Arhuaco ancestral knowledge as a techno-pedagogical strategy for the development of environmental awareness in fourth-grade students of Colegio La Sagrada Familia

El conocimiento ancestral arhuaco como estrategia tecnopedagógica para el desarrollo de la conciencia ambiental en los estudiantes del grado cuarto del Colegio La Sagrada Familia

O conhecimento ancestral arhuaco como estratégia tecnopedagógica para o desenvolvimento da consciência ambiental em alunos da quarta série do Colégio La Sagrada Familia

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Abstract: The objective of this research was to implement a techno-pedagogical strategy based on the ancestral knowledge of the Arhuaca indigenous community, to develop environmental awareness in fourth-grade students of the primary school 'La Sagrada Familia' in the city of Valledupar. The research had a qualitative approach and a socio-critical paradigm that allowed identifying the potential for change in the way students perceived and related to nature. The action research method was applied, which was developed in three phases: deconstruction, reconstruction, and evaluation. The work unit consisted of 15 students. The results indicated that there was a significant change in the development of environmental awareness in each of its dimensions. It was concluded that, although the implemented technopedagogical strategy provided a great contribution to the integral formation of the student, it is recommended to link technological tools and ancestral knowledge to pedagogical projects, as a contribution to educational processes.

Keywords: environmental awareness, techno-pedagogical strategy, ancestral knowledge.

Resumen: La presente investigación tuvo como objetivo implementar una estrategia tecnopedagógica basada en los conocimientos ancestrales de la comunidad indígena arhuaca, para desarrollar conciencia ambiental en los estudiantes del grado cuarto de la básica primaria del Colegio La Sagrada Familia de la ciudad de Valledupar. La investigación tuvo un enfoque cualitativo y paradigma sociocrítico, que permitió identificar el potencial de cambio en la forma cómo percibían y se relacionaban los estudiantes con la naturaleza; se aplicó el método de investigación acción, que se desarrolló en tres fases, a saber: deconstrucción, reconstrucción y evaluación. La unidad de trabajo estuvo conformada por 15 estudiantes.

Los resultados indicaron que hubo un significativo cambio en el desarrollo de conciencia ambiental en cada una de sus dimensiones. Se concluyó que la estrategia tecnopedagógica implementada proporcionó un gran aporte a la formación integral del estudiante. De igual forma, se recomienda vincular las herramientas TIC y los conocimientos ancestrales a los proyectos pedagógicos como aporte a los procesos educativos

Palabras clave: conciencia ambiental, estrategia tecnopedagógica , conocimientos ancestrales.

Resumo: O objetivo desta pesquisa foi implementar uma estratégia tecnopedagógica baseada no conhecimento ancestral da comunidade indígena arhuaca, para desenvolver a consciência ambiental em alunos da quarta série da escola primária 'La Sagrada Família', na cidade de Valledupar. A pesquisa teve uma abordagem qualitativa e um paradigma sociocrítico que permitiu identificar o potencial de mudança na forma como os alunos percebem e se relacionam com a natureza. O método de pesquisa-ação foi aplicado, desenvolvido em três fases: desconstrução, reconstrução e avaliação. A unidade de trabalho foi composta por 15 alunos. Os resultados indicaram que houve uma mudança significativa no desenvolvimento da consciência ambiental em cada uma de suas dimensões. Concluiu-se que, embora a estratégia tecnopedagógica implementada tenha proporcionado grande contribuição para a formação integral do aluno, recomenda-se vincular ferramentas tecnológicas e saberes ancestrais a projetos pedagógicos, como contribuição aos processos educativos.

Palavras-chave: conhecimento ancestral, estratégia tecnopedagógica, conhecimento ancestral.

1. Introduction

In recent decades, worldwide, great concern has arisen over the environmental crisis to which the prevailing development model has led the planet, which has manifested itself in multiple problems such as climate change, the dramatic loss of biodiversity, the reduction of available fresh water and air pollution, as stated in the sixth report of the United Nations Environment Program (UNEP, 2019).

According to the report, the general state of the environment has continued to deteriorate around the world. Since 1880, the global mean surface temperature has risen between 0.8 and 1.2 degrees Celsius, recording eight of the ten warmest years on record in the past decade. Regarding air pollution, pollution causes between six and seven million premature deaths a year; 95% of the planet's population lives in areas with levels of fine particles higher than those recommended by the World Health Organization (WHO) (UNEP, 2019).

The protected areas do not reach sufficient percentages of terrestrial habitats, reaching only 15%; the same happens with the coastal and marine areas, which only reach 16%; there is a large number of species in danger of extinction, whose percentage is found in 42% of terrestrial invertebrates: 34% of freshwater and 25% of marine ones. Since 1970 it has been noticed that a large percentage of the planet's wetlands no longer exist, being important ecosystems to improve climate change conditions (UNEP, 2019). Regarding the report,

> 'Urgent measures on an unprecedented scale are needed to stop and reverse this situation and thus protect human and environmental health', the report concludes. The positive side is that the measures that must be taken are known and that

> they are even included in international treaties such as the Paris Agreement or the so-called Sustainable Development Goals (SDGs). The loss of biodiversity and air pollution must be halted, water and resource management improved, climate change mitigated and adapted to it, and resources used efficiently, among others. (Planelles, 2019, para. 3)

Similarly, in Colombia, the classic model of development is a model based primarily on economic growth which seeks to exploit the natural system, causing a gap in the relationship established between human beings and nature. According to a preview of the V National Biodiversity Report, prepared by the Ministerio del Medio Ambiente and the UN Development Program (UNDP, 2014), environmental damage is due to several 'motors', namely: land exploitation, the destruction of ecosystems due to the invasion of species that do not belong to the environment, water pollution, which has become a problem due to mining, livestock farming, and other economic exercises that prevail over environmental conservation and, finally, climate change.

Regarding the transformation and loss of biodiversity, the degradation of the natural forest and deforestation continue to be important drivers. Regarding deforestation, the natural forest cover went from 56.5% in 1990 to 51.4% in 2010. The deforested areas have been transformed mainly into pastures for cattle ranching and agricultural areas, while the deterioration of the forest is linked to interventions in the territory, associated with the expansion of mining, crops for illicit use, and the extraction of tropical wood (Ministerio de Ambiente y Desarrollo Sostenible, Programa de las Naciones Unidas para el Desarrollo, 2014).

