b> Ah, desde aquí dónde estamos, no, pero afuera?<br/> <b>S11:</b> Yes.<br/> (taken from Cycle 3, interview)</p> <p><b>TS:</b> What animal did you see in the video?<br/> <b>S1:</b> A tiger.</p>                                                                                                                                                    | <p><i>Recognizing animals' performance for keeping their ecosystem alive</i></p> <p><i>Students recognize that some ecosystems have considerable proximity to where they are.</i></p>                                                                                                         |
| Vocabulary learning                    | Understanding meaning by context             | <p><b>TS:</b> But most of the body parts of the animal are red.<br/> ¿La mayoría del animal es de qué color?<br/> <b>S5:</b> Red.<br/> <b>TS:</b> So, we are going to call this one: Red Macaw.<br/> (taken from Cycle 2, lesson 2)</p> <p><b>TS:</b> These are mountains.<br/> <b>S5:</b> Ah, las montañas.<br/> <b>TS:</b> The mountains that we can see, right? The eastern hills.<br/> Do you know this? (see index 2)<br/> <b>S5:</b> ¡Ay, yo fui allí!<br/> <b>TS:</b> What is this? ¿Cómo se llama?<br/> <b>S5:</b> Monserate.<br/> <b>TS:</b> ¿Y en dónde queda Monserate? ¿Encima de qué?<br/> <b>S5:</b> En las montañas.<br/> <b>TS:</b> On the mountains, cierto?<br/> <b>S4:</b> Y desde Monserate se puede ver eso.<br/> <b>TS:</b> Sí, desde Monserate se puede ver otra iglesia que se llama Guadalupe.<br/> ¿Y en dónde queda, encima de qué?<br/> Some S5: De las mountains.<br/> (taken from Cycle 3, lesson 1)</p> <p><b>TS:</b> Yes ¿Quién nos ayuda a plantar?<br/> <b>S18:</b> El<br/> <b>TS:</b> Spectacle bear. And what else?<br/> <b>S18:</b> Hummingbird.<br/> <b>TS:</b> No.<br/> <b>S1:</b> Savanna snake.<br/> <b>TS:</b> Savanna snake, yes. What about the insects? Now insects.<br/> <b>S18:</b> Hummingbird.<br/> <b>S17:</b> ¿No insectos?</p> | <p><i>Cross-linguistic pronunciation patterns</i></p> <p><i>Cross-linguistic sentence comprehension</i></p> <p><i>Comprehension of L2 without L1 translation</i></p> <p><i>Repetition facilitates sentence comprehension</i></p> <p><i>Phonological cues supporting vocabulary recall</i></p> |