

UNIVERSIDAD TÉCNICA DE AMBATO

FACULTAD DE CIENCIAS HUMANAS Y DE LA EDUCACIÓN

CARRERA DE PEDAGOGÍA DE LOS IDIOMAS NACIONALES Y EXTRANJEROS

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NATURE PEDAGOGY AND SPEAKING SKILLS

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DEDICATION

TO:

God for his infinite grace, love and wisdom. Throughout this process he has been my constant guide giving me the strength to overcome every obstacle and make wise decisions.

My parents Mónica and Luis for always being my support, showing unconditional love and giving me the confidence to continue in every step I take.

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TOPIC: "NATURE PEDAGOGY AND SPEAKING SKILLS"

AUTHOR: Mónica Mishell Chicaiza Laica

TUROR: Lcda. Mg. Ruth Elizabeth Infante Paredes.

ABSTRACT

The main objective of this research was to determine the relationship between Nature Pedagogy and Speaking Skills in Pedagogía de los Idiomas Nacionales y Extranjeros major at Universidad Técnica de Ambato. This research work was quantitative and descriptive, with the participation of 33 students of the second semester of the major. A questionnaire of 20 questions was used as instrument and the survey as technique, divided into dimensions related to Nature Pedagogy such as sensoriality, eco-identity and eco-friendly materials and Speaking Skills with dimensions such as grammar and vocabulary, pronunciation and interactive communication. The reliability of the instrument was validated through Cronbach's alpha with a reliability of 0.804, while the validity was confirmed by a group of five experts through Aiken's V coefficient assigning scores between 0.87 and 1 in terms of relevance, pertinence and clarity. The data collected were analyzed using Pearson's correlation coefficient in the statistical package SPSS (Statistical Package for the Social Sciences), which determined the acceptance of the null hypothesis (H0). The results showed that no significant relationship was found between the variables. The Sensoriality dimension was the most implemented, while Eco-friendly materials had the least use. In the speaking skills dimensions, Interactive Communication was the most applied, while Pronunciation was the least worked. In conclusion, Nature Pedagogy offers important educational benefits; however, its direct relationship with speaking skills requires further strengthening in the educational context.

Key words: *Nature pedagogy, sensoriality, eco-identity, eco-friendly materials, speaking sub-skills.*

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AUTOR: Mónica Mishell Chicaiza Laica

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RESUMEN

La presente investigación tuvo como objetivo principal determinar la relación entre la Pedagogía de la Naturaleza y la Habilidad del Habla en la carrera de Pedagogía de los Idiomas Nacionales y Extranjeros de la Universidad Técnica de Ambato. Este trabajo de investigación fue de tipo cuantitativo y descriptivo, con la participación de 33 estudiantes del segundo semestre de la carrera. Se utilizó un cuestionario de 20 preguntas como instrumento y la encuesta como técnica, dividida en dimensiones relacionadas con la Pedagogía de la Naturaleza como sensorialidad, eco-identidad y materiales eco-amigables y la Habilidades del Habla con dimensiones como gramática y vocabulario, pronunciación y comunicación interactiva. La confiabilidad del instrumento se validó mediante el alfa de Cronbach con una confiabilidad de 0.804, mientras que la validez fue confirmada por un grupo de cinco expertos a través del coeficiente V de Aiken asignando puntajes entre 0.87 y 1 en términos de relevancia, pertinencia y claridad. Los datos recolectados fueron analizados utilizando el coeficiente de correlación de Pearson en el paquete estadístico SPSS (Statistical Package for the Social Sciences), que determinó la aceptación de la hipótesis nula (H0). Los resultados mostraron que, no se encontró relación significativa entre las variables. La dimensión Sensorialidad fue la más aplicada, mientras que materiales eco-amigables tuvo menor implementación. En las dimensiones de las Habilidad del habla, sobresalió la comunicación interactiva, siendo pronunciación la menos trabajada. En conclusión, la Pedagogía de la Naturaleza ofrece beneficios educativos importantes; no obstante, su relación directa con las habilidades de habla requiere un mayor fortalecimiento en el contexto educativo.

Palabras clave: *Pedagogía de la naturaleza, medio ambiente, sensorialidad, eco-identidad, materiales ecológicos, sub-habilidades del habla*

Chapter I. Theoretical Framework

1.1 Research Background

Throughout the research, a deep process of search and compilation of information through books and articles, both scientific and academic, has been developed to support the research called “Nature Pedagogy and Speaking Skills”. In addition, the information comes from official web pages, guarantee the credibility of the data and facilitate its correct citation in the development of the work.

Peralta et al. (2023) developed an investigation where the objective was to contribute to innovations in pedagogies for sustainable development through English classes. This study combined quantitative and qualitative methods where an educational intervention was designed that integrated topics on the natural and cultural heritage of Ecuador. The population included 23 participants: 9 instructors and 14 students between the ages of 12 and 48. To collect data, a Likert-type questionnaire was developed to measure students' motivation and a rubric to assess their listening comprehension skills. At the end of the study, the results showed significant changes in the students' motivation to practice English, although no improvements in listening skills were observed. It was concluded that there were no correlations between students' motivation and their listening skills.

The study conducted Bouchareb and Ghedir (2021) aimed to analyze how nature pedagogy improved oral language development in English language learning. An experimental design was used, with a mixed approach and descriptive level. The study included two experimental groups with native speakers who applied nature pedagogy tools and two control groups with teachers who used traditional methods. The results showed that the groups using nature pedagogy performed better than the traditional teaching groups in terms of communication and motivation as they had conversations in a manner closer to native speakers' use of the language. It was concluded that integrating nature pedagogy techniques significantly improved communication and student engagement compared to traditional methods.

The main objective of the study by Lien (2023) assessed whether nature learning improves students' oral proficiency and to find out their opinion about this methodology. The research used a qualitative and quantitative methodology, involving first year students of the Faculty of Foreign Languages at Dong Nai University of Technology, Vietnam and using surveys and oral proficiency tests. The findings revealed that the implementation of this methodology improved fluency and provided opportunities to practice the language which

created a positive learning environment. From the following study it was concluded that these practices fostered communication and facilitated more effective English language acquisition as well as increased students' motivation to learn the language.

Mendoza et al. (2024) conducted a study where the goal was to analyze how practices based on sustainable education can foster the development of oral expression skills in English among students of the San Daniel Comboni School, located in Esmeralda. A quantitative and qualitative design with a documentary and explanatory approach was used, the technique employed was the survey, using as an instrument a questionnaire applied to a sample of 46 students of the sixth year of Basic Education and 6 teachers of the institution. This study showed that teachers are interested in applying these tools and it was concluded that the sustainable education activities improved the students' oral skills in English, promoting a more natural communication and a greater environmental awareness.

Chistolini (2020) developed research where the objective was to explore how nature education can help train teachers to integrate sustainability in schools. This study focused on applying activities outside the classroom as an educational tool. Teachers and students from the "Meadow School" project, which promoted learning in natural spaces, were included. Observations of these activities were made and direct experiences with nature were analyzed, evaluating their effect on sustainable education and the development of active citizenship. The findings revealed that outdoor learning enhanced students' connection to the natural environment, boosted interest in sustainability, and renewed the current approach to education by integrating environmental observation into school curricula. It was concluded that the outdoors represents a key educational innovation, transforming conventional teaching and helping to reduce the economic and cultural deprivation of young people by providing a more enriching educational experience that links them to the natural world.

Boileau & O'Donoghue (2024) conducted a study where the main objective was to document student experiences focused on learning through nature and outdoor play to understand how these experiences could benefit the training of future educators. A qualitative study was developed, using phenomenology and case study approaches. In addition, data were collected by observing participants' meaningful statements detailing what the course meant to them from their final assignments and from the instructors' reflections on the students' experiences. The results highlighted the importance of providing diverse outdoor learning experiences and opportunities for reflection. The study concluded that integrating nature-based

learning into educator training was valuable, as it enriches their experience and prepares them to provide meaningful lessons to children.

Huang et al. (2022) investigated nature education with the aim of analyzing the perceptions and behaviors of the population towards nature and nature-related education. To conduct this research, a quantitative methodology was employed where online questionnaires and a random sampling technique were used. The results obtained from the study revealed that there is a positive disposition towards nature education as the majority of those who took the survey showed a significant interest in adopting sustainable practices. This finding highlighted a growing environmental awareness in their lives both in daily activities and the learning process. This suggests an openness to change which is important in promoting an ecological and sustainable lifestyle.

All of these previously developed studies were useful and important for this research as it exposes how Nature Pedagogy relates to speaking skills. In particular, they show that the use of sustainable practices fosters and collaborates in communicative skills in a more didactic and innovative way for language learning by creating a deeper connection with the environment.

1.2 Theoretical Foundation of the Variables

Independent Variable

Sustainability

According Ben-Eli (2018), Sustainability is understood as maintaining a balance between the population and its environment. Human life must be developed in a way that does not compromise the planet's ability to continue to support life, since its objective is that human activities do not degrade natural resources or alter ecosystems, seeking a development that is viable and preserves environmental integrity for the future. On the other hand, Heinberg (2010) defined sustainability as the ability to conserve resources over time, this implies not only conserving what already exists, but also optimizing and managing those resources so that they remain accessible and useful. It ensures human well-being as it underlines the need to implement economic growth, justice in society and the protection of animals ensuring a responsible future (Niamir, 2014) .

According to Tennakoon et al. (2024), sustainability is crucial and important for several reasons such as caring for the environment, reducing global warming, responsible use of resources, strengthening the economy, justice for all and promoting healthy living. It is important to achieve these objectives by adopting an integrated approach that encompasses

both environmental and social policies, driving a shift towards more sustainable and responsible practices at a global level. In addition, Akkermans (2023) mentioned that sustainability is based on three pillars: social, environmental and economic. The social pillar promotes fair practices for employees and communities, the environmental pillar protects the natural environment through responsible use of resources, and the economic pillar seeks to generate sustainable financial value, considering social and environmental impacts.

The integration of sustainability in educational institutions is a fundamental challenge in the search for a more responsible future. In this sense, it is necessary that institutions not only adapt curricula but also create an environment that reflects these values through the initiative of establishing a partnership with the community to carry out environmental challenges (Žalėniene & Pereira, 2021) . Through student engagement they strengthen their ability to work collaboratively, develop innovative solutions generating a positive impact both educationally and socially. Furthermore, Ruiz and Heras (2020) mentioned that Higher Education Institutions must make a profound change in their organizational culture to effectively incorporate the principles of sustainability in all their operations and activities. Thus, it implies that they must go beyond simple modifications in the academic programs by promoting sustainable practices.

Academic Sustainability

Academic sustainability is the ability of an educational system to maintain and evolve equitably and efficiently over time while ensuring the responsible use of available resources. According to Farid (2024), academic sustainability performs the integration of sustainability principles in educational institutions, such as curriculum design, research, campus management and community engagement. The purpose is to offer quality education and care for the planet, be inclusive and adapt to the future needs of students. On the other hand, UNESCO (2013) mentioned that education for sustainable development integrates issues such as climate change and biodiversity in teaching, using participatory methods that motivate students to act in favor of sustainability, which requires significant changes in current educational practices.

Academic sustainability is fundamental to form citizens better prepared to face global challenges. Malone (2020) emphasized the importance of implementing sustainability strategies in programs by promoting a green mindset in students. Directly in the classroom this can be achieved through the selection of appropriate materials down to the design of classes so that they are students committed to sustainable development. Moreover, Maharramli et al.

(2021) argued that institutions should sustain their teaching on ecological and social issues by empowering students to face environmental challenges and to lead meaningful participation in their communities. Education should not only provide traditional knowledge but also how students can contribute to solving global problems with informed decisions and lead with a mindset oriented to collective well-being.

According to Abo-Khalil (2024), educational institutions can include various sustainability strategies that encourage meaningful learning, one of these strategies is the use of collaborative projects where students can discuss environmental issues encouraging active learning that allows them to investigate and propose solutions. Active learning allows students to engage more directly with social and ecological problems while developing critical and collaborative skills. Furthermore, Forbes et al. (2023) indicated that digital tools such as online collaborative platforms can be incorporated into lessons to reduce the use of physical resources and promote sustainability. In this way, recycling of materials and nature-based learning are encouraged in the classroom, connecting students to their natural environment while acquiring knowledge.

Sustainable Pedagogy

Grandisoli and Jacobi (2020), Sustainable Pedagogy seeks to equip students with knowledge, values and skills aligned with sustainability, using active, social and collaborative learning methodologies. It includes systems thinking, critical thinking, and forward-thinking strategy to foster collective solutions to complex challenges. In addition, its goal is to create individuals capable of understanding the complexity of environmental and social systems so that they can develop strategies that consider the future consequences of their decisions. On the other hand, Kemp and Scoffham (2022) mentioned that this approach highlights the importance of different types of knowledge such as direct experience and practical research, as well as promotes the connection between different areas of study, which gives a more comprehensive view of the challenges they face.

Tejedor et al. (2019) discussed that there are different active learning pedagogies that can be implemented in sustainable education. First, Problem based learning (PBL) allows students to work in small groups to solve real problems, fostering collaboration and critical thinking. Secondly, Simulation recreates real-world situations, which enhances understanding of the interrelationships between social, environmental and economic factors, allowing students to experience and reflect on sustainability challenges. Finally, Project-Oriented

Learning (POL) focuses on the creation of projects that result in a tangible final product, involving different problems or tasks to be solved, which develop the practical application of knowledge and skills. The right pedagogies that integrate individuals in transformative learning are required, must include reflective and above all active approaches that include experiential, group and learner-centered activities (Howell, 2021).

An important aspect within sustainable pedagogy is the implementation of emotional education in the classroom. Slušnienė (2019) emphasized that the development of emotional intelligence in children is important to form balanced and responsible minds with society. A modern educational model should put the human being at the core of sustainable development, engaging in value changes that emphasize humanization and socialization. It is also essential to develop social, emotional and communicative intelligence to adequately prepare education professionals in this area, ensuring that they are ready to face current challenges and foster inclusive and empathetic learning spaces (Galtseva et al., 2024). It involves cultivating an environment where diversity and collaboration are valued and help in the formation of citizens committed to sustainability.

Nature Pedagogy

According to Warden (2019) , nature pedagogy is a way of working with students by integrating contact and interaction with nature into all learning environments, both inside and outside the classroom, and this is closely related to sustainable learning. Thus, rather than relying solely on traditional teaching methods, this pedagogy engages students in activities to explore and have sensory experiences that promote an emotional connection with nature. Additionally, Sobel (1996) stated that environmental education must begin with the heart, that is, students must establish a positive relationship with nature before they are confronted with complex environmental situations. institutions should establish a curriculum that prioritizes appropriate activities that help students grow up with a sense of responsibility towards the environment.

Koster (2022) emphasized that nature pedagogy is based on several principles such as nature as an integral teacher, play is central to learning, experience is more important than information gathering, appreciation for nature and interconnectedness between all elements of the environment is promoted. These principles enhance learning and cultivate responsible attitudes toward the environment and a deep sense of connection to nature. Cree and Robb

(2021) proposed that nature pedagogy is the process of teaching in harmony with nature and the learner, this concept is based on the idea that there is a natural operating menu that implies that human beings have an innate connection with nature that guides experiences and learning, from these three essential dimensions are proposed: sensoriality, eco-identity and ecological materials.

Sensoriality

Sensoriality is the activation of the senses as an important means of learning. Sobel (2008) argued that the use of nature in learning aids curiosity and enriches the educational experience by activating the senses, allowing students to understand the environment. This activation of the senses facilitates the retention of information since multisensory experiences tend to be more meaningful and memorable. On the other hand, Cornel (1998) argued that sensory experiences play a fundamental role in the emotional connection of individuals with the environment which is important in creating a meaningful ecological identity. Students can discover and explore through the use of sensoriality, which contributes to their development and a better appreciation of the place we inhabit.

According to Cree and Robb (2021), sensory experiences such as smelling touching and observing are important for individuals to have a good connection with their environment. These practical experiences help with the understanding of abstract concepts by allowing students to explore the environment through their senses in such a way that they develop a full understanding of what teachers are teaching. Sensory experiences are important for students' development as they combine cognitive learning with emotional and physical learning (Leather, 2018). This enriches the educational process and contributes to the development of skills that are necessary for both personal and academic growth.