Amid this environmental crisis, laws, norms, and decrees have been established so that companies, natural persons, and educational institutions found strategies for the conservation and preservation of the environment, such as Law 629 of 2000, "using which approves the 'Kyoto Protocol' of the United Nations Framework Convention on Climate Change", Law 23 of 1973, "by which extraordinary powers are granted to the President of the Republic to issue the Code of Natural Resources and Environmental Protection and other provisions", and Decree 1743 of 1994:

> Whereby the Environmental EducationProject is instituted for all levels of formal education, criteria are set for the promotion of non-formal and informal environmental education, and coordination mechanisms are established between the Ministerio de Educación Nacional and the Ministerio del Medio Ambiente.

However, despite the regulatory advances in environmental matters and the efforts made to comply with the provisions, the outlook is not encouraging.

> [Some authors] such as Eschenhagen (2007), Leff (2007), Arias and López (2009), and Noguera (2011) have pointed out that the environmental crisis is not the crisis of depletion of non-renewable natural resources as the discourse has presented of sustainable development, but rather a crisis of modern culture, of the epistemology with which Western civilization has understood being and their environment. (Vargas, 2015, p. 21)

Therefore, it is necessary to develop processes that recognize the diversity of knowledge and generate an intercultural dialogue that contributes to the creation of new knowledge, behavior patterns, reflections, and behaviors about the environment (Vargas, 2015).

Meanwhile, indigenous communities show a different way of seeing and inhabiting the world that, in our opinion, poses an alternative to the prevailing development model and the transformation of the relationships that some human beings have established with nature. Some social groups, globally and nationally, have proposed alternatives arising from Andean worldviews and conceptions of life, such as Sumak kawsay or 'Good Living' in Ecuador, and Suma Qamaña or 'Living Well' in Bolivia, philosophies that claim:

> A vision of life in fullness, in harmony and balance with nature, without a human being at the center and with happiness that also goes through a good spiritual life, far from the industrialist [...] and predatory model, where accumulation, competition [...], individualism and the notion of economic value to all things [...] are the foundations. (Niel, 2011, as cited in Vargas, 2015, p. 24)

> All indigenous peoples [...], although with different denominations according to each language, context, and form of relationship, conceive the concept of living well, which can be synthesized in:
>
> 'Know how to live in harmony and balance; in harmony with the cycles of Mother Earth, the cosmos, life, and history, and balance with all forms of existence in permanent respect' (Huanacuni, 2010, as cited in Vargas, p. 25).
>
> In Colombia, the indigenous peoples of the Amazon refer to the concept of living well [...] when speaking of 'Returning to the Maloka', which is defined as 'returning to ourselves; it is to further value ancestral knowledge, the relationship harmonious with the environment [...]; it is to protect our knowledge, technologies, and sacred sites; it is not to be an individual but a collective being [...]; it is to take advantage of what the Western world offers without abandoning its own social and cultural values, and practices. (Huanacuni, 2010, as cited in Vargas, 2015, pp. 25-26)

So, based on an intercultural proposal that has been raised from environmental education and the Good Living of each indigenous people, with their knowledge and ancestral practices of environmental protection and life in harmony with nature, the present project seeks to contribute to the construction of environmental culture, through a techno-pedagogical proposal based on Arhuaco ancestral knowledge, aimed at developing environmental awareness in primary school students of the La Sagrada Familia School in Valledupar, who, despite environmental training received, carry out polluting actions and aggression against the fauna of the school, which raises the need to contribute to raising awareness about the environmental problems we face today.

Therefore, it seeks to potentiate education in ecological values and practices that lead human beings to deconstruct their relationship with nature that, until now, has generated the deterioration of many natural ecosystems. In this way, it is intended to generate a brotherly relationship with Mother Earth and recognize the damage done to nature when its resources are contaminated or abused, against the ancestral principles that good living and reciprocity speak to. Likewise, it is important to generate awareness from the experience and relationship with Mother Earth, so that all this knowledge is later multiplied autonomously and voluntarily by each of the students, in whatever context where they are.

Given the situation, the following questions arise:

- How a techno-pedagogical strategy based on Arhuaco ancestral knowledge would facilitate the development of environmental awareness in primary school children of the La Sagrada Familia School in Valledupar?
- How to identify knowledge of the Arhuaco worldview and their position towards nature in them?
- How to design a techno-pedagogical strategy based on indigenous ancestral knowledge, so that it contributes to developing environmental awareness in students?
- How to implement a techno-pedagogical strategy based on knowledge of indigenous ancestors, that contributes to developing environmental awareness?
- How to assess the effects generated by a techno-pedagogical strategy implemented in the development of environmental awareness?

To answer these questions, the following general objective was raised: Develop environmental awareness through the implementation of a techno-pedagogical strategy based on the ancestral knowledge of the Arhuaca indigenous community in fourth-grade students of Colegio La Sagrada Family from the city of Valledupar. To achieve this, specific objectives were directly linked to the development of each of the implemented activities, namely: Identify the knowledge of the Arhuaco worldview and the position towards nature in the students; design a techno-pedagogical strategy based on indigenous ancestral knowledge, which contributes to developing environmental awareness in them; implement and evaluate this strategy.

To justify the investigation, it was taken into account that the progressive deterioration of the environment is one of the problems that most afflict not only Colombia, but the entire world, and the educational sector is no stranger to this reality since it has entrusted it with the task of generating processes that lead to awareness and the generation of pro-environmental values and practices, which translates into a challenge for educational institutions, forced to propose strategies that contribute to conservation and preservation environment. According to Rengifo et al. (2012):

> Today, in our Colombian society, there is a need for an environmental education that persists in knowledge, attitudes, behaviors, and habits towards the environment, aimed at making humanity change its classic conception that nature is a passive and complacent element, which is automatically regenerated because it is an infinite good, always available to satisfy the whims of the human being. (p. 3)

La Sagrada Familia de Valledupar School, complying with the legal provisions that urge educational institutions to generate training processes in environmental matters, has included different environmental contents in its curriculum, developing environmental education chairs and annually executing the Environmental School Project (PRAE), stipulated in Decree 1743 of 1994. However, behaviors that contribute to the environmental deterioration of the school have been observed, such as the mistreatment of animals and plants belonging to the fauna and flora of the institution, and the inadequate deposit of solid waste in the respective bins for this purpose, especially in elementary school students.

