

Research Reports

Promoting the planting of plants in preschool from the artistic composition of verses

Promover la siembra de plantas en preescolar desde la composición artística de versos

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Abstract

This article describes a research project in the preschool classroom that integrates gardening with the creation of poetic verses in order to foster the linguistic, emotional development and environmental awareness of preschool children. The project was based on a qualitative and exploratory approach to reconnect children with nature in an increasingly urbanized context. Poetic art was used as a resource to reflect on the environment and care for the environment. Through gardening and verse composition activities, the children not only improved their language skills, but also developed a greater understanding of natural cycles and an emotional bond with nature, while beginning their training path as little researchers. The results showed a positive impact both on the children's cognitive and creative development and on the strengthening of their environmental awareness.

Keywords: sowing; poetry; children's education; environmental awareness; linguistic development.

Resumen

Este artículo describe un proyecto de investigación en el aula de preescolar que integra la siembra de plantas con la creación de versos poéticos a fin de fomentar el desarrollo lingüístico, emocional y la conciencia ambiental de los niños y niñas preescolares. El proyecto se basó en un enfoque cualitativo y exploratorio para reconectar a los niños con la naturaleza en un contexto cada vez más urbanizado. Se utilizó el arte poético como recurso para reflexionar sobre el entorno y el cuidado del medio ambiente. A través de actividades de siembra y composición de versos, los niños mejoraron sus habilidades lingüísticas, desarrollaron una mayor comprensión de los ciclos naturales y un vínculo emocional con la naturaleza, a la vez que comenzaron su ruta de formación como pequeños investigadores. Los resultados mostraron un impacto positivo tanto en el desarrollo cognitivo y creativo de los niños como en el fortalecimiento de su conciencia ambiental.

Palabras clave: siembra; poesía; educación infantil; conciencia ambiental; desarrollo lingüístico.

INTRODUCTION

In the community, no one wants to plant,
because they say
it is easier to buy.
Grandparents tell us
that they did plant,
thanks to that,
they never went hungry.
We asked them
how that process was,

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and this is how they answered
in verse:
We planted lots of
fruits, vegetables, and greens,
eating healthy and nutritious food,
we avoided many ills.
Dedicated and with love,
We worked with the sun,
tilling the land and hope,
harvesting the best.
The problem if you don't plant,
is that you won't have anything to eat,
so let's plant, brothers and sisters.
It doesn't do any harm.
The family should eat
nutritious food.
Growing in the garden
is very productive.

The project began with a simple verse that resonated deeply with both the participating preschool children and the educators involved: "In the community, no one wants to plant, because they say it is easier to buy." This verse captures the children's attention and serves as a constant reminder of the opportunity presented by integrating nature and art as vehicles for innovation in teaching and learning. It is expected that this verse will inspire the reader of this article in the same way it inspired the children, motivating them to see gardening as an act of profound and transformative learning.

Educational innovation has been a recurring theme in recent years. Carrillo Cabeza et al. (2024, p. 7) explain how "Educational innovation is inherent to the continuous discovery of new ways of teaching and learning, drawing new horizons that create new strategies and tools for the assimilation of professional competencies related to education". The project sought to improve teaching and learning processes by integrating two seemingly disparate areas: poetic art and gardening. As an educational activity, gardening has an important ecological and environmental role that can also be a way to foster linguistic, emotional, and cognitive skills in preschool children.

It is important to recognize that early childhood education has proven to be a key factor in children's holistic development, addressing cognitive, emotional, social, and ethical aspects. In an increasingly urbanized world, increasingly disconnected from nature, there is a need to rethink pedagogical strategies that reconnect children with their natural environment and foster attitudes of respect and responsibility toward it. In this context, this article presents an innovative pedagogical strategy that integrates gardening with the artistic creation of verses, aimed at preschool children. This proposal, developed within the framework of the Ondas¹ Program of the Colombian Ministry of Science and Technology (MinCiencias), was designed to strengthen children's emotional connection with nature and their linguistic development by recognizing the capacity of both children and teachers to be researchers.