According to Warden (2019), multisensory engagement improves retention, builds creativity and critical thinking in students. The coordinated use of multiple senses helps students receive information and internalize in a deeper and more meaningful way for the activation of different areas of the brain. In addition, the relevance of creating an educational environment that actively engages all the senses, as this contributes to active and meaningful exploration for students (Montessori, 1967) . The stimulation of hearing, touch, taste and smell awakens curiosity and exploration which has benefits as it invites students to interact in a dynamic way stimulating their mind as well as their body.

Eco-identity

Goodwin (2020) defined eco-identity as the different ways in which people define themselves in relation to the environment, which is reflected in their personality such as their values, actions and self-concept. The sense of relevance that individuals develop towards nature implies how they perceive themselves as part of the ecosystem, recognizing their interdependence with its elements. Furthermore, Hnatyuk et al. (2024) argued that education is important for the development and creation of environmental awareness. Education is presented as an important pillar, as it raises the level of awareness through values and skills that enable students to make responsible decisions regarding the environment and preparing them to address ecological challenges that promote sustainable development.

The emotional connection with nature is essential for eco-identity as this emotional attachment directly influences people's environmental attitudes and behaviors. Otamendi et al. (2023) proposed that interaction with nature activates positive emotions that reinforce the sense of relevance towards the environment. When individuals experience positive emotions when interacting with nature, a greater empathy and sense of relevance towards their environment is created. Likewise, Emotional connection that individuals establish with nature influences their self-definition. The strengthening emotional ties promotes a deeper commitment to sustainability and motivates people to become involved in the conservation of the natural environment (Clayton, 2003).

Eco-friendly Materials

The implementation of eco-friendly materials is another practice that plays an important role in sustainable pedagogy. According Pontius and McIntosh (2024), eco-friendly materials are those that are produced and used in a way that minimizes their negative impact on the environment. Materials that are not only sustainable in their origin, but also those that are used in a responsible manner, for which the use of recycled materials such as paper, glass, plastic and metals to create new products is important (Mwanza, 2021). As a result, this practice reduces the need to extract new primary materials and encourages the reuse and recycling of resources, which translates into less waste and less energy consumption. Through this cycle of waste reduction and utilization, we promote a collective awareness of the importance of adopting sustainable practices in all areas of daily life.

The use of sustainable materials in the classroom contributes to the integration of ecological values in the educational process allowing individuals to understand the importance of sustainability. Cree and Robb (2021) noted that the use of sustainable materials in the educational environment refers to the use of natural resources that are used responsibly, ensuring that they are not depleted and remain available for the future. In classrooms, students can make use of materials such as wood, water, leaves, stones and branches in a way that nature can regenerate them after use. In the same way, Tejedor et al. (2019) highlighted the importance of these materials in learning to strengthen students' connection with nature. Sustainable materials teach students about the importance of sustainability as they develop awareness about responsible consumption and conservation of natural resources.

Innovation in materials is transforming education with the development of effective learning resources, such as the use of biodegradable materials and digital tools. Forbes et al. (2023) noted that digital tools allow simulating natural environments in the classroom helping teachers to create interactive teaching that enhances understanding of environment-related topics. In addition, Hnatyuk et al. (2024) mentioned that the use of biodegradable materials such as recycled paper and low environmental impact compounds helps to reduce waste generation in the classroom promoting a culture of responsibility. For this reason, these innovative tools that support the teaching and learning processes, whether physical or digital, allow adapting the contents to the changing needs of the modern world.

Dependent Variable

Language

According to Gee (2020), language should be understood as a discourse, a set of social practices that define what individuals are, what they do and how they understand the world. Discourse goes beyond words or phrases, so it is understood that language not only serves to communicate, but also shapes the identity of individuals by influencing their actions and the way in which they interact with the environment. Amberg and Vause (2009) language is a communication tool that has a place in the social context. People exchange information when it is expressed both orally and in writing, where its main function is to establish a connection between individuals to facilitate understanding. Hence, language facilitates interaction and becomes an important aspect for the construction of social identity.

Language is a central element in human life, not only as a means of expression but also as a tool for identity formation and in the establishment of both social and cultural relationships. Mwakapina (2021) proposed that language is essential for human beings because through it they can share and express their thoughts, ideas and knowledge to others. Communication functions as a link between individuals as it makes it possible to have a deeper connection between people. Likewise, Banga (2015) mentioned that language is an important tool to create bonds of friendship, cultural connections and economic agreements. Its flexibility allows adaptation to different contexts ensuring clear communication through words, gestures and actions.

Language plays a crucial role in cognitive development by influencing the learning process and strengthening intellectual skills. Cummins (2021) argued that language is fundamental for cognitive development as it impacts social and intellectual growth. Therefore, learning and using a language develops cognitive competencies such as critical thinking, memory and problem solving. Similarly, Weinert (2022) mentioned that learn a language facilitates knowledge acquisition, memory, problem solving and self-regulation. Language helps individuals to organize their thoughts in a structured way, which helps to build concepts and make connections between ideas, as well as to control impulses and reflect on their actions.

Language Skills

Language skills are important for the communicative development of students as it helps to use and understand language effectively. Sharma and Puri (2021) indicated that language skills are listening, reading, speaking and writing, being very fundamental in various contexts. These skills enhance cultural understanding as well as critical thinking in students. However, Language skills are divided into two categories receptive skills that include reading and listening and productive skills that include writing and speaking (Spratt et al., 2011). Receptive skills support productive skills, creating a learning cycle that reinforces the mastery of the language. The process reinforces language acquisition, favoring a more balanced development of language management.

The combination of productive and receptive skills is essential for comprehensive language development as they reinforce each other in the learning process. According to Estopa (2021), a balanced language skill combination is essential for learners to achieve effective communication. Thus, this combination helps learners to achieve high confidence in

communicating and interacting with others. Moreover, Language skills are complex skills that belong to the psychomotor domain as it involves cognitive understanding of language and the ability to use it effectively through physical action and motor coordination such as speaking, writing, or listening (Husain, 2015). The skills require a lot of practice to become proficient, which allows students to strengthen their language abilities and achieve fluency.

Productive Skills

Productive skills are the active skills in students' language learning that include speaking and writing. Sayyora and Zukhra (2024) stated that productive skills help students practice real-life activities and evaluate their progress. These skills serve as an important tool to measure how much students have progressed and learned. However, lack of proficiency in the use of these skills can develop difficulties for students in terms of communication. The lack of accuracy in these skills generates deficiencies in communication and comprehension, rarely used in the classroom (Parab, 2020). Despite their great importance in learning, opportunities to practice and improve them in the classroom are limited, which hinders the development of students' communication skills.

Students develop the ability to write and speak in order to express thoughts and ideas in a coherent and structured manner. Spratt et al. (2011) expressed that writing involves expressing a message through the use of signs that are captured on a page. For that reason, students emphasize the importance of clarity and the intention of the message in the writing process. In addition, writing is a complex skill involves the correct use of grammar, vocabulary, and punctuation (Suliman et al., 2019). On the other hand, Rao (2019) stressed that speaking skills are the most important skills for learning a language, as they are the ones that learners will be tested on in real life and are essential for interacting and collaborating with people from different cultures. Therefore, the correct use of speaking development is considered most crucial in everyday interaction.

In the development of productive skills, constant practice and feedback are essential to ensure progress and consolidation of learning. According to Herra and Kulinska (2019), feedback is important for the improvement of these skills because it helps students identify errors and correct them. Therefore, students learn to improve when they are provided with opportunities to experience and correct their learning through interactive activities. Additionally, Adhelia and Triastuti (2023) mentioned that the integration of real-life oriented

communicative tasks improves language proficiency. Through efficient activities students increase motivation to create a stimulating environment that reinforces the value of language in and out of the classroom.

Speaking Skills

Speaking is an important skill in language learning because it involves the ability to organize ideas and express them accurately in different contexts. According to Nathir and Raad (2023), speaking is an active skill that depends on fluency, the ability to organize ideas and the appropriate use of grammatical rules, vocabulary and pronunciation. Fluency allows and helps students to communicate naturally and without interruptions, while the ability to organize ideas ensures that the message is clear to the interlocutors. In addition, Spratt et al. (2011), argued that speaking consists of using speech to express meanings to other speakers. Therefore, this skill reflects the ability to connect with one another, share ideas, emotions and knowledge in diverse social and cultural contexts.

The development of speaking skills is a complex process that requires interaction with native speakers or classmates. Vovk and Pashis (2023) proposed that the process of learning a language requires practice in situations that allow students to adapt to different registers and styles of communication. Language learning is dynamic where interaction with varied contexts facilitates the technical mastery of the language. Speaking a foreign language effectively implies not only having an adequate command but also being able to carry on a fluent and coherent conversation (Masuram & Sripada, 2020). This implies being able to connect ideas logically and respond correctly in a conversation because fluency ensures natural communication without interruptions while coherence allows the message to be clear and understandable.

According to Lackman (2010), speaking subskills are specific skills that help learners develop effective and fluent communication. These subskills allow speakers to express ideas effectively and adapt to different contexts. First, pronunciation which is the ability to produce sounds, intonations and accents with clarity. Next, grammar and vocabulary represent the structure and content of discourse, helping to construct coherent messages. Finally, interactive communication manages conversational exchanges through turn-taking strategies and employing nonverbal resources to reinforce conversation. Overall, these subskills are crucial

to making communication through speech comprehensible, accurate and natural in a variety of settings.

Grammar and Vocabulary

Grammar and vocabulary are two crucial aspects of speaking skills. According to (Erikson and Stevani (2022), grammar encompasses rules that govern the structure of language by helping students organize words into correct and coherent sentences. In Speaking, mastery of grammar involves knowing when and how to properly use linguistic structures correctly, which is necessary for effective communication. Learning simple forms such as the present simple are key to developing fluency in describing routines, events and general situations (Sholihin et al., 2023). Therefore, the mastery of basic grammatical structures facilitates the transition to a more advanced and varied use of the language, which helps in the interaction of everyday contexts.

Vocabulary is another essential component as it enables learners to express themselves accurately and adapt to different communicative contexts. Alharthi (2019) stressed that the depth of vocabulary knowledge is knowing how and when to use certain words and is equally important as the number of known words in oral interaction. Likewise, everyday vocabulary helps learners to engage in everyday conversations such as talking about their interests' daily activities and common topics. Abadi (2023) pointed out that students should acquire an adequate and varied vocabulary to help them achieve affective communication. For this reason, students should learn to select the correct vocabulary according to the context in which they are going to speak.

Pronunciation

According to Burns and Seidlhofer (2019), pronunciation is a comprehensive concept that encompasses all aspects related to the use of speech sounds to create good communication. In the learning process, it is key for students to identify and produce specific sounds of differentiating English that may not exist in their native language. For this reason, pronunciation encompasses both segmental aspects which refer to individual sounds such as vowels and consonants and suprasegmental aspects which include aspects such as intonation, rhythm and stress (Sharma, 2021). These aspects need to be studied correctly in the classroom; students should develop comprehensible pronunciation suitable for different communicative situations.

According to Nagendra (2018), intonation is essential as it not only conveys the literal meaning of words, but also the emotions and attitudes of the speaker. Therefore, without correct intonation, interpretation becomes difficult to understand the underlying meaning and intentions. Tone of voice can change the meaning of a sentence, differentiating between a statement, question or whether it reflects surprise, enthusiasm or disappointment among other emotions. In addition, positive statements are characterized by a generally descending pattern, which communicates completion and certainty, however, if an ascending intonation is used it can reflect greater emotion (Vaughan et al., 2024). Intonation adds context and emotion to the words helping learners to better understand the speaker's ideas and feelings.

The correct of pronunciation of Wh questions allow speakers to have meaningful conversations. Chen (2012) highlighted that these questions headed by words such as what, where, when, why and how, have a characteristic intonation pattern, where the tone tends to descend at the end, however this depends on the context and preferences of the speaker. However, it depends on the context and the speaker's preferences. This lowering of the intonation facilitates the understanding of the purpose of the question and brings naturalness to the discourse. In asking questions in a formal context, tone and word choice can change significantly unlike in informal contexts. In order to correctly develop their intonation and overcome barriers, activities such as mock interviews, role-plays or group discussions are suggested, which support students in practicing their intonation while gaining confidence and proficiency in its use.

According to Krishna (2020), stress in language is the characteristic that makes a syllable within a word stand out in comparison to others. Generally, this is achieved through increased intensity, duration, change of pitch or force in pronunciation. In particular, the correct placement of stress in two- and three-syllable words follows certain rules, although there are certain exceptions that change according to the grammatical function of each word. In two-syllable words, stress generally falls on the first syllable in nouns and adjectives and on the second syllable in verbs, while in three-syllable words stress is usually placed on the middle syllable, although there are exceptions in both cases (Muyassar, 2021). Learning to identify and reproduce stress patterns in words with various structures contributes to clarity in speaking and can influence the perception of the importance of certain words within a sentence helping to convey meanings correctly.

Interactive communication

Interactive communication is an important aspect of speaking development as it allows students to actively participate in conversations and discussions, share ideas and construct ideas. This process is facilitated through turn taking and facial gestures, tools that support fluent and natural interaction. According to Jassouma (2021), turn management involves knowing when to initiate, maintain and end a conversation, which aids fluency and avoids unnecessary interruptions. Therefore, it is important to know the sub-skills of turn taking, which include the ability to identify when to intervene, give signals to start talking, keep the floor without interruptions, and recognize the signals of others to give up the turn in a correct way. All of these sub-skills facilitate the development of balanced and natural interactions in any conversation.

Facial gestures play an important role in speaking as they are a form of nonverbal communication that accompanies and complements when a person is expressing him/herself and reflects the emotions and attitudes of the speaker. Facial gestures are considered co-speech acts which means that they are movements of the face, eyes or head that are synchronized with what a person is saying (Bavelas & Chovil, 2017). In addition, these gestures are very common in conversations and have a pragmatic function of organizing communication or giving more context to the message by helping the conversation between individuals. The gestures are not limited to expressing what the person is feeling, it is often used to show when the person is thinking of pausing or even to signal a change in the tone of what is being said.

1.3 Objectives

General Objective

- To determine the relationship between Nature Pedagogy and Speaking Skills

Specific Objectives:

- To state theoretically the development of Speaking Skills through Nature Pedagogy.
- To identify the practices of Nature Pedagogy that help students develop their Speaking Skills.
- To study the subskills that foster the development of students' Speaking skills.

Fulfilment Objectives

The present study aims to investigate the relationship between Nature Pedagogy and Speaking Skills. To achieve the main objective, three specific objectives were established, which allowed analyzing how the independent variable is related to the dependent variable.

First of all, the first objective was achieved through the development of the theoretical framework of the variables of Nature Pedagogy and Speaking Skills. The first step was to define sustainability and its importance in the educational field, highlighting the responsibility of institutions in promoting environmental awareness. Then, the Nature Pedagogy was structured with three main dimensions: Sensoriality, Eco identity and Eco-friendly materials. As for Speaking Skills, its role in productive language skills was highlighted and three main sub-skills were identified as vocabulary and grammar, pronunciation and interactive communication. These sub-skills were connected to the practices of Nature Pedagogy, showing how a nature-based learning environment can strengthen students' oral development.

Secondly, the second objective was addressed by developing the first 11 questions of the questionnaire, which addressed practices related to the three dimensions of Nature Pedagogy. Beginning with the first dimension, sensoriality was divided into three sub-dimensions such as activation of senses, sensory experiences and multi-sensory engagement, which were evaluated in questions 1 to 4. Next, eco-identity included the sub-dimensions of environmental awareness and emotional connection with nature addressed in questions 5 to 7. Finally, the dimension of eco-friendly materials was divided into the sub-dimensions of use of recycled materials, sustainable natural resources and innovation in materials addressed in questions 8 to 11.

Finally, to fulfill the third objective, it was developed through questions 12 to 20 of the questionnaire, which explored the sub-skills of speaking. In the grammar and vocabulary dimension, the subdimensions included the vocabulary of daily life and simple forms - present simple evaluated in questions 12 and 13. Following, in the pronunciation dimension, three subdimensions were considered: intonation of positive statements, wh questions, stress in two-syllable words and stress in three-syllable words covered in questions 14 to 17. Finally, in Interactive communication, it was analyzed the subdimensions of turn-taking and use of facial gestures during speaking activities covered in questions 18 to 20.