Therefore, the researchers consider it important to implement educational proposals that strengthen the affective bond of students with nature, through the experience of the Arhuaca indigenous community, generating awareness and development of values, relationships, attitudes, and environmental behaviors. With this purpose, the present techno-pedagogical strategy is carried out, which, being innovative, uses ICT tools and directly involves students in carrying out their activities and generates greater interest and participation for them, which produces significant learning.

This strategy is based on the ancestral knowledge of the Arhuaca indigenous community, which allows an intercultural experience that, in addition to attracting attention and clearing up doubts, aims to promote environmental awareness in fourth-grade children, in the unlearn and learn from a new relationship with nature, so that later this learning is reflected in practice and in the daily life of each one of them in any context. In this way, they will become information multipliers and, with their practice, they will set an example, generating environmental awareness in other people, and applying the principles of ancestral knowledge on environmental issues.

In the investigation process, works such as that of Arredondo et al. (2018) in the international context were reviewed. The authors make a comparative study in the localities of Chiapas, Mexico, between experiences and practices of environmental education in four rural primary schools of formal school systems and the alternative educational model that is practiced within an autonomous school, through school ethnography and the hermeneutic-dialectical method of the constructionism. As the strategies proposed in the official textbooks were not sufficient, in daily practices, teachers and external actors carried out extracurricular activities that take into account the environmental and cultural context and put in direct contact the children with elements of nature, generating greater motivation, significance and interest in environmental issues and the promotion of knowledge, appropriation, and appreciation of nature.

Regarding the previous investigation, it is shared that how environmental education has been developed has not managed to promote sufficient appropriation and social responsibility in the face of daily environmental problems; in part, because the environmentalist discourse reproduced in schools is framed in a technical and scientific logic that makes no sense for students and does not generate an authentic appreciation and awareness of nature. Therefore, it is necessary to implement alternative educational models that arise from the dialogue of different knowledge and develop interdisciplinary, intercultural, integrative, contextualized, and holistic pedagogical strategies, for the generation of critical, purposeful thinking and promoter of lifestyles in harmony with nature (Arredondo et al., 2018).

In this way, an aspect that generates an important contribution to current research and that must be taken into account is that students can have direct contact with all the elements of nature that are part of their environment. In this way, greater enthusiasm and links with nature can be generated in them when carrying out the proposed activities, which could be very positive in generating greater environmental awareness.

At the national level, the research of Garavito and Chaparro (2017) stands out, who carry out a study of the projects developed at the José Félix Restrepo IED School since 2011, aimed at integrating

ancestral knowledge in the classroom, resorting to the presence of some indigenous groups from the Muisca, Arawak, Misak, Huitoto, and Ticuna communities, to rescue their knowledge on environmental, cultural, community, and territorial issues. The methodological approach is part of qualitative research and uses qualitative and descriptive information, linked to ethnographic exploration.

This research is novel and very significant outside of the usual contents of the curriculum and the traditional chair referring to the environment, to accommodate the knowledge of the Taitas, grandparents, and mamos of various indigenous communities, through the power of the word and different activities such as singing workshops to water, awareness of the Pachamama, ceremonies, word circles, eco-yoga activities, muralism, music, and visits to empower and recognize territories, to learn holistically about the forms used by these groups to take care of their territories, resources, communities, respect for water, species, and the environment in general.

Likewise, this experience calls on teachers and educational institutions to promote and generate intercultural experiences that allow not only to contribute to environmental education, but also to training in ethics and humanities, to strengthen identity, based on the link with other worldviews and relationships with nature and, to the construction of a social fabric that favors the senses of citizenship, by perceiving the sacred in the experience with nature and the divine in sharing with the ecosystem.

In this way, the contribution of this study to current research is the promotion of interculturality based on the experience of people belonging to the indigenous community in the study area: La Sagrada Familia School, where a small percentage of students are part of this community, whose experiences, told first-hand, will be a great contribution to the motivation of other students.

In the local context, the research by Castro and López (2019) was found, whose objective was to promote, through environmental culture, the saving and efficient use of water. The educational institutions involved were the following: Pedro Castro Monsalvo Technical Educational Institution (INSTPECAM), Upar Educational Institution, Alfonso López Pumarejo Educational Institution, and CASD Educational Institution, from the municipality of Valledupar.

The results and conclusions of this research showed that the strategies used motivated and transformed the habits of the educational community by assuming new roles in favor of caring for the river as the main source of water in the city. In addition, specifically, the technological strategies, such as the use of software, apps, and interactive pages, allowed the development of critical-reflexive thinking and the acquisition of a commitment to the conservation and saving of water.

Regarding local studies related to using ancestral Arhuaco knowledge to develop environmental awareness or other similar, no evidence of current work has been found that provides bases for the background of this research.

For a better understanding of this research work in terms of the theories developed, the Arhuaco ancestral knowledge was addressed. According to the Arhuaco worldview, in the beginning, the Mother of Origin designated each of the peoples some commitments that make up the Law of Origin, the sacred mandate that contains the principles and elements that sustain the existence and the harmony of the universe, the which was determined by the Mother to govern and regulate everything that exists in the universe.

So, the Law of Origin is a set of teachinglearning codes that influences and directs the order and functions of the communities and all the expressions and actions within the different areas of the daily and spiritual life of the peoples, mediated and supported by the oral tradition that is taught from their languages, at the head of the Mamos, must be respected to guarantee social coexistence, harmony, and balance between all the natural components that constitute the body of Mother Earth (Consejo Territorial de Cabildos Gobernadores de la Sierra Nevada de Santa Marta [CTC] and Ministerio de Cultura, 2016).

The Law of Origin is the highest standard and basis of thought for the indigenous peoples of the Sierra Nevada de Santa Marta; from there, their Ancestral Knowledge and Wisdom System was instituted, which cannot be understood in a fragmented or separate manner, but rather as an intertwined tissue that shapes

the structure of a whole, which it is holistic and comprehensive. Therefore, ancestral knowledge is defined as the set of ideas, principles, and norms established from the Law of Origin, related together with behavior, to maintain the balance and harmony of Mother Nature. This allows them to preserve the structure of their worldview (CTC and Ministerio de Cultura, 2016).

They call it the Law of Origin because the Mother defined it that way when the world only existed in thought; this means that the materialization of the world was determined by that original Law; therefore, it is considered the essence and raison d'être of all existence itself and a normative principle, compliance with which depends on the coexistence, harmony, and balance required for the life of all species and/or beings in the world and universe. Thus, for the peoples of the Sierra, it becomes the maximum guide for all events in life, which does not exclude any society or human group, since it concerns the principles of life in the universe and the forces that govern it (CTC and Ministerio de Cultura, 2016).