Educational innovation has been prioritized as a means to improve teaching methods. This project, which integrated gardening and poetry, aimed to demonstrate how combining these two seemingly distinct fields can create meaningful and transformative learning experiences for preschool children. In this approach, gardening played a crucial role in developing scientific skills such as observation, questioning, exploration, and understanding. Additionally, it provided a space for children to connect emotionally with the natural world and take their first steps as researchers.

¹ The Ondas Program focuses on generating scientific vocations in children in basic and secondary education in the public sector.

During the project, we observed that in many communities, direct contact with nature and gardening activities have been lost, leading to a progressive disconnection of children from the environment. At the same time, poetry, sometimes considered abstract or difficult for young children to access, proved to be a valuable resource for fostering expression and reflection on the environment, contributing to children's communicative, cognitive, and emotional development. However, despite the potential benefits of integrating these two dimensions—gardening and poetry—into early childhood education, few studies have focused on their combination as a pedagogical strategy.

The central guiding question of this study was: How does integrating gardening activities with creating poetic verses foster learning and environmental awareness in preschool children? This question came from the need to explore pedagogical approaches that, in addition to promoting cognitive and linguistic development, would foster environmental awareness from early childhood. In a time of ecological crisis and global climate change, the urgency of cultivating a deep sense of connection with nature in young children became evident, so they can play an active role in preserving the environment.

Today, preschool children are exposed to a wide range of stimuli that often distance them from nature. In many communities, they do not have any connection with the land and growing plants, as shown by children saying that “food comes from the supermarket.” This alarmed the teachers, because something as seemingly obvious as growing food, plants, and caring for nature appears to be absent from their daily lives.

The bond between children and nature has been the subject of numerous studies. According to Kellert (2005), early connection with the natural environment fosters children's cognitive, emotional, and social development, as well as generating greater environmental awareness in adulthood. This type of direct interaction with nature promotes the development of observation, problem-solving, and creativity skills, fundamental aspects for learning in general. According to Dahlberg, Moss and Pence (2007), early interaction with the natural environment not only promotes physical development but also plays a crucial role in building ecological citizenship, as it fosters attitudes of respect and care for the environment.

The teaching of poetry in preschool education as a form of artistic and linguistic expression is often undervalued, with a focus instead on stories and songs. Although children's poetry exists, it is typically used only as a resource during classroom activities rather than as a primary learning objective. As a result, children are seldom taught how to create or appreciate poetry. However, integrating poetry and the arts into early childhood education has effectively enhanced linguistic, cognitive, and emotional skills. Brito (2017) emphasizes that poetry, through its creative use of language, helps children express their emotions and thoughts, fostering the development of abstract and critical thinking. Additionally, poetry is an effective tool for building both personal and collective meaning, enabling children to reflect on their surroundings and experiences (Mendoza, 2016).

The importance of this study lies in the creation of an innovative educational proposal that combines the two aspects mentioned. First, gardening, as a hands-on activity, offers unique opportunities for children to develop scientific skills, such as observation, analysis, and environmental awareness; second, poetry fosters linguistic expression and creativity, contributing to emotional and cognitive development. This combination aims to strengthen children's connection with the environment and cultivate ecological awareness from an early age.

BRIEF CONCEPTUAL REVIEW

Pedagogical strategy

Pedagogical strategies are planned approaches by educators aimed at optimizing the teaching-learning process. They facilitate students' acquisition of knowledge, skills, and values. According to Bravo (2008), a well-designed pedagogical strategy can transform education by ensuring that students not only memorize content but also construct meaningful knowledge from their own experiences. In this context, incorporating artistic activities, such as poetry and practices like gardening, is suggested as a strategy to foster both cognitive and emotional development in children. Dahlberg, Moss and Pence (2007) emphasize that connecting with nature from

an early age is fundamental to human development, as it promotes a sense of belonging and responsibility toward the environment.

Gardening as a pedagogical tool

Gardening in the educational context has a positive impact on children's development by promoting a range of environmental and social benefits. Ávila and Gómez (1990) highlight the importance of children understanding plant biology to preserve life and understand their role within the ecosystem. Arenas (2016) states that gardening allows children to learn about the cycles of nature while developing cognitive, social, and emotional skills. Gardening also fosters decision-making, problem-solving, and teamwork, fundamental aspects of child development. Gómez and Ortega (2012) argue that gardening in school and family gardens can significantly contribute to food security by improving access to fresh and nutritious food. Also, gardening activities have a positive impact on children's emotional well-being, promoting tranquility, reducing disruptive behaviors, and improving academic performance.