Chapter II. Methodology

This chapter focuses on exposing the methodology used to carry out the development of the research work proposed as "Nature Pedagogy and Speaking Skills". Saeed et al. (2020) established methodology as the procedure for solving a given research problem by collecting data using various techniques, exploring the data and developing conclusions about the results obtained from the study.

2.1 Materials

During the research, human, material and technological resources were used in the research of Nature Pedagogy and Speaking Skills. The resources used included human, material and technological resources. In terms of human resources, the second semester students of the Pedagogy of National and Foreign Languages (PINE) program at the Technical University of Ambato participated by answering a survey as part of the data collection. Regarding material resources, various academic sources were used, such as books, theses and articles from specialized journals, to provide the theoretical framework necessary to support the study. Finally, technological resources included laptops and cell phones, which were essential for data collection through the Microsoft Forms platform, which facilitated the collection and analysis of the results.

2.2 Methods

2.2.1 Research approach

The focus of this research is quantitative as it seeks to analyze the relationship between Nature Pedagogy and Speaking Skills through scientific methods to collect and analyze numerical data, as stated by Ahmad et al. (2019), quantitative research aims to find patterns, test hypotheses, and establish relationships between different variables using mathematical and statistical techniques to obtain results that are accurate and measurable. In addition, quantitative research 'focuses on the collection and analysis of numerical data to study specific research problems through standardized techniques, statistical methods to examine relationships and trends between different variables (Ghanad, 2023). In this research the use of the questionnaire allowed the collection of measurable data that when analyzed with statistical tools guarantee a rigorous analysis and informed interpretations.

2.2.2 Modality

Bibliographic research

The research project was based on bibliographic research of Nature Pedagogy and Speaking Skills through online resources that provide scholarly information to support the research. According to Block and Fisch (2020), bibliographic research is a method that focuses on reviewing and analyzing academic databases and literature from different sources on a given topic. By analyzing previous studies, it is possible to detect the main contributions of different authors and understand how they relate to each other. Bibliographic research includes several important stages such as choosing the topic, searching for information from different sources, organizing the findings for the writing that synthesizes the information (Ocaña & Fuster, 2024).

Field research

The research project was conducted using the field modality, focusing on the variables Nature Pedagogy and Speaking Skills. Field research collects data directly from the natural environment and in this case the research was conducted face-to-face with the students. According to Irgil et al. (2021) argued that field research is a process by which data are collected directly from the environment in which the phenomenon under investigation takes place through different data collection techniques, such as surveys, interviews or observations. Finally, field research is a method that is conducted in the natural environment of the study, observing and interacting directly with the participants and solving problems in real contexts (Tosun et al., 2013).

2.2.3 Type of research

The research employed a descriptive research approach as it focused on observing and describing the characteristics of the problem without focusing on causes or effects of Nature Pedagogy and Speaking Skills. Descriptive research is used to specify the characteristics of a phenomenon, population, or situation. Its main objective is to observe and detail the characteristics of a phenomenon, describing what is occurring without delving into the causes that give rise to it (Manjunatha, 2019). In addition, it focuses on data collection through observation techniques and surveys, which allowed obtaining valuable information about the object of study.

In this research it was developed through a structured survey that facilitated the collection of quantitative data and made possible the analysis of the relationship between the two variables: Nature Pedagogy and Speaking Skills. According to Atmowardoyo (2018), it

allows studying how the two variables are related without the need to manipulate them, providing valuable information about the perceptions of individuals. This method allowed identifying patterns and trends in their responses and also contributed to a better understanding of the studied phenomenon.

2.2.4 Techniques and tools

In this research an instrument was used as the main tool for data collection which is essential for obtaining relevant information to test the hypothesis about the relationship between Nature Pedagogy and Speaking Skills. Instruments in research refer to tools, techniques or methods used for data collection, they may include questionnaires, interviews or any means that facilitate the collection of necessary information depending on the type of study (Sharma, 2022). In this study a questionnaire was used as the main data collection instrument, which will be part of the project entitled "Desarrollo Sostenible en la Educación Superior" (SFFCHE10), approved under resolution No. UTA-CONIN-2023-0375-R. In quantitative research, the data collection instrument is fundamental to obtain reliable information on the variables.

A survey is a common data collection technique in descriptive research, which allows obtaining information on the perceptions, attitudes and behaviors of the participants (Braun et al., 2021). In this study, the data collection process was carried out by means of a survey using the above-mentioned questionnaire. The questionnaire was structured to assess the relationship between the variables and was divided into two sections. The first section focused on the first variable Nature Pedagogy, with questions related to the dimensions sensoriality, eco-identity and eco-friendly materials. The second section inquired about Speaking Skills , addressing questions related to dimensions such as grammar and vocabulary, pronunciation, and interactive communication.

Before its application, a validation process was carried out by means of expert judgment using the Aiken method, where five experts evaluated each item on a scale of 1 to 4 to determine its relevance, pertinence and clarity. Content validity was estimated using Aiken's V with all 20 items. In addition, item reliability was assessed using Cronbach's alpha coefficient resulting in a reliability of 0. 804. The questionnaire was applied face to face and the data collected were analyzed with Statistical Package for the Social Sciences (SPSS). This analysis allowed a rigorous analysis through Pearson's correlation test, which facilitated the identification of correlations and the relationship between the variables studied.

Procedure

The present research was developed following a structured protocol to achieve a complete analysis of the topic. The first phase consisted of exhaustive bibliographic research on Nature Pedagogy and Speaking Skills, with the objective of establishing a theoretical basis to guide the design of the instrument. Important material was compiled from various sources including academic databases, scientific articles and books with which the analysis of different sources was made, evaluating their quality for the research topic.

Afterwards, with the information obtained, the development of a questionnaire was carried out, which was used as an instrument to evaluate the relationship between Nature Pedagogy and Speaking Skills. The construction of the questions was based on the established objectives which were divided into two parts, the first part oriented to the independent variable Nature Pedagogy and the second part focused on the dependent variable Speaking Skills. The questions were developed after a review of the literature and during the process of creating the questionnaire several adjustments were made in order to ensure the comprehension of the questions.

Once the questionnaire design was completed, it underwent a validation process to ensure the reliability of the instrument. First, the instrument was evaluated by five experts using the Aiken Validation, the experts analyzed each question in terms of relevance, pertinence and clarity, assigning scores between 0.87 and 1. These values confirmed that the questionnaire fulfilled the standards required for its application with the students of the program. Later, the questionnaire was analyzed with the Statistical Package for Social Science (SPSS) software, applying Cronbach's alpha coefficient. This analysis resulted in a high value of 0.804, which indicated a strong reliability of the instrument and ensured the consistency of the questions included in the questionnaire.

After completing these phases, the validated questionnaire was applied in the second semester, the technique used for data collection was the survey using an online survey format to facilitate the administration of the instrument. The survey was organized into specific sections beginning with the collection of general data about the participants and followed by questions related to the study variables. Students were encouraged to select the options honestly and carefully reading the questions and expressing their perspectives based on their learning. Finally, the results obtained through the survey were analyzed through SPSS software using

Pearson's correlation to evaluate the relationship between variables. This analysis allowed us to identify patterns and generate relevant conclusions.

2.2.5 Population

The population that participated in the research were 33 second semester students of the Pedagodia de los Idiomas Nacionales y Extranjeros program at the Universidad Tecnica de Ambato, province of Tungurahua.

Table 1

Population

Population	**Participants**	**Percentages**
Male	7	21,21 %
Female	26	78,78 %
Total	33	1000

Note: It shows the gender distribution of the population.

2.2.6 Hypothesis

Null Hypothesis:

H0: There is no a relationship between Nature pedagogy and Speaking Skills.

Alternative Hypothesis:

H1**:** There is a relationship between Nature Pedagogy and Speaking Skills.

Chapter III. Results and Discussion

3.1 Analysis and discussion of the results

This chapter analyses and discusses in depth the data obtained through a validated survey, composed of 20 questions applied to second semester students of Pedagogía de los Idiomas Nacionales y Extranjeros program at Universidad Tecnica de Ambato.

First, the survey was designed and validated using Cronbach's Alpha coefficient, which indicated that it was adequate to be applied with the students. Afterwards, the survey was created in Microsoft Forms, together with the tutor and the researcher, the purpose of the survey and the questions were explained to the students before applying it in the classroom. Then a total of 33 students completed the survey and the results were organized through an Excel file which was very useful for the creation of visual graphs for a clearer analysis. Finally, the analysis of the graphs was developed which allowed for interpretation to understand the relevance of each question answered by the students.

Second, this chapter deals with the acceptance of the hypothesis for which all the data obtained were entered into the SPSS program. This was possible through Pearson's correlation test. The null hypothesis states that there is no relationship between Nature Pedagogy and Speaking Skills, while the alternative hypothesis states that there is a relationship between the two variables. Finally, to verify this information if the P value is less than 0.05, there is a significant correlation and rejects the alternative hypothesis while if the P value is greater than 0.05 there is no significant correlation and the null hypothesis is maintained.

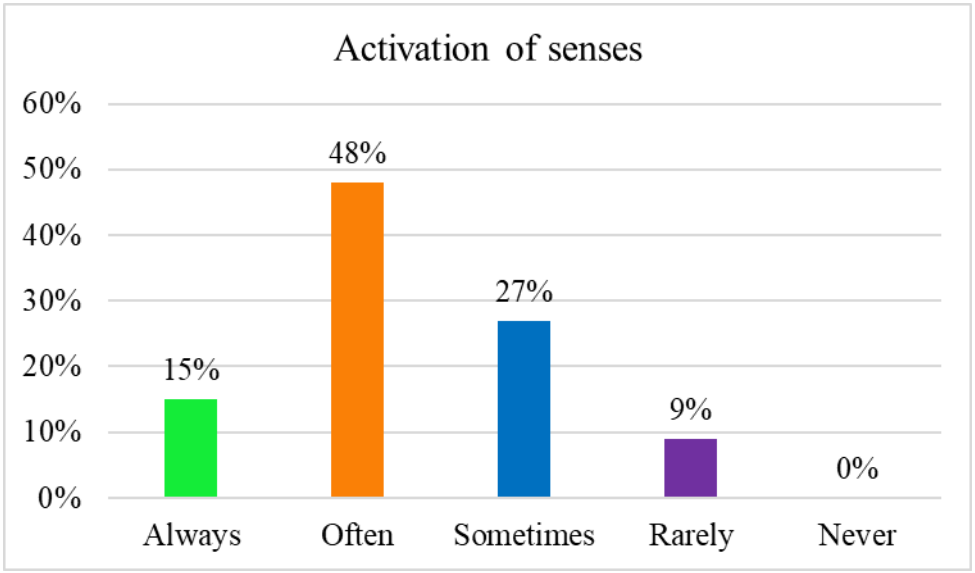
Finally, a discussion is presented on the findings obtained and the authors' perspectives on the subject, providing reliable information to make the right decisions on the problem posed by the researcher, evaluating its positive or negative impact in terms of the two variables.

Question 1:

In your English classes, how often does your teacher ask you to perform activities that activate your senses (sight, hearing, touch, taste)?

Figure 1

Sensoriality: Activation of senses



Note: Frequency of sensory activation in English classes.

Analysis and Interpretation

According to Figure 1 deals with the frequency with which teachers perform activities in English class that activate the senses. It can be seen that 48% of the students indicated that these activities are conducted often. On the other hand, 27% of the students answered that these activities are developed sometimes, which means that they are not always maintained as a constant practice. Furthermore, 15% of the students answered that these activities are always implemented. Finally, only 9% responded that these activities are rarely presented while the option never was not selected.

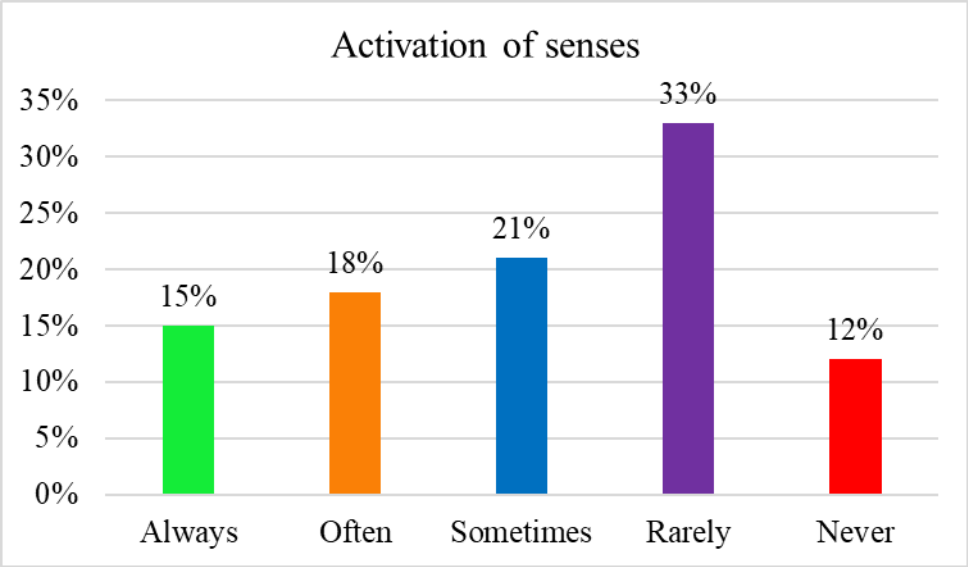
The results show that the activation of the senses in English class is quite frequent, indicating that the teacher takes advantage of sensoriality as a useful tool to support learning. However, some students indicated that these activities are not constant possibly due to certain content that requires traditional methods. This indicates that increasing the frequency of these activities could improve learning by making it more dynamic and participatory.

Question 2:

In your English classes, how often are you encouraged to close your eyes and concentrate on what you hear or feel as in relaxation activities?

Figure 2

Sensoriality: Activation of senses



Note: Frequency of sensory relaxation activities

Analysis and Interpretation

According to the results in Figure 2, 33% of the students indicated that they are rarely encouraged to close their eyes and concentrate on what they hear or feel during their classes. This was followed by 21% of the population indicating that they are sometimes subjected to these types of activities, while 18% indicated that they are often encouraged to participate in these relaxation practices. On the other hand, only 15% of the students indicated that they are always stimulated to concentrate on their senses. Finally, 12% of the students answered that they have never had interaction with these exercises.

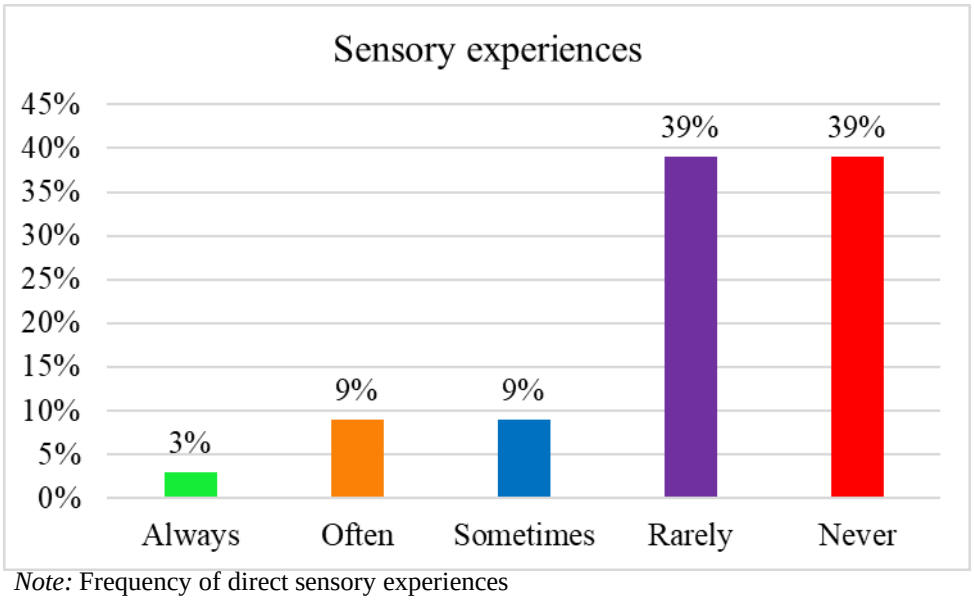
The data obtained show that sensory relaxation and concentration activities are not frequently present in English classes. First, some of the students indicate that these activities are performed regularly while the majority of students have not had the opportunity to participate in these types of exercises. Thus, it is argued that the lack of frequent participation in these activities would be limiting the opportunity to enhance the educational experience, improve students' attention and engagement in their learning.