Regarding environmental awareness, certain attitudinal and behavioral aspects that are linked to each person's culture must be considered; thus, Leff (1998, as cited in Prada, 2013) expresses:

> Faced with the current global environmental problems and the lack of citizen commitment to care for the environment, it has become essential to search for strategies that allow reflection and the development of an ecological culture to transform the relations between man and nature, from a new knowing, understanding, seeing, and acting, which allows in daily life to assume attitudes of cooperation, solidarity, and environmental awareness. This culture is generally understood as an awareness of the different social actors and a mobilization of citizens to protect the environment. (p. 232)

Therefore, any proposal, strategy, or process in environmental education has the purpose of developing environmental awareness, a term defined as follows:

> 'The set of experiences, knowledge, perceptions, attitudes, behaviors, values, motivations, and experiences that the individual actively uses to solve problems in their environment in a sustainable way' (Adelina et al., 2012); that is, environmental awareness is related to knowledge of the environment, to the attitudes that we show towards an environmental problem, to the behaviors that we adopt, and to the experiences that we experience in the environment where we live. (Bravo, 2017, pp. 47-48)

Becoming aware of our role in the environment is the general objective of any Environmental Education program and it should be sought to achieve in all citizens, to ensure sustainable development and the future of the earth.

Morachimo and Cattaneo (1999, as cited in Bravo, 2017) express that:

> Environmental awareness is determined by the development of moral awareness about the local environment. In this sense, environmental awareness is understood as:
>
> The moral-ethical level that allows you to choose freely and critically before actions of conservation, protection, and sustainable use of the environment, which has been promoted through activities that motivate you, allow you to acquire knowledge, facilitate experimentation, evoke your commitment, and allow you to act on your local environment. (p. 50)
>
> Environmental awareness occurs in stages that are related to the dimensions of [environmental awareness]; that is, with the affective, cognitive, conative, and active. For an individual to acquire a commitment to caring for the environment that surrounds him, he must integrate these dimensions of environmental awareness into his daily actions. (Gomera, 2008, as cited in Bravo, 2017, p. 52)

TABLE 1
Environmental awareness as a tool for environmental education

Dimension	Characteristics	Actions
Cognitive	Category of information and understanding about issues related to the environment	Ideas are discussed
Affective	Perception of the environment; Beliefs and feelings in environmental matters	Emotions are discussed
Conative	Willingness to adopt pro-environmental criteria in behavior, expressing interest or predisposition to participate in activities and contribute to improvements	Talk about attitudes
Active	Carrying out environmentally responsible actions and behaviors, both individually and collectively, even in compromising or pressure situations	Show behaviors

Source: Gomera (2008, as cited in Bravo, 2017, p. 53)

"These four dimensions are similar to the phases that Morachino proposes to create environmental awareness [...]; environmental education must move from awareness to permanent voluntary action" (Bravo, 2017, p. 53).

TABLE 2
Dimensions of environmental awareness

Authors	Information -Knowledge	Emotions	Attitudes	Behaviors
Gomera, A. 2008	Cognitive	Affective	Conative	Active
Morachino, L. 1999	Knowledge and information Developed capacities	Sensitization and interaction	Valuation and commitment	Voluntary action Experimentation and interaction

Source: Morachino (1999, as cited in Bravo, 2017, p. 54)

On the other hand, pedagogical strategies are all the actions or activities carried out by the teacher to facilitate the training and the teaching-learning process of the students (Gamboa et al., 2013). For Bravo (2008, as cited in Gamboa et al., 2013), pedagogical strategies "make up the curricular scenarios for the organization of training activities and the interaction of the teaching and learning process where knowledge, values, practices, procedures, and typical problems of the training field are achieved" (p. 103).

Likewise, pedagogical strategies are a set of activities, as already mentioned, whose purpose is to allow teachers to meet the objectives set. In this regard, Aguirre et al. (2012) refer: "Not an action, but a set of actions are those that are present in a pedagogical strategy, otherwise, instead of a strategy, what you would have, is an activity" (p. 11). For this reason, students should value the work done by teachers, since this allows them to stimulate, facilitate and promote learning.

A pedagogical strategy must have certain characteristics to be successful; therefore, it must be created in such a way that it can change, taking into account the different circumstances that may occur. Thus, it must be coupled with the changes in the environment, the characteristics of the students, and the priorities of the teacher, to gradually transform, from a real state to a desired state.

Table 3 shows how the structure of a pedagogical strategy should be, according to the approaches of Sierra (2007).

TABLE 3
Structure of a pedagogical strategy

Phases	Indicators
Guidance	Detection of contradictions in a given pedagogical context. Future aspiration, highlighting the improvement of those involved in the educational process. Establishment of socio-pedagogical significance.
Implication	Accuracy of the contribution of the subjects of education and the pedagogical reality to the objective. Lines of action and pedagogical influence. Establishment of commitments and pedagogical responsibility based on their contribution to the objective.
Formulation	Establishment of the degree of the scope of the learning situation. Synthetic expression of concept(s) or intention(s) of the interaction of the pedagogical process that guides the actions. Indication of the variants to raise the concept (s) or intention (s) of the direction of the educational process.
Planning	Relationship between the components of the educational process, according to the concept expressed. Establishment of activities taking into account the changing context in which the learning situation takes place. Establishment of different degrees of complexity of the compensatory, differentiated, and/or developmental activities in the learning situation.
Execution	Establishment of the activities in correspondence with the results of the group and/or individual pedagogical diagnosis. Organizational structure to deploy the actions in the areas of pedagogical influence. Precision for the implications for the direction of the pedagogical process and for the people who are protagonists of the pedagogical process.
Control	Indication of monitoring and control of the previous phases. Establishment of the feasibility of the pedagogical proposal (didactic, educational). Incorporation of measures to promote success in the strategic behavior of students.

Source: Sierra (2007).

Regarding ICT, according to Nieblas (2016), "they are all those resources, tools, and programs used to process, manage, and share information through various technological supports, such as computers, mobile phones, televisions, portable audio and video players, or game consoles" (para. 1).