Artistic verse composition

Poetry and verse composition play a vital role in children's linguistic and emotional development. According to Aguilera (2009), creating verses allows children to express their feelings, thoughts, and reflections, which strengthens their communication and expression skills. Brito (2016) emphasizes that poetry in preschool education promotes creativity, abstract thinking, and critical reflection—key elements for cognitive development. Also, poetry is a form of symbolic play, enabling children to create imaginary worlds while gaining a deeper understanding of themselves and their environment. Berrón (2017) notes that verse composition is particularly effective in enhancing children's self-esteem and autonomy, as it provides them with a space for self-expression and empowers them to be active participants in their own learning.

METHODOLOGY

The study used a qualitative approach with an action research design, with children as the central participants. Their participation was facilitated through group activities and informal interviews to explore their experiences, perceptions, and meanings related to gardening and composing verses. This design aligns with the goals of the Ondas MinCiencias Program, which aims to foster scientific vocations in children and adolescents. While this program has primarily focused on primary and secondary school students, this study also sought to test its potential at the preschool level, given that its emphasis on developing skills such as observation, exploration, problem-solving, inference, and hypothesis generation (Colciencias, 2018, p. 2) are inherent in early childhood.

The Ondas Program's Methodological Roadmap (*Ruta Metodológica del Programa Ondas*), promoted by the Ministry of Science, Technology, and Innovation, has been a key initiative in the research training of Colombian children. Based on Research as a Pedagogical Strategy (RPS), this model seeks to foster scientific thinking and the development of research projects within educational institutions. However, its implementation in early childhood has required adaptations to ensure its relevance for children between 3 and 6 years old, generating the approach known as Ondas Early Childhood.

While the Ondas Program has traditionally been designed for elementary and secondary school students and teachers, the Ondas Early Childhood project focuses specifically on preschool education, considering the unique characteristics of child development and the fundamental role of teachers in facilitating learning. In both approaches, the methodology remains centered on the IEP, encouraging participants to formulate questions, investigate, and structure research projects based on children's interests and curiosities, ensuring that exploration and play are fundamental elements of the research process.

The Ondas MinCiencias program is dedicated to promoting science, technology, and innovation. In contrast, the Early Childhood Ondas program not only aims to encourage scientific vocations but also aims to enhance the holistic development of children. This program integrates scientific learning with essential early childhood education activities, including play, art, literature, and environmental exploration, ensuring that research becomes a meaningful

experience from a young age. Regarding expected outcomes, Ondas MinCiencias focuses on creating research projects led by students and integrating them within schools. The Early Childhood Ondas program aims to transform teaching practices and inspire educators to cultivate their own scientific interests.

The role of the teacher also varies significantly between the two approaches. In Ondas MinCiencias, the teacher functions as a co-researcher and facilitator of pedagogical activities to help integrate research into the school. In Ondas Primera Infancia (Early Childhood Ondas), however, the teacher takes on the role of principal investigator, mediating between the children's interests, the program's methodological approach, and school routines. The teacher ensures that research activities are suitable for the children's age and development and are conducted within the school day, not as an extra project but as part of the classroom activities.

Participation strategies have also been adapted for the early childhood version of the Ondas program. While in Ondas MinCiencias students are involved through research groups or student research initiatives at educational institutions, in Ondas Primera Infancia, inclusion is total; that is, all preschool children participate in the research process as part of the school's activities. Both programs use interviews, focus groups, and observation for data collection, but Ondas Primera Infancia incorporates instruments adapted to children's language and expression, such as drawings, graphemes, logs, audiovisual materials, and brainstorming, thereby enabling more accurate documentation of children's perceptions and learning.

In both approaches, the community plays a crucial role. The involvement of subject matter experts, families, external teachers, and educational agents enhances the research processes and creates a stronger connection between the school and the social context. Including experts in local knowledge is especially important because it helps projects align with the specific dynamics and needs of each community, ensuring their relevance and long-term sustainability.