Question 3:

In your English classes, how often do you participate in activities that involve direct sensory experiences such as touching plants and hearing natural sounds?

Figure 3

Sensoriality: Sensory experiences



Note: Frequency of direct sensory experiences

Analysis and Interpretation

According to the results in Figure 3, 39% of the students responded that they rarely participate in these types of activities, and the other 39% of the population indicated that they never do them. On the other hand, this indicates that almost all of the students surveyed rarely or never have access to sensory immersion experiences such as touching plants or listening to sounds in their language learning. Finally, 9% of the students indicated that they often and sometimes participate in such activities, and only 3% answered that they are always exposed to these experiences.

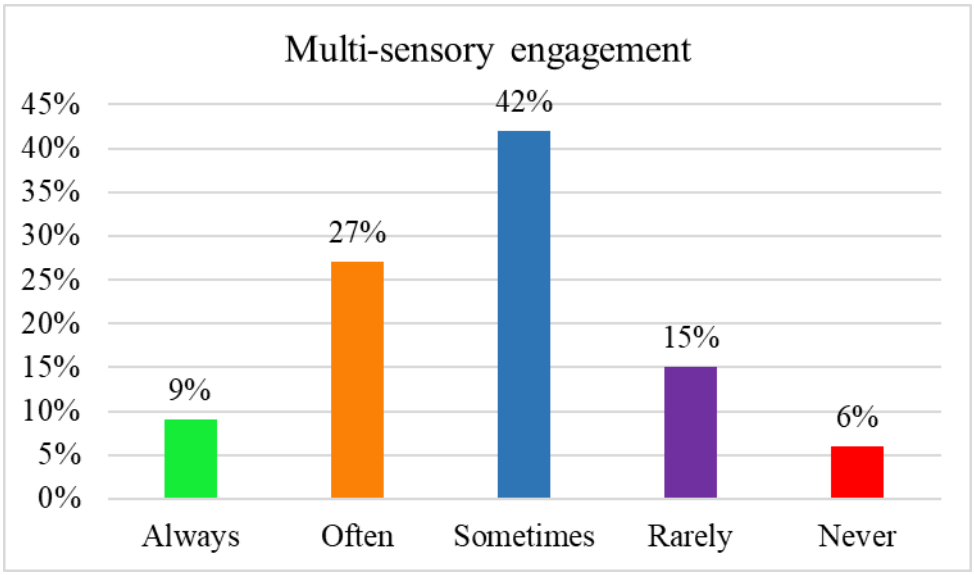
The data obtained shows a lack of sensory activities involving direct contact with natural elements in English classes. Therefore, the absence of practices such as touching plants or listening to natural sounds could be due to resource limitations such as lack of access to materials related to the environment. In addition, teachers may not be familiar with pedagogies that integrate nature into language teaching. These results suggest that the current educational context could benefit from greater integration of nature to create a more meaningful learning experience.

Question 4:

During speaking activities, how often do you participate in activities that require the use of several senses at the same time such as combining sight and hearing?

Figure 4

Sensoriality: Multi-Sensory Engagement



Note: Frequency of multisensory experiences in speaking activities

Analysis and Interpretation

According to the results in Figure 4, the majority of the students (42%) indicated that they sometimes participate in speaking activities that require the simultaneous use of several senses such as sight and hearing. In addition, 27% answered that they often engage in these types of activities, while 15% indicated that they rarely engage in them. On the other hand, only 9% chose that they are always exposed to multisensory activities, and 6% indicated that they never engage in these practices.

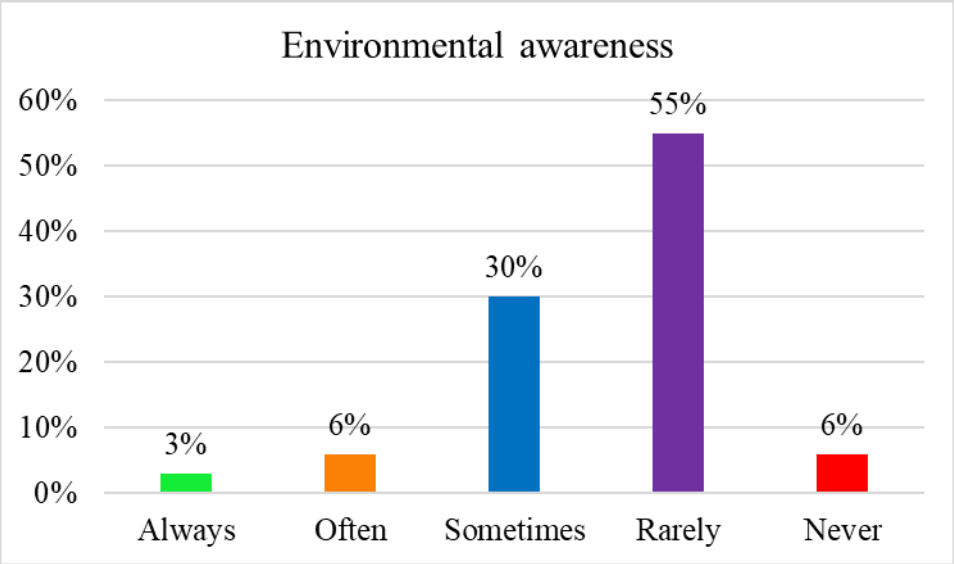
The data obtained show that, although some speaking activities that require the use of multiple senses are implemented, they are not a central part of the pedagogical practice. First, this could be because teachers prefer more traditional methods or the activities are complex to implement in the classroom. Second, the frequency of responses such as sometimes and often indicates that there is an interest in using these methods, but their application remains occasional. Finally, this shows an opportunity to improve teaching through sensory practices that could help language comprehension.

Question 5:

In your English classes, how often do you address topics related to environmental awareness such as recycling or conservation?

Figure 5

Eco-identity: Environmental awareness



Note: Frequency of environmental awareness topics

Analysis and Interpretation

According to the results in Figure 5, it could be observed that the majority of the students 55% indicated that they rarely study topics related to environmental awareness such as recycling or conservation in their learning. In addition, 30% indicated that they do it sometimes, while a smaller percentage indicated that it happens often 6% and in the same way 6% of the students showed that they have never experienced this way of learning. Finally, only 3% of the population reported that these topics are always addressed in their classes. This reflects that the inclusion of environmental topics is limited and infrequent.

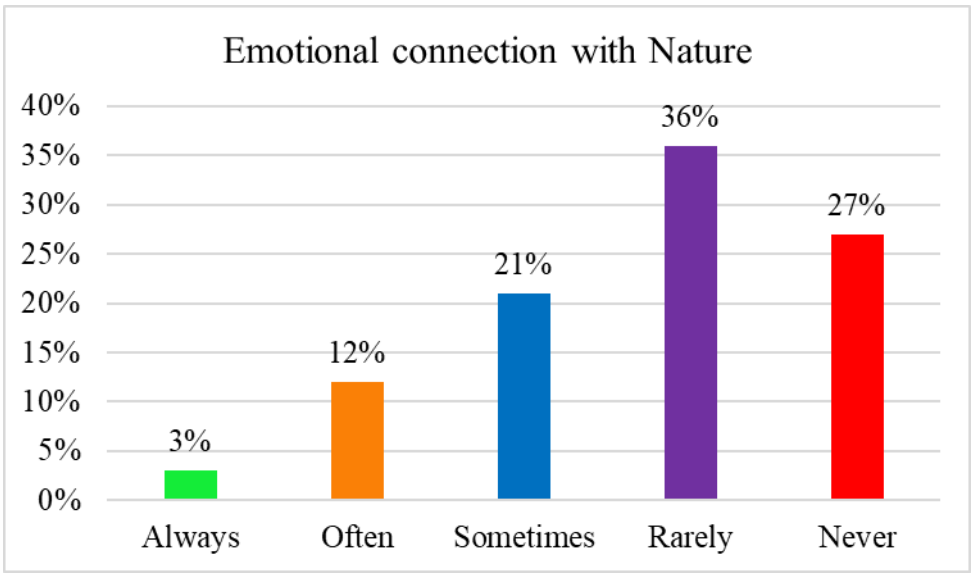
The data obtained show that there is a predominance of responses such as rarely and sometimes. This suggests that topics related to environmental awareness are not frequently worked on in English classes, possibly due to the lack of materials or resources designed to connect language learning with issues such as recycling or conservation. In that sense, topics could be integrated as part of lesson content by taking advantage of activities such as readings, discussions, or presentations related to sustainability.

Question 6:

In your English classes, how often do you do activities that allow you to share your feelings or personal experiences related to nature?

Figure 6

Eco-identity: Emotional connection with Nature



Note: Frequency of activities to share experiences about nature

Analysis and Interpretation

According to the results in Figure 6, the majority of the students (36%) indicated that they rarely participate in activities in their English classes that allow them to share their thoughts related to nature. Next, 27% indicated that they never participate in discussions where they share their environmental experiences, while 21% emphasized that they do so sometimes. On the other hand, 12% indicated that these practices occur often and only 3% indicated that they always do. These results reflect that the opportunities to develop these activities within the classroom are limited.

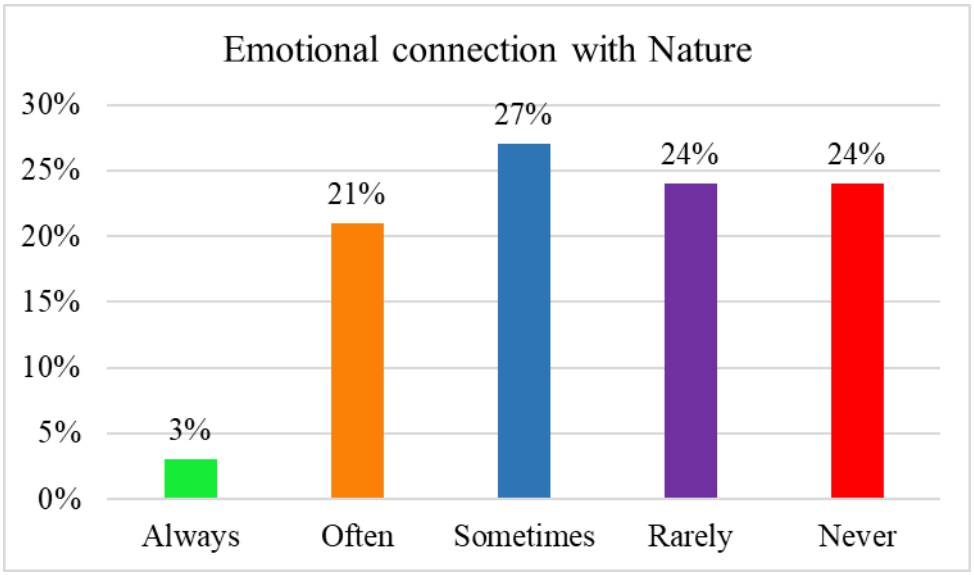
The figure shows that there is a low frequency of nature-related activities. The possible reason is that these activities are not understood as essential in the progress of speaking skill. Implementing these nature-based activities as presentations about personal experiences could help students' communicative skills by giving them an emotional context to practice the language.

Question 7:

In your English classes, how often do you talk about how nature affects your mood or emotional well-being, such as feeling relaxed or happy after spending time outdoors?

Figure 7

Eco-identity: Emotional connection with Nature



Note: Frequency of discussions about how natural experiences improve emotional well-being.

Analysis and Interpretation

According to the results in Figure 7, the majority of the students 27% indicated that they sometimes discuss how nature influences their mood. Furthermore, 24% indicated that they do so rarely, while another 24% indicated that they never participate in this type of discussion. Next, 21% indicated that these activities occur often and only 3% answered that they always do. This reflects those activities related to the impact of nature on emotions are present, but do not take place in pedagogical practices.

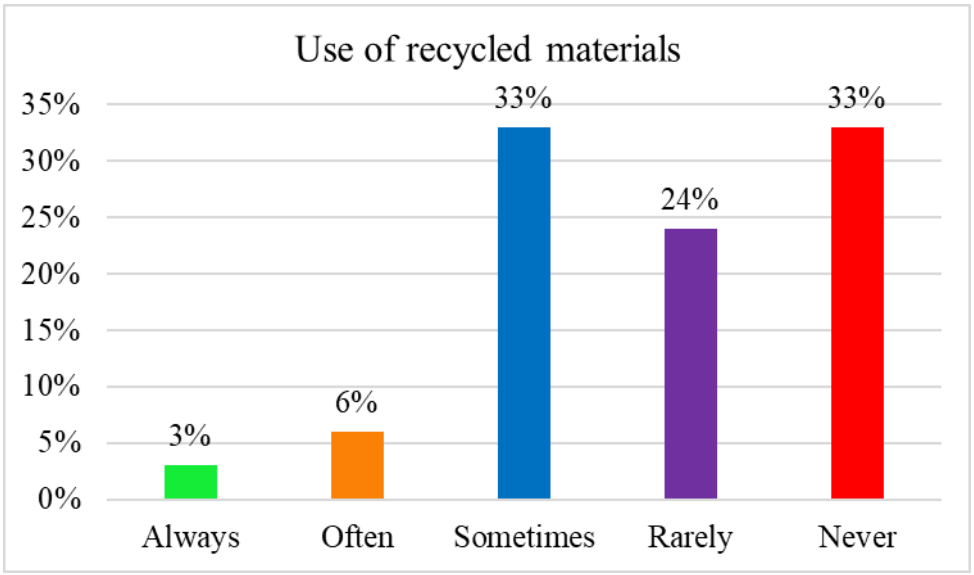
The figure shows the low frequency with which the impact of nature on emotional well-being is discussed. One possible reason is that teachers prioritize topics more relevant to the development of language skills. In addition, there is a lack of awareness of the importance of connecting language learning with emotional and natural aspects. This shows the need to incorporate strategies that relate nature with emotional well-being, providing students with spaces to develop these topics while reinforcing their communicative skills.

Question 8:

In your English classes, how often are recycled materials like paper or bottles used in activities?

Figure 8

Eco-friendly materials: Use of recycled materials



Note: Frequency of use of recycled materials

Analysis and Interpretation

According to the results in Figure 8, the use of recycled materials such as paper or bottles in English activities in the classroom is limited. First, 33% of the students indicated that they sometimes use these materials, which suggests an occasional but not systematic application. On the other hand, 33% of the students indicated that they never use them. This was followed by 24% who responded that they rarely use them, which reinforces the idea that the use of recycled materials is not a priority. Less frequently, 6% mentioned that they do it often, and only 3% indicated that these practices are always performed.

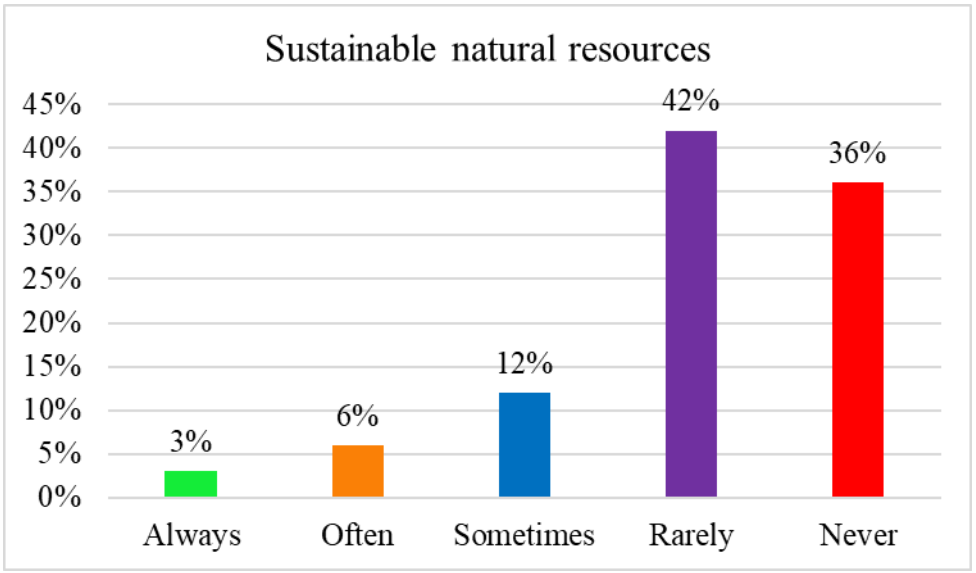
The data obtained reflect the low frequency of the use of recycled materials; this could be due to the absence of a sustainable approach within the curriculum, which makes it difficult for teachers to incorporate in their lessons. Likewise, it is possible that teachers are not familiar with practices that highlight the importance of fostering environmental awareness among students.