> The incorporation of ICT into education has become a process whose implications go far beyond the technological tools that make up the educational environment; there is talk of a didactic construction and how significant learning can be built and consolidated based on technology; strictly pedagogical, there is talk of the use of technology in education. (Díaz-Barriga, 2013, as cited in Hernández, 2017, p. 329)

For this reason, technological tools have become educational resources that allow the learning process to be improved; little by little they are breaking with traditional practices (books and boards), to force teachers to update their teaching methods in the ICT role.

On the other hand, "the rise of including ICT in the curriculum is the result of the effort to promote motivation and innovation, as a response to globalization" (Amante & Gómez, 2017, p. 110). "It is difficult for the educational technology that is used today, to generate knowledge by itself; hence, pedagogical

mediation must be immersed in this field along with ICT; this synergy is called techno-pedagogical mediation" (Ramírez et al., 2020, p. 133).

Therefore, the close relationship between technological resources and education is revealed.

> Among the benefits [of ICTs] stands out the variety of methods that can be used, the ease of treatment, the presentation and understanding of certain types of information, the autonomy in the process, and the optimization of individual work; [in addition], it facilitates collaborative work, which broadens the perspective of students, since it shows them [diverse] situations, more efficient learning, and more lasting knowledge. (García, 2006, as cited in Sánchez, 2012, p. 29)
>
> It is precisely in the educational field where ICTs become important as basic tools that contribute to quality learning, [...] serving for the development of autonomous and complex thinking and selective and critical use of information translated into knowledge. (Sánchez, 2012, pp. 30-31)
>
> [Regarding] its design, organization, configuration, and use to facilitate the process, it is based on learning theories such as Gestalt theory, Cognitivism, and Constructivism (Leflore, 2000, as cited in Sánchez, 2012, p. 32).
>
> The Gestalt, by studying perception and its influence on learning, serves as a reference point for the virtual design of materials and instruction, based on perception principles such as figure-ground contrast, simplicity, proximity, similarity, symmetry, and closure (Ormrond, 2008). (Sánchez, 2012, p. 32)
>
> Cognitivism, for its part, reveals the entire set of internal or unobservable processes of thought or reason, known as mental processes involved in knowledge; therefore, the use of concept maps and activation of previous schemes and motivation can help to shape activities within these learning environments. (p. 33)
>
> Similarly, constructivism contributes to the enrichment of a virtual learning environment, since its basic foundation is found in the interaction with knowledge and with other people, the active role of the student in the learning process, the construction of meanings, solving problems, and transferring what has been learned to real contexts. (p. 33)
>
> In the same way, behaviorism has not been alien to virtual learning scenarios, since the contributions of this approach have served as a reference in the organization of most traditional online courses where content is organized by units or levels to which the student has access and, subsequently, responds or performs activities that allow him/her to put into practice the knowledge related to the online content. (p. 34)

2. Methodology

This work is framed within a critical social paradigm whose purpose is to promote social transformations, giving answers to specific problems within a community, but with the participation of its members, involving them in the adoption of consensual decisions for the transformation from the interior (Alvarado & García, 2008). In response to this, it was intended to transform the thought, attitude, and aptitude regarding what primary school students knew as nature, which allowed better care for the preservation and conservation of the environment.

The research had a qualitative approach, with a description of the problem situation and observations within the same community, for which the researchers were present daily in this context, being affected by the problem, seeking a deep understanding of human behavior and the reasons governing such behavior.

The methodological process was oriented under a type of pedagogical-action-research design (IAP), defined by Restrepo (2006) as follows:

> an instrument that allows the teacher to behave as a long-range learner, as a lifelong learner, since it teaches him how to learn, how to understand the structure of his practice, and how to permanently and systemically transform his pedagogical practice. (p. 97)

The importance of applying the IAP investigative method was based on the change in current practices in the face of environmental pedagogy, to achieve pertinent transformations through new didactic strategies that include ancestral knowledge that contributes to the formation of love for nature, bearing in mind the following:

> Non-reflective practice, in effect, imprisons the teacher in a mechanical routine, with minimal variation and creativity, whereas when that is subjected to reflection, self-criticism, and valid reconstruction, the educator frees himself from the

> routine, and in its practice, the innovation, permanent monitoring of the effects of the latter and the systematization of the practice flourish as practical, effective, and supported knowledge. (Restrepo, 2004, as cited in Rojas, 2015, p. 22)

Thus, significant learning in the students will be promoted and the result of the investigation will be more profitable.

The unit of analysis was made up of 27 students of the fourth grade C of the primary school, ranging from 8 to 10 years of age, approximately. The work unit was made up of 15 students, of whom eight were men and seven were girls, mostly belonging to the Vallenato culture, from socioeconomic strata 2, 3, and 4, understanding this as levels of basic livelihood in economic matters in Colombia. The techniques and instruments used to collect information were: observation (field diary), diagnosis and evaluation (questionnaires), and interviews (interview guide).

3. Results

The results respond to the questions and objectives of the research, from the application of techno-pedagogical strategies based on ancestral Arhuaco knowledge, collected through different strategies, techniques, and instruments proposed in the methodological design, which is described in each section of the stages of the IAP method through interaction with the mentioned students. Results of the development of environmental awareness in the different stages of the investigation will be shown.

Stage 1

The first specific objective was executed: Identify the knowledge of the Arhuaco worldview and its position towards the nature of the fourth-grade students of the Colegio La Sagrada Familia through a diagnostic workshop. The results are presented below.

This activity consisted of ten questions with closed answers, applied to 15 students through the Google Form tool:

Question 1: What are the components of nature? 93% of the students mentioned animals, water, plants, mountains, and rocks, while 7%, in addition to these components, identified or mentioned human beings as part of nature.

Question 2: How do you consider nature? 96% of the students answered: like our mother, who must be taken care of to guarantee the existence and coexistence of all species and beings in the world; 4% conceived it as a set of elements that were created to satisfy the needs and sustenance of the human being.

Question 3. How do you consider your dealings with the following components of nature? Animals: 69% of the students answered that they treat them excellently; 27%, give them good treatment, and 3% a regular treatment, which is inferred as respectful treatment. Plants: 41% indicated that they have excellent treatment with them; 49% a good treatment, and 10% a regular treatment, from which it can be deduced that they treat better animals than plants.

Question 4. When you were in face-toface classes at school, did you ever see your classmates inappropriately treating the living (animals, plants) and non-living (water, soil) components of nature? 69% of the students answered yes, while 31% answered no.