Adapting the MinCiencias Waves Methodological Pathway for preschool education has resulted in the creation of Waves Early Childhood as a research model tailored to child development characteristics. While both approaches share the methodological foundation of the Early Childhood Education Initiative (EPI), differences in target populations, participation strategies, and data collection tools show the program's ability to adapt across various educational levels. By integrating research with play, exploration, and creative expression, Waves Early Childhood emerges as an innovative approach for fostering scientific thinking from the earliest years, laying a strong foundation for knowledge growth in later stages (Ávila et al. 2025).

The following methodological phases were followed for the development of the IEP:

- a) Raising awareness and formulating questions: The teachers raised children's awareness of the value of asking questions, guiding them in formulating their own and highlighting the importance of information sources by asking: "Where can I find information about...?" This exercise resulted in a variety of responses, including asking adults, going to the library, and using the internet as the primary source. This stage aimed to spark interest in natural phenomena through dialogue, observation, and generating hypotheses about plant growth and care.
- b) Exploration: Given that the topic of interest revolved around gardening, each child explored the school environment to identify the variety of plants available and the areas that lacked them. They then selected a plant and planted it. This process was recorded through drawings, writing, and spontaneous narratives. These activities were designed playfully and flexibly, fostering the development of observation, comparison, inference, and oral communication skills.
- c) Verse composition and artistic expression: Inspired by their exploration and gardening experiences, the children wrote poems with support from their teachers. Poetic examples were provided, and a free creative environment was encouraged, sparking imagination and the use of symbolic language. This stage combined aesthetic and scientific thinking, encouraging reflection and awareness of nature.
- d) Socialization: In group settings, the children recited their verses, strengthening their oral expression and self-confidence. This moment served as a bridge between their lived experience and its sharing, reinforcing the value of children's voices in educational contexts.

e) Pedagogical Systematization and Collaborative Analysis: Data were collected through teacher logs, audiovisual recordings, and semi-structured interviews with educators and families. This information was then documented and analyzed. A qualitative analysis of the children's compositions was also conducted. This stage provided an opportunity to reflect on the project's impact on the children's holistic development and on the teachers' pedagogical practices. The analysis of the data used an inductive approach, allowing us to identify recurring patterns and themes in the children's compositions as well as in the attitudes and perceptions of educators and parents. Content analysis was applied to the interviews and observations to understand how integrating gardening and poetry influenced the children's cognitive, emotional, and environmental awareness development.

Techniques and instruments for collecting information:

- a) Participant observation: direct observations were carried out during the gardening and verse creation activities to analyze the children's interaction with the plants and their artistic composition process.
- b) Semi-structured interviews: interviews were conducted with educators and parents to explore their perceptions of the impact of these activities on child development.
- c) Analysis of artistic compositions: the verses created by the children were examined, evaluating their creativity, use of language and their relationship with nature.

RESULTS AND DISCUSSION

Through gardening and poetry,
significant learning was achieved.
the children were very active,
joyful, and creative.
Working together as a team,
children and educators
became innovators
and investigators.
We planted dreams and plants,
cultivating bright goals.
Each one showed leadership,
uncovering a great discovery.
Commitment was born, enthusiasm sprouted,
gardening awakened their participation.
They observed attentively and composed
beautiful verses with admiration.
They were fascinated by creating and composing;
we were able to learn from them.
We are happy and grateful,
for this shared adventure!

The project results demonstrated that integrating gardening and verse-writing into preschool routines fostered children's language development and promoted a strong emotional connection with nature. The children were very interested in learning more about plants, and their compositions reflected an understanding of natural cycles and environmental care.

The school community, including parents and educators, expressed great interest in continuing this type of project, recognizing the importance of engaging children in activities that encourage both their creativity and their responsibility toward the environment. The project was observed to strengthen the sense of community and collaboration among parents, educators, and children.

Developing language skills through poetry

One of the most significant findings of the project was the notable improvement in the language skills of the participating children. By writing their own verses, they expanded their vocabulary, improved the structuring of their ideas, and developed a desire to write. Creating poetry allowed the children to actively experiment with language, both orally and in writing. Most of the children began to use more precise and descriptive language when discussing the plants they had sown, demonstrating how poetry can facilitate the expression of ideas and reinforce the understanding of concepts such as the plant life cycle.