Question 9:

In your English classes, how often do you use natural materials that can be sustainably collected, such as leaves, stones and branches, instead of factory-made materials?

Figure 9

Eco-friendly materials: Sustainable natural resources



Note: Frequency of use of sustainable natural materials instead of industrial materials

Analysis and Interpretation

According to the results in Figure 9, the use of sustainable natural materials such as leaves, stones or branches in English class activities is unusual. The majority of the students 42% showed that these materials are rarely used in their classes, while 36% emphasized that they have never used them, which shows a low incorporation of natural resources in the classroom. In addition, 12% mentioned that they use them sometimes, while a much lower percentage 6% indicated that they use them often and the other 3% indicated that they always use it.

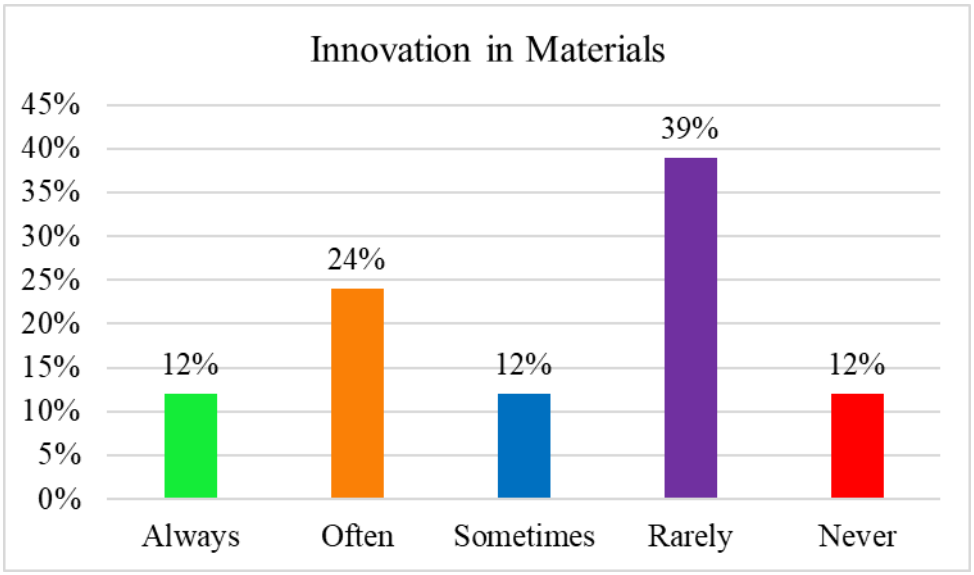
The data obtained reflect the low frequency of the use of natural materials rather than industrial materials, which may be due to several factors. First of all, it is possible that they perceive that these materials do not directly contribute to the learning of speaking skills, which could prioritize the use of manufactured materials. Also, the lack of access to these resources or the perception that collecting them involves additional time or effort. This suggests the need to promote innovative materials that include natural materials in a sustainable way, giving students the opportunity to interact with the environment.

Question 10:

In your English classes, how often do you use innovative resources such as digital games that promote new ways of learning?

Figure 10

Eco-friendly materials: Innovation in Materials



Note: Frequency of use of innovative resources such as digital games

Analysis and Interpretation

According to the results in Figure 10, the results show that the use of innovative resources such as digital games that promote new ways of learning is not common in English classes. The majority of students 39% indicated that this is rarely used, while 24% stated that they use them often, which evidences the low incorporation. On the other hand, 12% stated that they always use them and the other 12% indicated that they are used sometimes, and 12% mentioned that they are never implemented. This shows that their use is limited, although there is some interest in including these resources in the classroom.

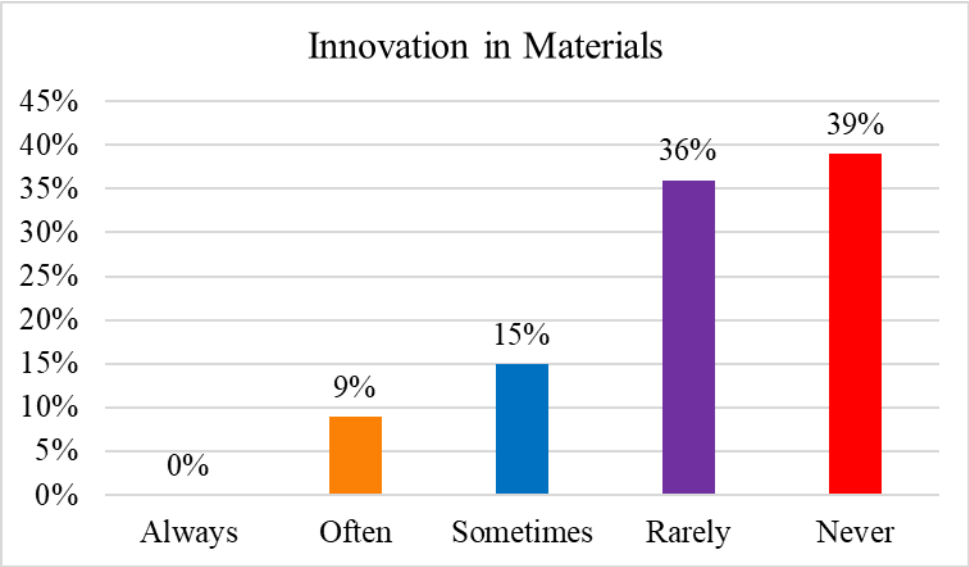
The data obtained show that there is limited integration of innovative resources such as digital games. This could be influenced by the perception that these resources do not fit into traditional teaching methods or are not aligned with curriculum objectives. However, the relatively high frequency of their use often suggests that some teachers are exploring these tools, recognizing their potential to enrich learning experiences.

Question 11:

In your English classes, how often do you use biodegradable teaching materials for educational activities?

Figure 11

Eco-friendly materials: Innovation in Materials



Note: Frequency of use of biodegradable teaching materials in educational activities

Analysis and Interpretation

According to the results in Figure 11, the results reveal that the use of biodegradable materials in the educational activities of the English classes is very limited. Thirty-nine percent of the students indicated that they never use this type of materials, while 36% indicated that they use them rarely, which in total reflects the scarce integration of these resources. Additionally, 15% affirmed that they use them sometimes, while a smaller percentage (9%) mentioned that they use them often. It should be noted that none of the students responded that these materials are always used, which confirms the lack of ecological awareness in the classroom.

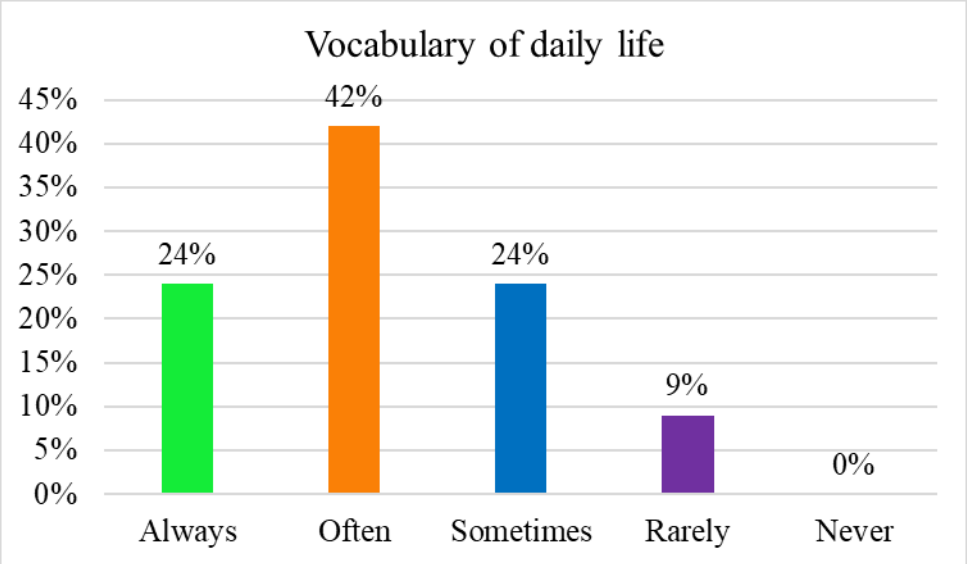
The data obtained show that there is little use of biodegradable materials. First, one of the reasons is that teachers may prioritize conventional materials for their availability, durability or ease of use, especially if the curricula do not explicitly promote the use of sustainable practices in their creative projects or handicrafts. On the other hand, the perception that the use of biodegradable materials requires more effort or planning together with the lack of practical examples that demonstrate their usefulness in activities related to environmental issues could discourage their use.

Question 12:

When having a speaking activity, how often do you use words and expressions related to everyday situations in class, such as shopping for food, playing sports, making plans with friends?

Figure 12

Grammar and Vocabulary: Vocabulary of daily life



Note: Frequency of use of vocabulary and expressions related to everyday situations

Analysis and Interpretation

The results show that most of the students frequently use words and expressions related to everyday situations during speaking activities in class. Forty-two percent of the students indicated that they often use this type of vocabulary, while 24% always do so. This shows that a significant part of the students is exposed to real everyday communicative situations in their classes. Next, 24% mentioned that they sometimes use this type of expressions, which indicates that they do not do so constantly. Finally, 9% said rarely, while none of the students stressed that they never use these expressions related to everyday situations.

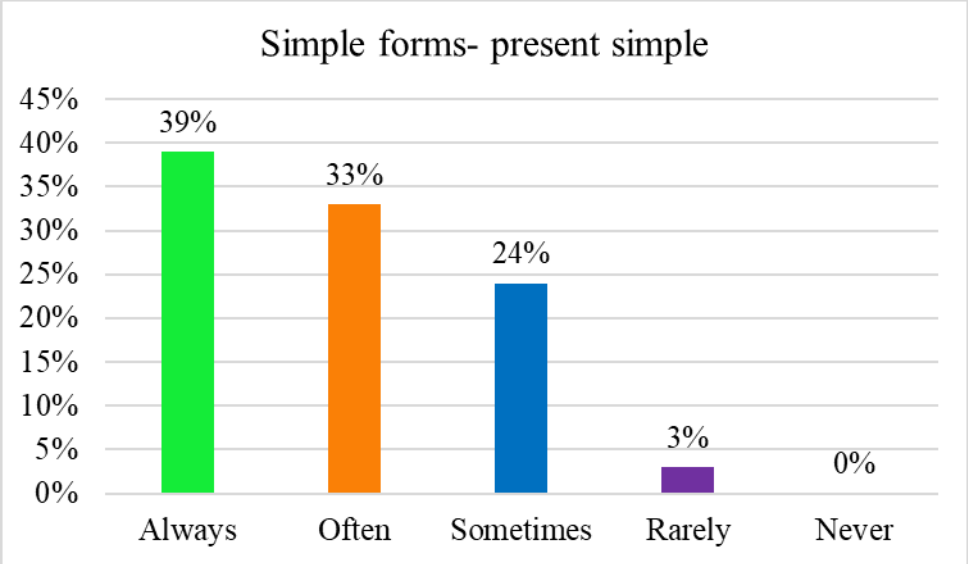
The data obtained show that there is frequent use of vocabulary related to everyday situations in speaking activities, which makes learning relevant and practical for students. It is possible that teachers are promoting activities that simulate real-life scenarios such as conversations about shopping, sports or social plans. This is related to the need to develop communication skills that students can use outside the classroom to improve their speaking confidence and fluency.

Question 13:

When having a speaking activity, how often do you use simple forms, such as the present simple, to communicate orally in class?

Figure 13

Grammar and Vocabulary: Simple forms- present simple



Note: Frequency of use of the present simple tense in speaking activities

Analysis and Interpretation

According to the results in Figure 13, the vast majority of students use simple forms, such as present simple, regularly in speaking activities. First 39% of the student's state that they always use these forms, while 33% do it often. It shows that a significant proportion of the population is comfortable employing these simple grammatical structures in their interactions. A total of 24% of the students indicate that they sometimes use these forms which reflects a less constant application. However, only 3% of the students indicated that they rarely use them, while none indicated that they never use them.

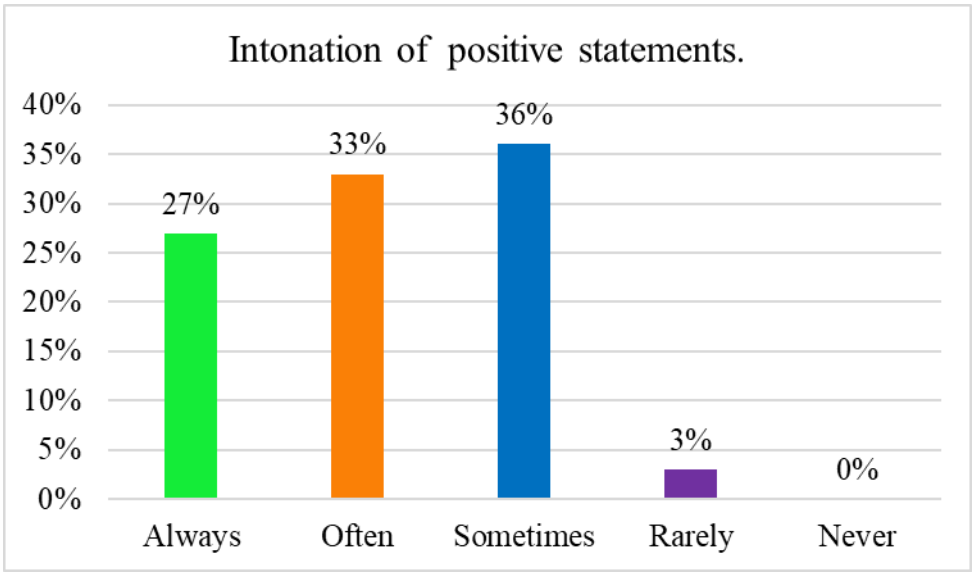
The data obtained show that the frequent use of the simple present tense during oral activities in class suggests that students are mastering a basic grammatical structure that allows them to communicate effectively. The high frequency of its use indicates that teachers are focusing on reinforcing simple grammatical forms that are essential for establishing fluency in oral expression, especially in basic communicative activities. Finally, the fact that none of the students had ever selected it highlights the importance of this verb tense in the development of speaking skills.

Question 14:

When having a speaking activity, how often do you practice intonation of positive statements during classroom activities? Examples: I am happy, She is reading.

Figure 14

Pronuntation: Intonation of positive statements



Note: Frequency of practicing intonation in positive affirmations

Analysis and Interpretation

According to the results in Figure 14, the practice of intonation in positive affirmations during speaking activities is frequent in English classes. Thus, 36% of the students indicate that they sometimes do this type of practice, while 33% mention that they do it often. After this, 27% say that they always work on the intonation of this type of sentences. This indicates that more than half of the students have regular exposure to this aspect of pronunciation. Finally, only 3% of the respondents indicated that they rarely participate in related activities and no students reported that they never practice this aspect.