Question 5. Do you think that indigenous people should make the most of oil and emerald resources to increase economic gains, even if they contaminate water sources? 100% of the students answered that they should not prefer the exploitation of oil and emeralds, even though they generate economic profits. Among their reasons, they stated that water has great value, since it generates life, while the exploitation of emeralds and coal contaminates water sources and, although it generates economic profits, causes illnesses and deaths.

Question 6. Do you consider it correct to call 'Mother Earth' to Nature? 100% of the students answered yes, attributing a sacred and important value to it, for being the one who cares and provides what is necessary to live; therefore, they consider human beings to love her and take care of her as she takes care of us; like the Arhuaco community, they attribute to the human being the role of protector, and not of the owner of nature.

Question 7. Do you think we must comply with regulations to protect nature? 93% of the students believe that, like the Arhuaca indigenous community, certain rules must be met to protect nature, compared to 7% who said they did not.

Question 8. Do you consider that all animal, vegetable, mineral, and human species come from Mother Nature and that we are all brothers? 82% of the students considered yes, compared to 18% who answered no.

Question 9. Do you consider that all the components of nature -water, wind, animals, plants, minerals, humans, etc.- are part of a single body and that when one of them is affected, the whole body is affected? 72% of the students considered yes, compared to 28% who considered no.

Question 10. Do you think we should compensate or give back to nature for everything received? 90% of the students considered yes, compared to 10% who said the opposite, so the concept of reciprocity must be raised and worked on, where it is stated that, just as we use the goods of Mother Earth, she must be remunerated and paid through sanitation.

Stage 2

Once the diagnostic workshop was developed and its analysis carried out, it was possible to observe some environmental principles related to the Arhuaca indigenous worldview, which should be socialized and deepened with the students, since, despite having knowledge and sharing positions regarding the importance of caring for nature, the behaviors observed and recorded in the field diary showed certain inconsistencies between their cognitive and attitudinal part. In this stage, the design and implementation of a pedagogical strategy based on indigenous ancestral knowledge were carried out; in this way, the second and third objectives of this investigation were executed.

To implement the techno-pedagogical strategy, the interview technique was used; with it, information was collected on the Arhuaco ancestral knowledge and the basic principles that guide how this indigenous community conceives and relates to nature, which allows them for establishing harmonious relationships with Mother Earth, such as the sacred vision of nature, the respect, good living, and reciprocity. The information was organized and shared with the students through a podcast, defined as "digital audio files, easily distributed on the web, and that is linked to RSS syndication systems, allowing it automatic and periodic review" (Solano & Sánchez, 2010, p. 125).

For the realization of the podcast, named 'An ancestral experience with mother nature'[1], the Podnation platform was used and it was organized into three episodes: 1) 'Relationship with Mother Nature'; 2) 'Environmental reciprocity' and, 3) 'Environmental behavior and awareness'.

At the end of the previous process, the episodes were shared with the students through the platform that the school uses to implement its academic activities, called 'Educa Evoluciona', whose characteristics are very similar to those offered by the Google Classroom platform.

Along with each episode listened to, a series of virtual workshops was carried out on the Quizizz and Kahoot platforms: a gamified and interactive questionnaire for students to answer synchronously from their electronic devices, to motivate and promote the learning; likewise, generate pro-environmental commitments and actions that would stimulate awareness about the deterioration of the environment in their surroundings and, with it, the sense of commitment and responsibility, which will lead to actions and projects that contribute to its care. It is important to mention that, to enter the aforementioned digital platforms, the creator of the activity must share the entry link and a code that can be used once, if the activity

is done in real-time, as in this case; therefore, each time the questionnaires are enabled, all the participants have to enter at the same time; the generated login code will be different in each case.

After the reproduction of the podcast episodes and the solution of the workshops on the digital platforms, another activity was carried out, also programmed through the Educa platform, which consisted of representing nature through a drawing and, the way how we should relate to her.

Finally, the environmental proposals and the elaboration of the home garden were executed, to develop environmental awareness in the students, by promoting and generating meeting spaces and relationships with nature directly, experiencing the principles of care and reciprocity, which allowed them to interact differently with it and create fraternal bonds of affection, since they came into contact with the natural elements of the environment, staging and putting into practice the different dimensions of environmental awareness.

Stage 3

In search of the validity and credibility of the implemented techno-pedagogical strategies, an analysis of all the information collected was carried out and an evaluation rubric was applied taking into account all the dimensions that develop environmental awareness. In the same way, a questionnaire was applied based on the new ecological paradigm (NEP), which allowed the execution of the fourth and last specific objective of the investigation (see Table 4), designed and applied through the Google Form tool. The results indicate the feelings, reactions, and attitudes of the students regarding the care and protection of the environment, in addition to measuring the degree of agreement or disagreement concerning the Arhuaco ancestral approaches and principles about the importance and sacred value of the nature, as well as actions that degrade and damage the environment globally and locally.

TABLE 4
NEP questionnaire based on the Likert scale

	NEP Questionnaire					
	Check the option that best represents you	**Strongly disagree 1**	**In disagreement 2**	**Neither agree nor disagree 3**	**In agreement 4**	**Strongly agree 5**
1	Humans were created to rule over the rest of the natural world					
2	The balance of nature is strong enough to support the exploitation of natural resources					
3	Plants and animals have as much right to exist as human beings					
4	Human beings are part of nature and we must care for and protect it					
5	Are we all responsible for the environmental situation at a local, national, and global level, and is it up to us to reduce environmental damage and pollution?					
6	At present, the global environmental situation is very serious due to the contamination of rivers, soil, air, etc.					
7	I think it is important that there is a recycling program in my community since we are contaminating the soil, the river, and the seas					
8	I would like to participate in environmental cleaning and awareness days since I consider it essential to preserve the environment that surrounds us					
9	If there was a solid waste recycling program in my neighborhood, I would participate					

Source: Adapted from Moyano-Díaz and Palomo-Vélez (2014)

The responses to the questionnaire are described below:

Statement 1. Humans were created to rule over the rest of the natural world. 80% of the students declared to be strongly in disagreement and 20% in disagreement.

Statement 2. The balance of nature is strong enough to support the exploitation of natural resources. 100 % declared to be strongly in disagreement.

Statement 3. Plants and animals have as much right to exist as human beings. Students manifested in their entirety, empathy towards plants and animals; this is evidenced by strongly agreeing with the question statement.

Statement 4. Human beings are part of nature and we must care for and protect it. All students strongly agreed with this statement.