This finding supports the claims made by Mendoza (2016), who argues that composing verses enhances language development and encourages the creative use of words. Sepúlveda (2018) also states that activities like creating songs and poems empower children, as composition serves as a means of personal expression that boosts their self-esteem and autonomy. In this way, poetry not only functions as a tool for language learning but also enables children to reflect creatively on their surroundings, thereby broadening their worldview.

As a fundamental part of the project, spaces were created for children to share their poems with various members of the school community, including families, teachers from different grade levels, administrative staff, and classmates from other classrooms. These moments of socialization became meaningful experiences that strengthened the children's communication skills, confidence, autonomy, and sense of belonging. Through recitals organized in the school garden and thematic exhibitions that combined their drawings, verses, and the plants they cultivated, the children established a poetic and symbolic dialogue with their environment. This interaction generated a positive emotional response within the community, which felt drawn to the children's voices and deeply appreciated the ecological awareness expressed in their creations. It is important to note that the project was developed following the methodological framework of the Ondas MinCiencias Program, which was adapted to the classroom context and integrated alongside the teaching areas and lesson plans designed by the teachers. This integration ensured that the research process was not an isolated component but rather a continuous and cross-cutting experience in school life. Everything worked on in class—from language and environmental exploration to artistic expression and values education—was connected to the project, which enhanced meaningful learning and reaffirmed the role of children as active participants in their education.

Environmental awareness and connection with nature

Gardening is a powerful tool for strengthening children's environmental awareness. During the gardening process, the children learned about basic plant biology while developing a greater sense of responsibility for caring for the environment. Many of the children showed deep satisfaction and pride as they watched their plants grow, suggesting that the hands-on experience combined with poetry helped solidify their emotional connection to nature.

This finding aligns with the research conducted by Dahlberg, Moss and Pence (2007), who argue that early interactions with nature not only improve understanding of natural processes but also help develop responsible attitudes toward the environment. Additionally, Moss (2012) suggests that activities involving direct contact with nature provide a deeply meaningful learning experience. Through these activities, children not only gain theoretical knowledge but also form emotional and sensory connections with their surroundings. In this context, the project demonstrated that combining gardening and poetry can enhance this emotional connection, fostering a deeper and more respectful relationship with nature from an early age.

Stimulation of creativity and critical thinking

Integrating poetry into gardening activities also fostered creativity and critical thinking in children. Guided in creating verses that expressed their experiences with the gardening process, the children reflected on their relationship with plants and the natural world. This reflective process stimulated their ability to connect different concepts, such as plant growth and environmental care, and to consider the implications of their actions.

In addition to poetry readings and exhibitions, the children engaged in various socialization strategies that enriched their collective experience of the project. For example, they

performed short dramatizations inspired by the poems they had created, using gestures and movements to depict the life cycle of plants and the importance of caring for them. They also organized “poetry on the go” events, which involved hanging their poems on strings between trees in the schoolyard or displaying them on mobile murals that traveled through the hallways. This encouraged the entire school community to interact with their creations. On some occasions, the children recorded their poems, which were shared during parent meetings or sent out through school messages, involving families in the learning process. These activities strengthened the children’s communication and critical thinking skills and created opportunities for collective reflection on the connection between nature, language, and community, positioning the children’s voices as transformative agents within the school. Vygotsky’s postulates (1978) support this finding by emphasizing the importance of socialization in the learning process. He argues that through interaction with others, children not only internalize knowledge but also develop critical thinking skills that enable them to construct their own meanings. Similarly, Brito (2017) highlights that poetry stimulates children’s imagination, encouraging them to explore new perspectives on the world, which fosters deeper reflection on their environment.

Emotional development and teamwork

Another important outcome was the strengthening of the children’s emotional development. Through gardening and poetry activities, the children worked as a team, collaborating to plant and care for the plants and share ideas for their compositions. This collaborative work improved their social skills, such as cooperation, mutual respect, and conflict resolution. By sharing their verses with their classmates, the children developed their listening skills, empathy, tolerance, and greater self-confidence in expressing themselves to others.

This result is consistent with Moss (2013), who points out that collaboration and teamwork are essential components for children’s emotional and social development within the educational context. Sepúlveda (2018) also emphasizes that collective work in creative activities, such as poetry, promotes social integration while strengthening children’s self-esteem and identity. In this sense, the project demonstrated that creative and practical activities, such as gardening, enrich cognitive development and also foster the development of emotional and social skills.