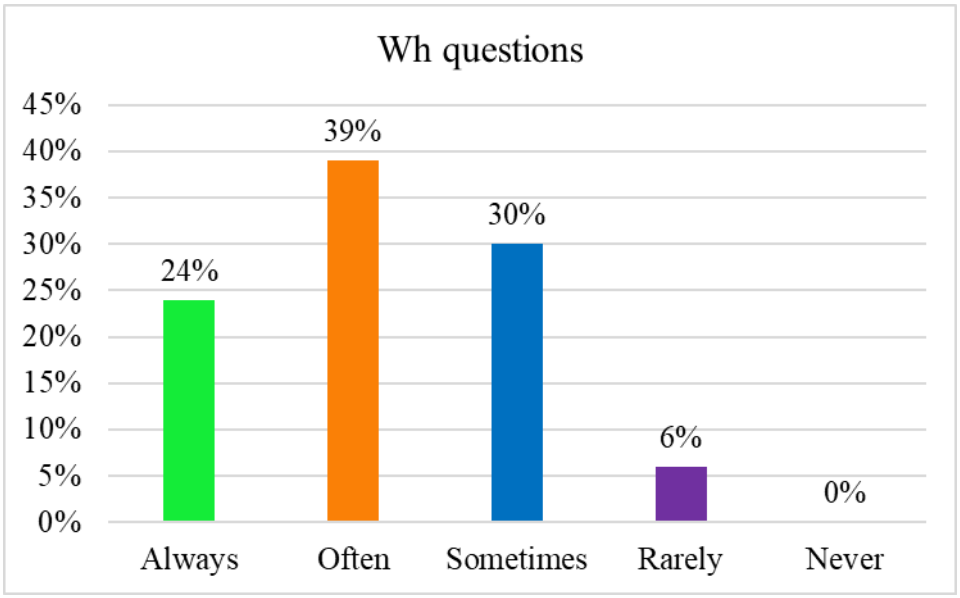
The data obtained from the frequency with which students practice intonation in positive statements improve pronunciation and fluency skills. This suggests that teachers recognize the importance of intonation as an essential component of effective communication. However, there is a considerable percentage who practice only sometimes and this could be because it is not given constant attention in class or that the activities are divided among other aspects of pronunciation.

Question 15:

When having a speaking activity, how often do you practice intonation of Wh (what, who, when, when, where, why) questions in class? Examples: What is your name? Where do you live?

Figure 15

Pronuntation: Wh questions



Note: Frequency of intonation practice in wh questions

Analysis and Interpretation

According to the results in Figure 15, intonation in Wh questions is common in speaking activities. The first one, 39% of the students reported that they often do this type of practice, while 30% mention that they do it sometimes and the other 24% claim that they always practice it. This shows that most students have regular exposure to this aspect of pronunciation. Only 6% of the respondents indicate that they rarely work on the intonation of these questions, and none reported that they never do.

The data obtained indicate the high frequency of intonation in wh questions. The reason for this is that these structures are essential for everyday communication and are widely used in interactive activities. On the other hand, teachers integrate them as part of didactic strategies to improve both pronunciation and interaction skills; however, the variability in the responses could be that teachers dedicate class time to vocabulary or grammar.

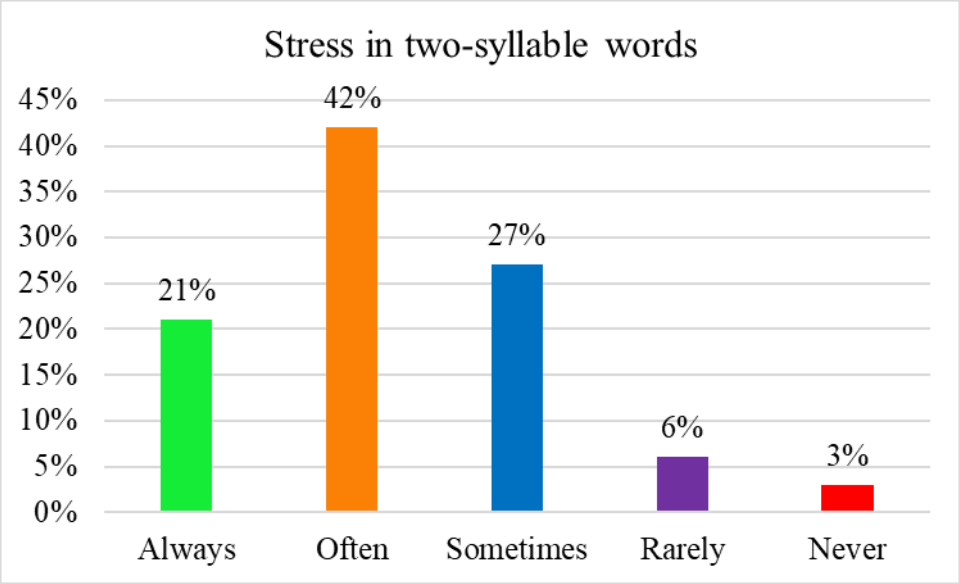
Question 16:

When having a speaking activity, how often do you practice the stress in two-syllable words?

Examples: record /rɪˈkɔːrd/ /rɪˈkɔːd/, project /ˈprɑː.dʒekt/ /ˈprɒdʒ.ekt/

Figure 16

Pronuntation: Stress in two-syllable words



Note: Frequency of stress practice in two-syllable words

Analysis and Interpretation

According to the results in Figure 16, the practice of stressing two-syllable words during speaking activities is frequent in English classes. The 42% of the students reported that they often practice this aspect, while 27% do it sometimes and 21% affirm that they always practice it. Finally, only 6% indicated that they do it rarely and 3% none indicated that they never work on this aspect of pronunciation.

The data obtained show that there is a high percentage of students who practice stress in two-syllable words frequently, reflecting the fact that this aspect is considered important in English classes. Probably, teachers integrate it into pronunciation activities because of its relevance to improve speaking fluency. However, the percentage of students who practice it only sometimes or rarely indicates that not enough time is always dedicated to this aspect in the classroom.

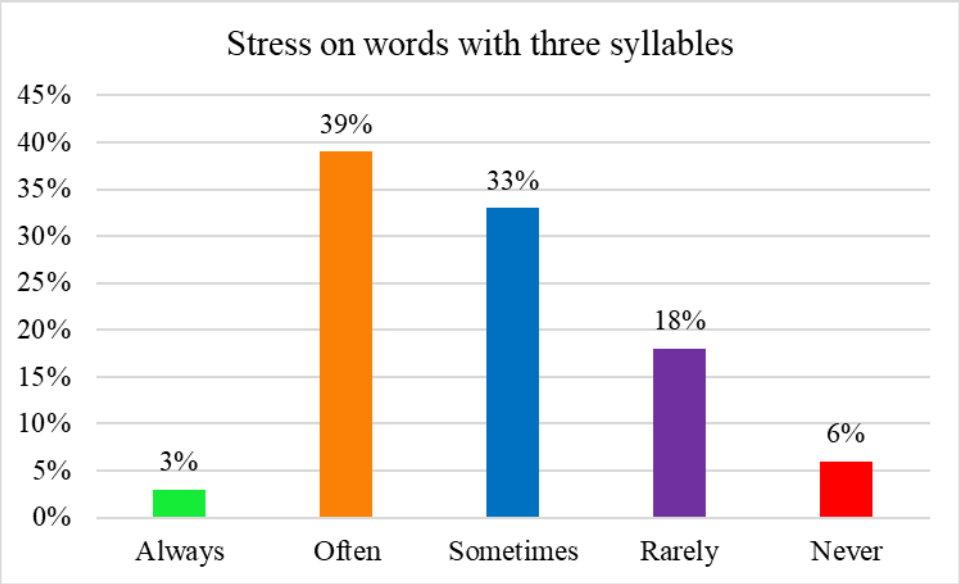
Question 17:

When having a speaking activity, how do you often practice the pronunciation of three-syllable words that end with the suffix (ly)?

Examples: happily /ˈhæp.əl.i/, properly /ˈprɑː.pɚ.li/, rapidly /ˈræp.ɪd.li/

Figure 17

Pronuntation: Stress on words with three syllables



Note: Frequency of practice in the pronunciation of three-syllable words with suffix ly

Analysis and Interpretation

According to the results in Figure 17 of the frequency of practicing pronunciation of three-syllable words with -ly suffix, about 39% of the learners practice pronunciation of words with -ly suffix often, while 33% practice it sometimes. In addition, only 3% practice it always and 18% rarely. Finally, 6% of the learners emphasize that they never practice it. In general, the practice of this type of words is not constant among students, but a significant part of them do it frequently.

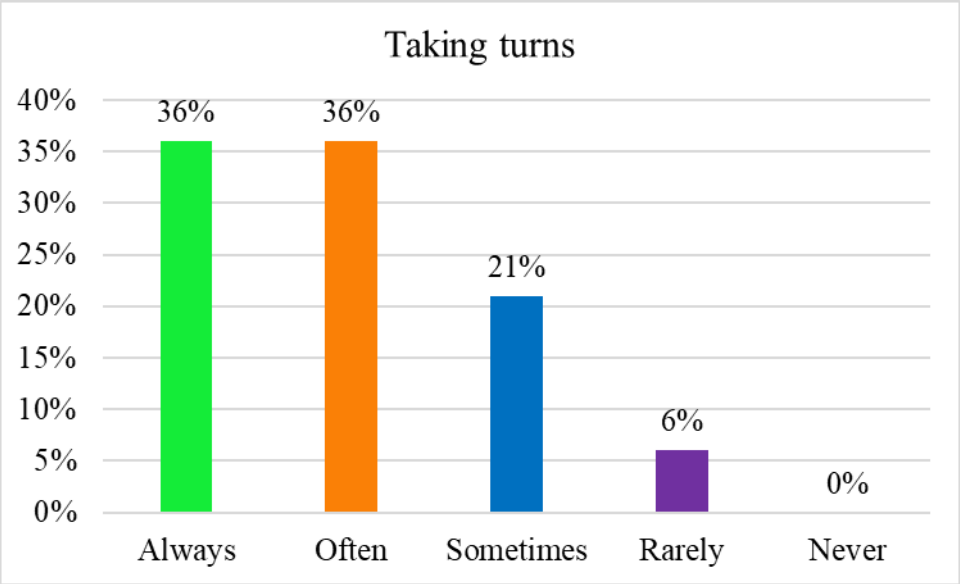
The data obtained reflect that a considerable proportion of students practice the pronunciation of words with the -ly suffix with some regularity, the fact that only a small percentage do so consistently suggest that there may be a lack of emphasis on this aspect of pronunciation. In order to improve fluency and accuracy in speaking, it would be beneficial for teachers to provide more opportunities to practice the pronunciation of words with the -ly suffix in order to achieve greater confidence in their use.

Question 18:

During a conversation, how often do you take turns giving your opinion or answering questions?

Figure 18

Interactive Communication: Taking turns



Note: Frequency of taking turns to give opinions or answer questions

Analysis and Interpretation

According to the results in Figure 18 of the frequency of taking turns giving opinions or answering questions, 36% of the students always take turns giving their opinion or answering questions, while another 36% do it often. In addition, 21% do it sometimes, while 6% do it rarely. Finally, absolutely none of the students indicated that they never participate in this type of turn-taking activity. The results show that a significant majority of students actively participate in class conversations.

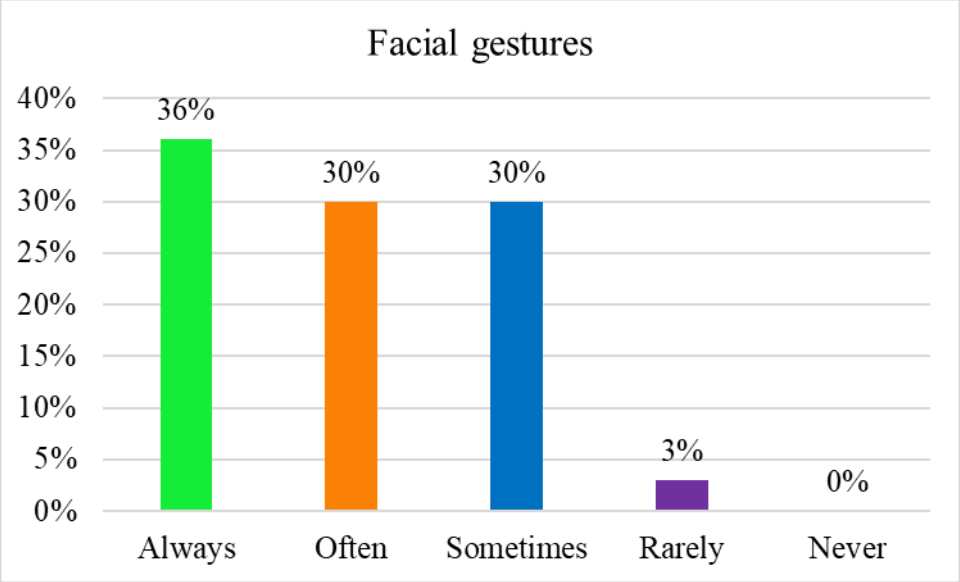
The results obtained suggest that most students participate regularly in conversations, taking turns to express opinions or answer questions, which shows active interaction in the classroom. However, a small percentage do so less frequently. In this way, we observe that there are different levels of confidence when speaking or less participation in certain activities. Finally, to improve this percentage, activities could be designed to promote a more equitable distribution of turns in order to promote a more inclusive participation among students.

Question 19:

During a dialogue, how often do you use facial gestures (smiling, frowning, raising, eyebrows) to communicate during classroom activities?

Figure 19

Interactive Communication: Facials Gestures



Note: Frequency of use of facial gestures in classroom activities.

Analysis and Interpretation

According to the results of Figure 19 on the use of facial gestures during classroom activities, the results indicated that 36% of the students always use facial gestures such as smiling, frowning, or raising their eyebrows during classroom activities. In addition, 30% of the students do it often and the other 30% do it sometimes. Finally, 3% do it rarely, while no student selected that they never use facial gestures in dialogue activities.

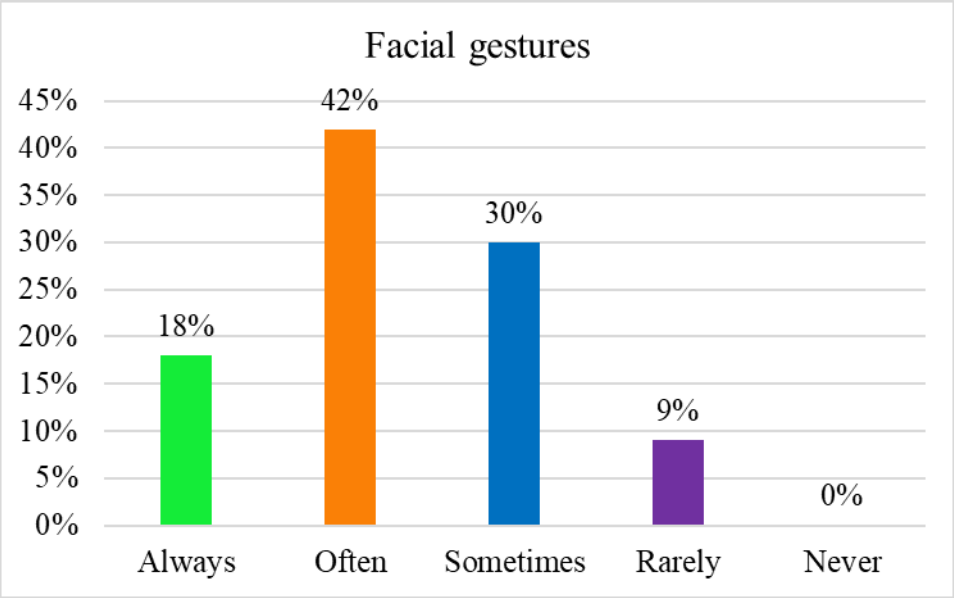
The data obtained show that a large proportion of students use facial gestures regularly during dialogue activities, which may indicate a high level of interaction in conversations. The use of facial gestures is a natural form of nonverbal communication that aids interaction and emotional connection between participants. However, a small percentage use it less frequently which could suggest a reliance on the use of gestures or less use of these strategies in classroom activities.

Question 20:

During a discussion, how often do you use facial gestures in your presentations or classroom conversations to better convey your ideas?

Figure 20

Interactive Communication: Facials Gestures



Note: Frequency of use of facial gestures in presentations or classroom conversations

Analysis and Interpretation

According to the results, 42% of the students often use facial gestures during their presentations or classroom conversations to better convey their ideas. Approximately 30% indicated that they do it sometimes, while 18% always do it. In addition, 9% of the students rarely use facial gestures and no student reported that they never use them in their discussions or presentations. Finally, the results indicate that most students resort to the use of facial gestures to convey their ideas.

The data obtained show the frequent use of facial gestures by a significant proportion of students indicates that many value nonverbal conversation as an effective tool for expressing their ideas and improving comprehension during classroom interactions. However, there is also a notable proportion of students who use it less frequently. This reflects a lack of awareness of the importance of gestures in communication that could improve with practice.