Statement 5. Are we all responsible for the environmental situation at a local, national, and global level, and is it up to us to reduce environmental damage and pollution? 93% indicated that they strongly agree with the approach, while the remaining 7% answered that they agreed.

Question 6. At present, the global environmental situation is very serious due to the contamination of rivers, soil, air, etc. 100% of the students answered that they strongly agreed, evidencing great concern for global environmental problems and disapproval of polluting actions and the damage that is generated to the entire planet.

Question 7. I think it is important that there is a recycling program in my community since we are contaminating the soil, the river, and the seas. Students manifested in their entirety to be strongly agreed with this statement.

Question 8. I would like to participate in environmental cleaning and awareness days since I consider it essential to preserve the environment that surrounds us. 100% stated that they strongly agreed; this reflects a positive attitude towards caring for the environment, a high degree of involvement, and an attitude of responsibility for environmental protection.

4. Discussion

Once the results were obtained, it was necessary to analyze them to know the contributions they generated to the research and their importance. This was done in stages, just like how the research was developed.

Stage 1

After analyzing the results of the diagnostic test, some essential aspects can be highlighted: there is a need to reinforce the conception of nature in which the human being is conceived as a living being belonging to it, who shares this planet with other species and it is related to the environment to survive, so that all the components of nature, including human beings, are part of the same life system, which is interconnected and interdependent with each other.

If we were more aware of the fact that we are part of nature and that we depend on it to exist, it would be possible to assume a posture and attitude of respect, and not one of control, domination, and destruction. It is urgent to generate actions that allow assuming the role of protectors and guardians of mother nature.

Finally, it is essential to work on the concept of interdependence or the network of life, in which life is approached as a great network that is interconnected, in which all its elements depend on each other and, the actions and reactions that it takes out in the network are like a spider web: when a thread breaks, the spider web begins to destroy itself. The CTC and the Ministerio de Cultura (2016) emphasized that the Law of Origin is closely related to behavior to maintain balance and harmony between all the natural components that constitute the body of Mother Nature, which allows the structure of their worldview to be maintained.

Stage 2

The incorporation of ICTs in the teaching process has had a significant impact due to their benefits being "correlated and integrated to improve student skills" (Badía et al., 2016, as cited in Ramírez et al., 2020, p.133). Considering this, technological strategies are used to facilitate the information apprehension process and thus, once the students listened to the podcast, a test was applied through the Quizziz and Kahoot platforms, where the development of the cognitive dimension was evidenced, manifested in a significant

degree of attention and apprehension of the knowledge and principles of the Arhuaca community addressed in the different episodes, under the following topics: what is nature, why is it called mother nature, how and under what principles should we relate to nature, what place and role the human being occupies within nature, what is reciprocity, how it is practiced and how we can improve our relationship with mother nature. This allowed evidencing the development of the cognitive dimension as part of environmental awareness, according to what was stated by Prada (2013):

> Environmental knowledge is a complex process that includes the obtaining, analysis, and systematization by the individual, of the information coming from their environment, social by nature; this constitutes an important step for its understanding through concrete actions that, in turn, influence the development of this knowledge. (p. 237)

In the same way, from the observation in the different spaces and socialization meetings, it was verified that the students managed to understand the concept of nature as Mother Earth, arguing that it could be called this way, since all forms of life and because it provides us with all the necessary elements to exist and survive. Regarding the principles of care and reciprocity, they managed to propose everyday examples in which they can apply, according to their contexts, activities to reduce environmental problems and improve their relationship with her.

Regarding the affective dimension, during the meetings and socializations, the students showed feelings of concern about the environmental deterioration of the planet and the risk situation of animal and plant species, stating that they were in favor of their care and protection, demonstrating a significant degree of environmental sensitivity and adherence to ecological values. Their position was also reflected in the different drawings made about nature, in which they reflect a feeling in favor of respect and care for the environment.

The development of the conative dimension was reflected in the willingness to act personally under the principles of care and reciprocity of indigenous ancestral knowledge, denoting attitudes favorable to the protection of nature through the proposals made to recover and improve the environment where are found, evidencing willingness and interest in carrying out activities for the good of the environment, as well as a feeling of individual responsibility in terms of caring for the environment and the awareness of the community to which they belong, showing themselves in favor of the correct management of the garbage, saving energy, caring for animals and plants, creating a recycling program, and fines for people who throw garbage in unauthorized places and/or who harm animals.

When implementing the activity of the home garden, the development of the cognitive and active dimensions was evident, since the students showed mastery and practice of the principles of care and reciprocity with mother nature when selecting the seed, preparing the land for its planting, watering and other necessary care for its cultivation, understanding that this represented retribution for the plants through oxygen and the fruits they would produce. Likewise, they validated the meaning of plants from the Arhuaco worldview, considering them as sacred and important sisters, arguing that they come from Mother Nature, just like human beings, and that they have a fundamental role in the web of life.

The development of this stage shows a great relationship with the research carried out by Ramos et al. (2011), which deals with the transmission of traditional knowledge regarding natural cycles such as climate, lunar and solar cycles through the life history of Nasa indigenous people and work with student boys and girls in Toribio, Cauca. The authors used ethnography, analyzed the interaction between western and indigenous knowledge, and built an educational proposal in which they articulated knowledge about nature, to contribute to education in natural sciences and environmental education, relevant to the country's cultural diversity.

In this way, the children were put in direct contact with the elements of nature in the environmental and cultural context, generating greater motivation, significance, and interest in environmental issues, the promotion of knowledge, appropriation, and appreciation of nature. This research is an invitation for

intercultural education not only to occur in indigenous territories but throughout the national territory, in a dialogue of knowledge that allows the real recognition of the "otherother", its cosmology, and its knowledge.

Under this scenario, deepening indigenous knowledge through their real experience generates a very significant contribution and agrees with the results of this study, since it is desired, in addition to complying with the provisions of the law regarding environmental education, to conceive a learning that lasts over time because when developing the lecture in a real way or natural contexts, students will show greater interest and participation in the activities, which will also cause significant learning.

Stage 3

Once the entire techno-pedagogical strategy was implemented, an evaluation was made to identify the contributions to the research. Through the questionnaire, the change of the students regarding their initial conception of the environment was observed, they ended up rejecting the role of dominance and property that the human being assumed before nature, which led them to exploit natural resources without measuring the degree of destruction and the damage it causes to living beings and the environment in general. Likewise, they managed to perceive nature as a whole, which is interconnected, whose stability depends on the set of relationships of all the living beings that make it up; therefore, they are aware that if there are overexploitation relationships, this will upset the balance, affecting not just one part, but the whole group.

Students took a positive attitude towards recycling, seen as part of the solution to the problem of pollution; thus, regarding this approach, they showed a high willingness to participate in recycling activities and programs, which is evidenced by the results of the ninth question, since in their entirety they stated that they strongly agreed.

In this last stage, as already expressed, it was evidenced that the sense of belonging and other affections towards nature are generated by the direct relationship that the students experienced with Mother Earth, which allowed them to reflect on their environmental behavior, generating critiques that helped them find a solution to the problem presented. Consequently, the teacher must know elements and activities that are carried out in indigenous communities, to improve environmental education and science teaching, as suggested by Rayas et al. (2017), when proposing to incorporate or strengthen the original indigenous visions about the environment in teaching practices.

When reflecting on the role of teachers in this research, the importance of their knowledge about the treatment that indigenous communities have with Mother Earth is evident; this will help in the process of generating greater environmental awareness and ensuring that the progress generated is not only seen as a product of the intervention of the researchers with the students under study but also as a generalized process that can be expanded throughout the institution. Therefore, working with our models of reality and more critical models is a significant contribution that goes beyond the reflection of practice, the didactic and the pedagogical, in the understanding and resolution of the social and environmental problems of the context.

5. Conclusions

The analysis and interpretation of the results allow for establishing conclusions related to the most important aspects thrown in the development of the activities, taking into account each one of the specific objectives, which allows explaining if it was possible to comply with what was stated in the general objective.

From the data obtained through observation and the applied questionnaires, it was possible to identify the techno-pedagogical strategy to be implemented for the development of environmental awareness in students. This diagnosis was adequate and satisfactory since it facilitated to demonstrate after its application, important information consistent with the knowledge, feelings, attitudes, and behaviors of the students regarding the

assessment and care of nature and the environment in which they are located, which allowed a significant development of environmental awareness in each of its dimensions.

Regarding the cognitive dimension, there were different activities: application of workshops, questionnaires, and socialization spaces generated in the development of the technopedagogical strategy; next, the implementation of the strategy where the students demonstrated the understanding and appropriation of the Arhuaco ancestral concepts and principles around the sacred value of nature, its integral conception, good living, and reciprocity, which allowed them to signify and value the nature from another perspective, far from the utilitarian and instrumental vision, which was essential for them to recognize the value and importance of relating harmoniously with all the components of nature and thus, contribute through conscious and daily actions, with their care and protection.

In the affective dimension, the technopedagogical strategy enabled experiential spaces where students expressed positive feelings and emotions about nature and their environment; they showed affection and respect through their care approaches and actions with the different natural components; likewise, concern for the environmental deterioration of the planet and the damage that human beings cause, expressing being in favor of their care and protection. This demonstrates an important development of environmental sensitivity, a relevant element since the different emotions reflected in terms of the affective processes developed in the relationship with nature influence the perception of the development of pro-environmental behaviors and actions.

Regarding the conative dimension, during the meetings, the students showed pleasure and willingness to participate in the different activities proposed; they assumed a positive attitude towards the possibility of acting personally under the ancestral principles of reciprocity and good living, thereby contributing to the care and protection of nature. From activities such as the creation of the garden and the elaboration of proposals to recover and protect the environment where they are located, they were willing and interested, assuming favorable attitudes towards caring for the environment through actions from their homes and surroundings, actions such as the proper management of garbage, recycling, saving energy and water, and caring for animals, plants, rivers, and ditches.

On the other hand, the application of the technopedagogical strategy facilitated and fostered in the students the development of activities and actions for the protection and care of the environment through the execution of their environmental proposals, with which they put into practice the principles of care and reciprocity with nature, based on pro-environmental behaviors with which they sought to contribute to solving the environmental problems identified in their contexts, such as cleaning days, garbage collection, reforestation, planting, awareness campaigns regarding the management of garbage, care for plants and animals, waste separation, recycling organic and inorganic materials, creation of neighborhood committees to care for and guide visitors on caring for the environment, recycling solid waste, saving energy and water, as well of the reduction in the use of plastic and disposable bags.

Consequently, the different actions and behaviors carried out by the students, allowed the reaffirmation of pro-environmental concepts, feelings, and attitudes, promoting a greater approach, interrelation, and experiences with nature and the environment of their context, allowing the participation and activation of all the dimensions that environmental awareness integrates, since they evidenced an important degree of reflection, thought, emotions, and attitudes of care with each pro-environmental action carried out, as well as the protection of the environment, which is expected to translate into the persistence or continuity of themselves or other environmental actions.

Finally, based on the execution of the technopedagogical strategy implemented and linking the Arhuaco ancestral knowledge to it, the research was evaluated for the last objective. This allows us to conclude that the strategy enormously contributed to the integral formation of the students since, through transversality, they were able to generate other knowledge and environmental reflections that allowed them to see the

environmental reality critically, causing interest and satisfaction for the learning acquired during this experience.

Similarly, it is concluded that technological tools (ICTs) play an important role in the application of strategies since they generate interest and motivation in students; in addition, the knowledge that is transmitted is easier and they assimilate it better.

6. Recommendations

Given the results and conclusions of this study, the researchers consider it pertinent to establish some recommendations that give rise to new studies related to the subject or, to continue with the development of this one; therefore, it is suggested:

To the teachers: link up and commit to contributing from their work, so that current and future generations relate in a respectful, harmonious, and conscious way with nature; in this way, the progressive deterioration that human beings have caused to the environment can be somewhat reversed, uniting the ancestral knowledge and practices of indigenous groups, as valuable information that offers guidance to develop educational processes that train citizens aware of the negative impact -individual and collective- generated for the environment. Also, use ICTs tools in educational projects.

To the institution: allow spaces for students to carry out interaction activities and direct contact with nature; for example, having a small part of the land to implement a school garden and work collaboratively; thus, they would practice new values and new experiences. In the same way, continue developing the techno-pedagogical strategy designed and implemented in the present study in a transversal way, linking other subjects that are part of its curriculum, avoiding that it remains only the responsibility of the Natural Sciences area.

To the students: make the most of these types of activities in which they can learn much more about other cultures and apply and multiply them in caring for the environment, not only at Colegio La Sagrada Familia but throughout the community, as a socio-environmental projection.

7. Conflict of interest

The authors of this article declare not to have any conflict of interest regarding the work presented.

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