3.2 Verification of hypotheses

Table 2

Pearson correlation coefficient

Correlations			
		VI	VD
VI	Pearson Correlation	1	-,014
	Sig. (2-tailed)		,939
	N	33	33
VD	Pearson Correlation	-,014	1
	Sig. (2-tailed)	,939	
	N	33	33

Note: Results of Pearson's correlation coefficient

The results obtained through Pearson's correlation test indicate that the coefficient obtained is r = -0.014 which indicates a very weak negative relationship between the variables nature pedagogy and speaking skills. This value suggests there is a slight tendency that an increase in the implementation of nature pedagogy could be associated with a slight decrease in speaking skills a negative relationship practically null. Furthermore, the p-value = 0.939 is significantly above the 0.05 threshold, indicating that the observed correlation is not significant. Therefore, considering this low correlation value rejects the alternative hypothesis and accepts the null hypothesis.

Consequently, the acceptance of the null hypothesis is based on the lack of a statistically relevant correlation. Despite the fact that the theories and foundations of diverse skills, in this particular case, the data do not show sufficient evidence to affirm that there is a direct relationship between the level of implementation of this pedagogy and speaking skills. Furthermore, it is relevant to consider that a weak correlation such as the one found may be the result of multiple factors such as the diversity of educational contexts, previous experiences in language learning or the teacher's training in natural pedagogical approaches. These elements could have a significant influence on the students' oral skills, which reduces the strength of the observed relationship.

3.3 Discussion of results

The main objective of this research was to determine the relationship of nature pedagogy with speaking skills, with the purpose of examining if there is a significant correlation between these two variables or results revealed that there is no relationship between these two variables. This aligns with the results of previous research on sustainable pedagogies by Peralta et al. (2023) indicated similar results with a significance of 0.606 which exceeds the significance threshold of 0.05. This finding suggests that the exclusive use of environmental themes does not contribute to the cognitive development of language learning.

The results of Mendoza et al. (2024) at San Daniel Comboni School in Esmeraldas show a different approach. This study highlighted the implementation of activities based on sustainable education with both a qualitative and quantitative approach, where teachers showed great interest in applying tools to strengthen oral expression in English using didactic resources adapted to the environment, which allowed a better development of the language. In this research, only an increase in sensory activities was observed, since it was only descriptive research for which there was no significant relationship. This result suggests that in descriptive contexts, Nature pedagogy does not influence speaking, while its design in experimental applications has a positive impact on communicative development.

In the study developed by Lien (2023), he evaluated the effectiveness of outdoor activities in improving students' speaking skills at Dong Nai University of Technology, Vietnam, using questionnaires and semi-structured interviews with a mixed quantitative and qualitative approach. The results showed an increase of 47% in confidence, 53% in motivation and 44% in the ability to communicate in real contexts. On the other hand, according to the data obtained in the Nature Pedagogy research, which addresses the relationship between variables, Lien's study shows more specific improvements in interaction and fluency, while this research suggests a more limited overall development, with increases of 28.5% in interactive communication and 30.5% in pronunciation.

Chapter IV. Conclusions and Recommendations

4.1 Conclusions

In order to conclude, the main objective of this study was to determine the relationship between Nature Pedagogy and Speaking Skills. Through this research, several results were obtained that led to the following conclusions:

- The theoretical framework established a classification of Nature Pedagogy practices into three main categories: Sensoriality, Eco-identity and Eco-friendly materials. These dimensions were established to comprehensively develop the key aspects of nature-based learning, highlighting its importance in the creation of a sustainable educational environment. In addition, the speaking subskills of grammar and vocabulary, pronunciation and interactive communication were analyzed. The division established examined the relationship between the two variables. However, it is determined that there is no significant relationship since the p-value is equal to 0.939 which is higher than 0.05.
- The survey demonstrates the formation of Nature Pedagogy practices that the students used in the program. This shows that, in general, the dimension Sensoriality presented the highest results, highlighting the activation of the senses and multisensory engagement, where most students indicated frequent participation in activities that stimulate their senses. In contrast, the eco-friendly materials dimension showed the lowest results, especially in the use of recycled materials, sustainable natural resources and biodegradable materials, where more than 70% of the students indicated little or no implementation of these practices in their English classes.
- The second part of the survey reflects that the speaking subskills implemented by students in the program varied significantly among the dimensions evaluated. Interactive communication was the most developed, especially in aspects such as turn-taking and the use of facial gestures, showing active participation in these activities. In contrast, pronunciation was the dimension least worked on, particularly in the stress on three-syllable words, where more than half of the students reported a low implementation of these sub-skills in English classes.

4.2 Recommendations

Today it is important for teachers to promote innovation in their teaching process through new sustainable educational approaches such as Nature Pedagogy. For this purpose, some key recommendations for implementing this methodology are presented below.

- Nature Pedagogy practices, such as sensoriality, eco-identity and eco-friendly materials, should be more directly integrated with the speaking sub-skills. This will allow students to develop their speaking skills and establish a deeper connection to the natural environment. By combining these elements, the relationship and relevance between the two variables can be demonstrated, creating a better educational experience.
- It is suggested that teachers promote practices that integrate Nature Pedagogy in a balanced way including activities that promote emotional connection, direct contact with nature as well as those that use sustainable materials. In addition, teachers should design strategies that support sensory diversity and resource innovation to ensure greater frequency and active participation in these practices to strengthen the development of their speaking skills.
- It is proposed that during students' learning they combine speaking subskills and perform specific activities that focus on the development of less developed subskills such as intonation and word stress. As well as practicing speaking in specific contexts will contribute to the development of communicative competencies in more complex situations.

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Annexes

Annex 1: Approved letter of commitment

ANEXO 3
FORMATO DE LA CARTA DE COMPROMISO.

CARTA DE COMPROMISO

Ambato, Agosto 9 2024

Doctor
Marcelo Nuñez
Presidente
Unidad de titulación
Facultad de Ciencias Humanas y de la Educación

Yo, Mg. Sarah Iza, en mi calidad de Coordinadora de la Carrera de Pedagogía de los Idiomas Nacionales y Extranjeros, me permito poner en su conocimiento la aceptación y respaldo para el desarrollo del Trabajo de Titulación bajo el Tema: "NATURE PEDAGOGY AND SPEAKING SKILL" propuesto por el/la estudiante CHICAIZA LAICA MÓNICA MISHELL, portador/a de la Cédula de Ciudadanía, 05500650352 estudiante de la Carrera de Pedagogia de los Idiomas Nacionales y Extranjeros Facultad de Ciencias Humanas y de la Educación de la Universidad Técnica de Ambato.

A nombre de la Institución a la cual represento, me comprometo a apoyar en el desarrollo del proyecto.

Particular que comunico a usted para los fines pertinentes.

Atentamente,

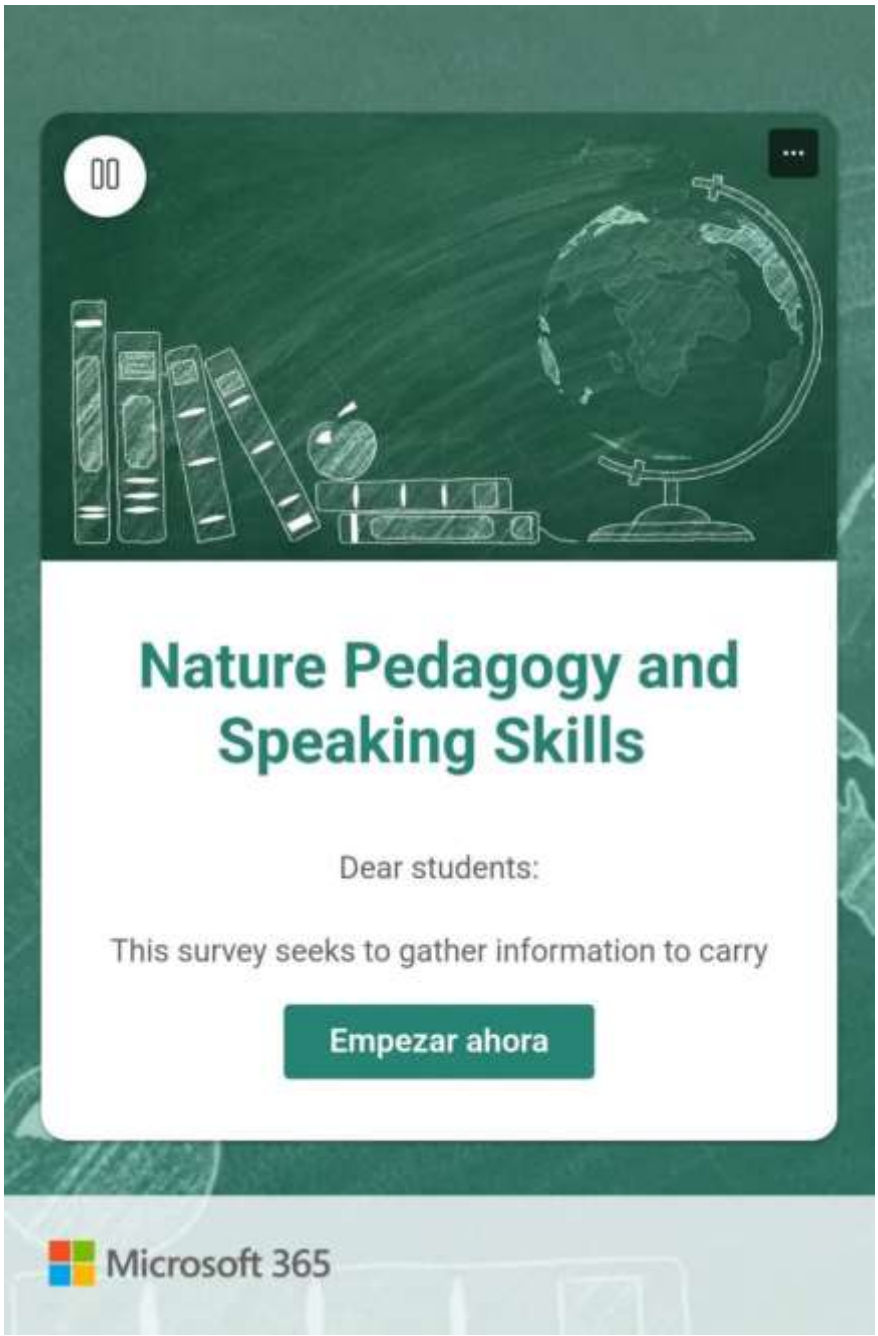
Lcda. Sarah Jacqueline Iza Pazmiño, Mg.
Coordinadora de la Carrera
0501741060
0984060528 sj.iza@uta.edu.ec

UNIVERSIDAD TÉCNICA DE AMBATO
CARRERA DE PEDAGOGÍA DE LOS IDIOMAS EXTRANJEROS
COORDINACIÓN

Annex 2: Survey

Annex 2: Survey

Survey Link: https://forms.office.com/r/g8jqucuNKm



Annex 3: Cronbach Alpha validation

Reliability Statistics

Cronbach's Alpha	N of Items
,804	20

Annex 4: Aiken validation

Validez basado en el contenido a través de la V de Aiken

VARIABLE	DIMENSIÓN	SUBDIMENSIÓN	Nº ITEMS	FACTOR	MEDIA	DE	V AIKEN
NATURE PEDAGOGY	SENSORIALITY	Activation of senses	Item 1	Relevancia	4	0,00	1,00
				Pertinencia	4	0,00	1,00
				Claridad	4	0,00	1,00
		Activation of senses	Item 2	Relevancia	4	0,00	1,00
				Pertinencia	4	0,00	1,00
				Claridad	4	0,00	1,00
		Sensory experiences	Item 3	Relevancia	4	0,00	1,00
				Pertinencia	4	0,00	1,00
				Claridad	4	0,00	1,00
		Multi-Sensory Engagemen	Item 4	Relevancia	4	0,00	1,00
				Pertinencia	4	0,00	1,00
				Claridad	4	0,00	1,00
	ECO-IDENTITY	Environmental awareness	Item 5	Relevancia	4	0,00	1,00
				Pertinencia	4	0,00	1,00
				Claridad	4	0,00	1,00
		ional connection with Na	Item 6	Relevancia	4	0,00	1,00
				Pertinencia	4	0,00	1,00
				Claridad	4	0,00	1,00
		ional connection with Na	Item 7	Relevancia	4	0,00	1,00
				Pertinencia	4	0,00	1,00
				Claridad	4	0,00	1,00
	ECO-FRIENDLY MATERIALS	Recycled materials	Item 8	Relevancia	4	0,00	1,00
				Pertinencia	4	0,00	1,00
				Claridad	4	0,00	1,00
		stainable natural resource	Item 9	Relevancia	4	0,00	1,00
				Pertinencia	4	0,00	1,00
				Claridad	4	0,00	1,00
		Innovation in Materials	Item 10	Relevancia	3,6	0,89	0,87
				Pertinencia	3,6	0,89	0,87
				Claridad	3,6	0,89	0,87
		Innovation in Materials	Item 11	Relevancia	3,6	0,89	0,87
				Pertinencia	3,6	0,89	0,87
				Claridad	3,6	0,89	0,87
SPEAKING SKILLS	Grammar and Vocabulary	Vocabulary of daily life	Item 12	Relevancia	4	0,00	1,00
				Pertinencia	4	0,00	1,00
				Claridad	4	0,00	1,00
		mple forms- present simpl	Item 13	Relevancia	4	0,00	1,00
				Pertinencia	4	0,00	1,00
				Claridad	4	0,00	1,00
	Pronunciation	mation of positive statem	Item 14	Relevancia	4	0,00	1,00
				Pertinencia	4	0,00	1,00
				Claridad	4	0,00	1,00
		Wh questions	Item 15	Relevancia	4	0,00	1,00
				Pertinencia	4	0,00	1,00
				Claridad	4	0,00	1,00
		tress in two-syllable word	Item 16	Relevancia	4	0,00	1,00
				Pertinencia	4	0,00	1,00
				Claridad	4	0,00	1,00
		s on words with three syll	Item 17	Relevancia	4	0,00	1,00
				Pertinencia	4	0,00	1,00
				Claridad	4	0,00	1,00
	Interactive Communication	Taking turns	Item 18	Relevancia	4	0,00	1,00
				Pertinencia	4	0,00	1,00
				Claridad	4	0,00	1,00
		Facial Gestures	Item 19	Relevancia	4	0,00	1,00
				Pertinencia	4	0,00	1,00
				Claridad	4	0,00	1,00
		Facial Gestures	Item 20	Relevancia	4	0,00	1,00
				Pertinencia	4	0,00	1,00
				Claridad	4	0,00	1,00

Annex 5: Experts' validation

UNIVERSIDAD TÉCNICA DE AMBATO
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CARRERA DE PEDAGOGÍA DE LOS IDIOMAS NACIONALES Y EXTRANJEROS
FICHA DE VALIDACIÓN DE LOS INSTRUMENTOS DE RECOLECCIÓN DE INFORMACIÓN
UNIDAD DE TITULACIÓN

VALIDATION MATRIX

Relevance: The item is appropriate to represent the specific component or dimension of the construct.	1 Not Relevant 2 Moderately Relevant 3 Relevant 4 Totally relevant
Coherence: The statement of the item is understood without any difficulty, it is concise, exact and direct.	1 Not clear 2 Somewhat clear 3 Clear 4 Completely clear
Pertinene: The item corresponds to the formulated theoretical concept	1 Not pertinent 2 Moderately pertinent 3 **Pertinent** 4 Totally pertinent

		Relevance				Pertinence				Coherence				Observations
	Dimension: the instrument is multidimensional	1	2	3	4	1	2	3	4	1	2	3	4	
N°	Items													
Independent variable: Nature Pedagogy														
1	In your English classes, how often does your teacher ask you to perform activities that involve the activation of your senses (sight, hearing, touch, taste)?				✓				✓				✓	
2	In your English classes, how often are you encouraged to close your eyes and concentrate on what you hear or feel as in relaxation activities?				✓				✓				✓	
3	In your English classes, how often do you participate in activities that involve direct sensory experiences such as touching plants and hearing natural sounds?				✓				✓				✓	
4	During speaking activities, how often do you do participate in activities that require the use of several senses at the same time such as combining sight and hearing?				✓				✓				✓	
5	In your English classes, how often do you address topics related to environmental awareness such as recycling or conservation?				✓				✓				✓	
6	In your English classes, how often do you do activities that allow you to share your feelings or personal experiences related to nature, such as talking about green places you like?				✓				✓				✓	
7	In your English classes, how often do you talk about how experiences in nature affect your mood or emotional well-being for example feeling relaxed or happy after spending time outdoors?				✓				✓				✓	
8	In your English classes, how often are recycled materials like paper or bottles used in activities?				✓				✓				✓	
9	In your English classes, how often do you use natural materials that can be sustainably collected, such as leaves, stones, branches, instead of factory-made materials?				✓				✓				✓	
10	In your English classes, how often do you use educational games made with innovative materials that are not only recyclable, but also offer new ways of learning?				✓				✓				✓	
11	In your English classes, how often is the use of interactive digital tools, biodegradable teaching materials, recycled materials for educational activities discussed in class?				✓				✓				✓	

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UNIDAD DE TITULACIÓN

| | Dependent variable: Speaking Skills | | |

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VALIDATION MATRIX

Relevance: The item is appropriate to represent the specific component or dimension of the construct.	1 Not Relevant 2 Moderately Relevant 3 Relevant 4 Totally relevant
Coherence: The statement of the item is understood without any difficulty, it is concise, exact and direct.	1 Not clear 2 Somewhat clear 3 Clear 4 Completely clear
Pertinene: The item corresponds to the formulated theoretical concept	1 Not pertinent 2 Moderately pertinent 3 **Pertinent** 4 Totally pertinent

		Relevance				Pertinence				Coherence				Observations
	Dimension: the instrument is multidimensional	1	2	3	4	1	2	3	4	1	2	3	4	
N°	Items													
Independent variable: Nature Pedagogy														
1	In your English classes, how often does your teacher ask you to perform activities that involve the activation of your senses (sight, hearing, touch, taste)?				✓				✓				✓	
2	In your English classes, how often are you encouraged to close your eyes and concentrate on what you hear or feel as in relaxation activities?				✓				✓				✓	
3	In your English classes, how often do you participate in activities that involve direct sensory experiences such as touching plants and hearing natural sounds?				✓				✓				✓	
4	During speaking activities, how often do you do participate in activities that require the use of several senses at the same time such as combining sight and hearing?				✓				✓				✓	
5	In your English classes, how often do you address topics related to environmental awareness such as recycling or conservation?				✓				✓				✓	
6	In your English classes, how often do you do activities that allow you to share your feelings or personal experiences related to nature, such as talking about green places you like?				✓				✓				✓	
7	In your English classes, how often do you talk about how experiences in nature affect your mood or emotional well-being for example feeling relaxed or happy after spending time outdoors?				✓				✓				✓	
8	In your English classes, how often are recycled materials like paper or bottles used in activities?				✓				✓				✓	
9	In your English classes, how often do you use natural materials that can be sustainably collected, such as leaves, stones, branches, instead of factory-made materials?				✓				✓				✓	
10	In your English classes, how often do you use educational games made with innovative materials that are not only recyclable, but also offer new ways of learning?				✓				✓				✓	
11	In your English classes, how often is the use of interactive digital tools, biodegradable teaching materials, recycled materials for educational activities discussed in class?				✓				✓				✓	

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	Dependent variable: Speaking Skills													
12	When having a speaking activity, how often do you use words and expressions related to everyday situations in class, such as shopping for food, playing sports, making plans with friends?				✓			✓				✓		
13	When having a speaking activity, how often do you use simple forms, such as the present simple, to communicate orally in class?				✓			✓				✓		
14	When having a speaking activity, how often do you practice intoning of positive statements during classroom activities? Examples: I am happy, She is reading.				✓			✓				✓		
15	When having a speaking activity, how often do you practice intoning of Wh (what, who, when, when, where, why) questions in class? Examples: What is your name? Where do you live?				✓			✓				✓		
16	When having a speaking activity, how often do you practice the stress in two-syllable words? Examples: record /rɪˈkɔːrd/ /rɪˈkɔːd/, project /ˈprɑː.dʒekt/ /ˈprɒdʒ.ekt/				✓			✓				✓		
17	When having a speaking activity, how do you often practice the pronunciation of three-syllable words that end with the suffix (ly)? Examples: happily /ˈhæp.əl.i/, properly /ˈprɑː.pɚ.li/, rapidly /ˈræp.ɪd.li/				✓			✓				✓		
18	During a conversation, how often do you take turns to give your opinion or to answer questions?				✓			✓				✓		
19	During a dialogue, how often do you use facial gestures (smiling, frowning, raising, eyebrows) to communicate during classroom activities?				✓			✓				✓		
20	During a discussion, how often do you use facial gestures in your presentations or classroom conversations to better convey your ideas?				✓			✓				✓		

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Place of work: UTA	Academic degree: Master in English Applied Linguistics	
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VALIDATION MATRIX

Relevance: The item is appropriate to represent the specific component or dimension of the construct.	1 Not Relevant 2 Moderately Relevant 3 Relevant 4 Totally relevant
Coherence: The statement of the item is understood without any difficulty, it is concise, exact and direct.	1 Not clear 2 Somewhat clear 3 Clear 4 Completely clear
Pertinene: The item corresponds to the formulated theoretical concept	1 Not pertinent 2 Moderately pertinent 3 **Pertinent** 4 Totally pertinent

		Relevance				Pertinence				Coherence				Observations
	Dimension: the instrument is multidimensional	1	2	3	4	1	2	3	4	1	2	3	4	
N°	Items													
Independent variable: Nature Pedagogy														
1	In your English classes, how often does your teacher ask you to perform activities that involve the activation of your senses (sight, hearing, touch, taste)?				✓				✓				✓	
2	In your English classes, how often are you encouraged to close your eyes and concentrate on what you hear or feel as in relaxation activities?				✓				✓				✓	
3	In your English classes, how often do you participate in activities that involve direct sensory experiences such as touching plants and hearing natural sounds?				✓				✓				✓	
4	During speaking activities, how often do you do participate in activities that require the use of several senses at the same time such as combining sight and hearing?				✓				✓				✓	
5	In your English classes, how often do you address topics related to environmental awareness such as recycling or conservation?				✓				✓				✓	
6	In your English classes, how often do you do activities that allow you to share your feelings or personal experiences related to nature, such as talking about green places you like?				✓				✓				✓	
7	In your English classes, how often do you talk about how experiences in nature affect your mood or emotional well-being for example feeling relaxed or happy after spending time outdoors?				✓				✓				✓	
8	In your English classes, how often are recycled materials like paper or bottles used in activities?				✓				✓				✓	
9	In your English classes, how often do you use natural materials that can be sustainably collected, such as leaves, stones, branches, instead of factory-made materials?				✓				✓				✓	
10	In your English classes, how often do you use educational games made with innovative materials that are not only recyclable, but also offer new ways of learning?				✓				✓				✓	
11	In your English classes, how often is the use of interactive digital tools, biodegradable teaching materials, recycled materials for educational activities discussed in class?				✓				✓				✓	

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Dependent variable: Speaking Skills																
12	When having a speaking activity, how often do you use words and expressions related to everyday situations in class, such as shopping for food, playing sports, making plans with friends?				✓			✓				✓				
13	When having a speaking activity, how often do you use simple forms, such as the present simple, to communicate orally in class?				✓			✓				✓				
14	When having a speaking activity, how often do you practice intoning of positive statements during classroom activities? Examples: I am happy, She is reading.				✓			✓				✓				
15	When having a speaking activity, how often do you practice intoning of Wh (what, who, when, when, where, why) questions in class? Examples: What is your name? Where do you live?				✓			✓				✓				
16	When having a speaking activity, how often do you practice the stress in two-syllable words? Examples: record /rɪˈkɔːrd/ /rɪˈkɔːd/, project /ˈprɑːˌdʒekt/ /ˈprɒdʒ.ekt/				✓			✓				✓				
17	When having a speaking activity, how do you often practice the pronunciation of three-syllable words that end with the suffix (ly)? Examples: happily /ˈhæp.əl.i/, properly /ˈprɑː.pɚ.li/, rapidly /ˈræp.ɪd.li/				✓			✓				✓				
18	During a conversation, how often do you take turns to give your opinion or to answer questions?				✓			✓				✓				
19	During a dialogue, how often do you use facial gestures (smiling, frowning, raising, eyebrows) to communicate during classroom activities?				✓			✓				✓				
20	During a discussion, how often do you use facial gestures in your presentations or classroom conversations to better convey your ideas?				✓			✓				✓				

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Pertinene: The item corresponds to the formulated theoretical concept	1 Not pertinent 2 Moderately pertinent 3 **Pertinent** 4 Totally pertinent

		Relevance				Pertinence				Coherence				Observations
	Dimension: the instrument is multidimensional	1	2	3	4	1	2	3	4	1	2	3	4	
N°	Items													
	Independent variable: Nature Pedagogy													
1	In your English classes, how often does your teacher ask you to perform activities that involve the activation of your senses (sight, hearing, touch, taste)?				✓				✓				✓	
2	In your English classes, how often are you encouraged to close your eyes and concentrate on what you hear or feel as in relaxation activities?				✓				✓				✓	
3	In your English classes, how often do you participate in activities that involve direct sensory experiences such as touching plants and hearing natural sounds?				✓				✓				✓	
4	During speaking activities, how often do you do participate in activities that require the use of several senses at the same time such as combining sight and hearing?				✓				✓				✓	
5	In your English classes, how often do you address topics related to environmental awareness such as recycling or conservation?				✓				✓				✓	
6	In your English classes, how often do you do activities that allow you to share your feelings or personal experiences related to nature, such as talking about green places you like?				✓				✓				✓	
7	In your English classes, how often do you talk about how experiences in nature affect your mood or emotional well-being for example feeling relaxed or happy after spending time outdoors?				✓				✓				✓	
8	In your English classes, how often are recycled materials like paper or bottles used in activities?				✓				✓				✓	
9	In your English classes, how often do you use natural materials that can be sustainably collected, such as leaves, stones, branches, instead of factory-made materials?				✓				✓				✓	
10	In your English classes, how often do you use educational games made with innovative materials that are not only recyclable, but also offer new ways of learning?				✓				✓				✓	
11	In your English classes, how often is the use of interactive digital tools, biodegradable teaching materials, recycled materials for educational activities discussed in class?				✓				✓				✓	

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| | Dependent variable: Speaking Skills | | |

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	Dimension: the instrument is multidimensional	Relevance				Pertinence				Coherence				Observations
		1	2	3	4	1	2	3	4	1	2	3	4	
N°	Items													
Independent variable: Nature Pedagogy														
1	In your English classes, how often does your teacher ask you to perform activities that involve the activation of your senses (sight, hearing, touch, taste)?				X				X				X	
2	In your English classes, how often are you encouraged to close your eyes and concentrate on what you hear or feel as in relaxation activities?				X				X				X	
3	In your English classes, how often do you participate in activities that involve direct sensory experiences such as touching plants and hearing natural sounds?				X				X				X	
4	During speaking activities, how often do you do participate in activities that require the use of several senses at the same time such as combining sight and hearing?				X				X				X	
5	In your English classes, how often do you address topics related to environmental awareness such as recycling or conservation?				X				X				X	
6	In your English classes, how often do you do activities that allow you to share your feelings or personal experiences related to nature, such as talking about green places you like?				X				X				X	
7	In your English classes, how often do you talk about how experiences in nature affect your mood or emotional well-being for example feeling relaxed or happy after spending time outdoors?				X				X				X	
8	In your English classes, how often are recycled materials like paper or bottles used in activities?				X				X				X	
9	In your English classes, how often do you use natural materials that can be sustainably collected, such as leaves, stones, branches, instead of factory-made materials?				X				X				X	
10	In your English classes, how often do you use educational games made with innovative materials that are not only recyclable, but also offer new ways of learning?		X				X				X			Confusing question. Q9 is almost similar
11	In your English classes, how often is the use of interactive digital tools, biodegradable teaching materials, recycled materials for educational activities discussed in class?		X				X				X			This question is similar to 8.

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	Dependent variable: Speaking Skills												
12	When having a speaking activity, how often do you use words and expressions related to everyday situations in class, such as shopping for food, playing sports, making plans with friends?				X				X				X	
13	When having a speaking activity, how often do you use simple forms, such as the present simple, to communicate orally in class?				X				X				X	
14	When having a speaking activity, how often do you practice intoning of positive statements during classroom activities? Examples: I am happy, She is reading.				X				X				X	
15	When having a speaking activity, how often do you practice intoning of Wh (what, who, when, when, where, why) questions in class? Examples: What is your name? Where do you live?				X				X				X	
16	When having a speaking activity, how often do you practice the stress in two-syllable words? Examples: record /rɪˈkɔːrd/ /rɪˈkɔːd/, project /ˈprɑː.dʒekt/ /ˈprɒdʒ.ekt/				X				X				X	
17	When having a speaking activity, how do you often practice the pronunciation of three-syllable words that end with the suffix (ly)? Examples: happily /ˈhæp.əl.i/, properly /ˈprɑː.pɚ.li/, rapidly /ˈræp.ɪd.li/				X				X				X	
18	During a conversation, how often do you take turns to give your opinion or to answer questions?				X				X				X	
19	During a dialogue, how often do you use facial gestures (smiling, frowning, raising, eyebrows) to communicate during classroom activities?				X				X				X	
20	During a discussion, how often do you use facial gestures in your presentations or classroom conversations to better convey your ideas?				X				X				X	

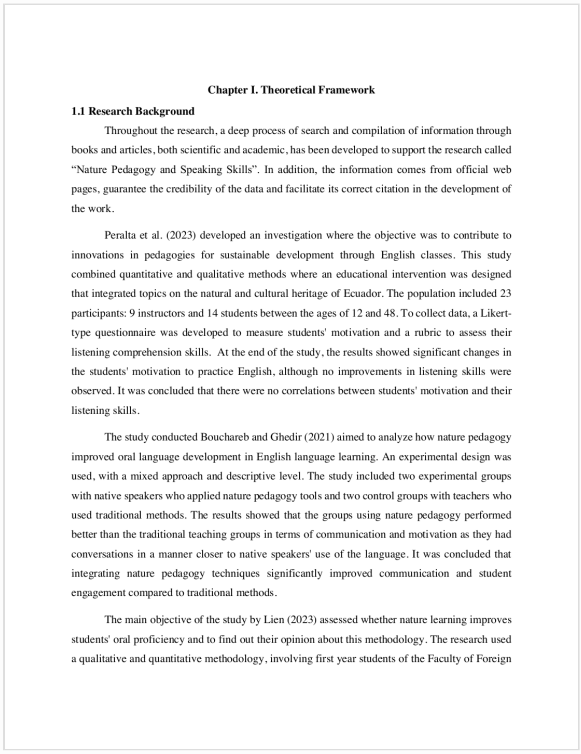
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Chapter I. Theoretical Framework

1.1 Research Background

Throughout the research, a deep process of search and compilation of information through books and articles, both scientific and academic, has been developed to support the research called "Nature Pedagogy and Speaking Skills". In addition, the information comes from official web pages, guarantee the credibility of the data and facilitate its correct citation in the development of the work.

Peralta et al. (2023) developed an investigation where the objective was to contribute to innovations in pedagogies for sustainable development through English classes. This study combined quantitative and qualitative methods where an educational intervention was designed that integrated topics on the natural and cultural heritage of Ecuador. The population included 23 participants: 9 instructors and 14 students between the ages of 12 and 48. To collect data, a Likert-type questionnaire was developed to measure students' motivation and a rubric to assess their listening comprehension skills. At the end of the study, the results showed significant changes in the students' motivation to practice English, although no improvements in listening skills were observed. It was concluded that there were no correlations between students' motivation and their listening skills.

The study conducted Bouchareb and Ghedir (2021) aimed to analyze how nature pedagogy improved oral language development in English language learning. An experimental design was used, with a mixed approach and descriptive level. The study included two experimental groups with native speakers who applied nature pedagogy tools and two control groups with teachers who used traditional methods. The results showed that the groups using nature pedagogy performed better than the traditional teaching groups in terms of communication and motivation as they had conversations in a manner closer to native speakers' use of the language. It was concluded that integrating nature pedagogy techniques significantly improved communication and student engagement compared to traditional methods.

The main objective of the study by Lien (2023) assessed whether nature learning improves students' oral proficiency and to find out their opinion about this methodology. The research used a qualitative and quantitative methodology, involving first year students of the Faculty of Foreign

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Nature Pedagogy and Speaking skills

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