Implications for pedagogical practice in preschool

The project highlights the significance of employing pedagogical strategies that interweave various fields of knowledge and experience. The integration of gardening and poetry fostered a more dynamic and participatory learning environment. This methodology demonstrates the necessity of re-evaluating pedagogical approaches in early childhood education, utilizing practical and artistic activities as essential tools for holistic learning.

Implementing the Ondas Early Childhood methodology in the project allowed for the seamless integration of children’s interests with the preschool’s educational goals. This approach fostered the development of scientific skills in a playful, exploratory, and meaningful way. Rather than being an additional or external component of the curriculum, the methodology was woven into all developmental areas and lesson plans, enhancing daily activities with elements such as observation, questioning, recording findings, and sharing ideas. Through gardening and poetic creation, the children formed a sensory connection with nature and practiced essential skills related to scientific thinking, including curiosity, hypothesis formulation, and interpreting processes. This approach aligns with the work of Dahlberg, Moss and Pence (2007) and Vygotsky (1978), emphasizing the importance of viewing children as active participants capable of investigating, creating, and constructing knowledge from their own experiences. It also reaffirms the value of methodologies that recognize children’s voices, interests, and unique ways of understanding the world.

Challenges and limitations of the project

Despite the positive results, the project also faced some challenges, particularly regarding the adaptation of some children to the poetry writing process. Some children struggled to structure their verses, leading educators to adapt the activities and provide more individualized support. This suggests that, while poetry can be a powerful tool for language development, a flexible and adaptive approach is necessary that considers children’s diverse abilities and developmental levels.

Given that the creative process is not always fluid, especially for younger children, patience and guidance are required to encourage participation. This challenge aligns with Mendoza's (2016) perspective, which highlights that poetic expression, while valuable, can be difficult for some children at the beginning, but with appropriate support, these barriers can be overcome. This shows the importance of close pedagogical support tailored to students' individual needs.

Recommendations for future research

The results obtained in this project demonstrate that integrating plant cultivation and poetic creation, within the framework of the MinCiencias Onda Primeira Infancia strategy, can be an effective way to foster the holistic development of preschool children. This experience demonstrates the potential of incorporating research-based methodologies, in which children actively participate as curious learners and develop cognitive, communicative, emotional, and scientific skills from an early age. However, we recommend future research broaden the scope of this approach through longitudinal and comparative studies in diverse contexts to gain a deeper understanding of its impact and long-term sustainability.

It would be important to explore how incorporating other artistic expressions, such as music, dance, and visual arts, can complement and enhance investigative experiences in the preschool classroom. Additionally, research should be conducted on the teacher training processes needed to implement these integrated methodologies, as well as the institutional challenges that may arise during their application. As proposed by Gómez and Ortega (2012), it is vital to further examine the influence of gardening on the development of scientific skills. Similarly, in line with Moss (2012), it is necessary to investigate how creative practices, such as poetry, can shape early ecological awareness. In summary, the goal is to open new avenues for consolidating more sensitive, interdisciplinary, and sustainable pedagogical practices. Strategies like Ondas Primera Infancia can help redefine the role of early childhood education in the social and cultural transformation of our communities.

CONCLUSIONS

This project shows that integrating artistic and practical activities, such as gardening, can significantly enhance the holistic development of preschool children. It fosters their environmental awareness and language skills, which will benefit them throughout their lives. The proposed teaching strategy presents an innovative model for combining art and nature in early childhood education, laying the groundwork for a more sustainable future enriched with artistic and ecological sensitivity.

One of the most significant results was the development of linguistic and creative skills in the children. The poetry composition activity allowed the children to explore their ability to structure ideas creatively, improve their verbal expression, and strengthen their confidence in using language. At the same time, the connection between poetry and gardening provided a unique space for the children to express their emotions and thoughts, which contributed to strengthening their self-esteem and socio-emotional skills. This finding confirms the theories of authors such as Vygotsky (1978) and Brito (2017), who emphasize the fundamental role of creative expression in children's holistic development.

The project also underscored the importance of fostering an emotional connection with nature from an early age. Participating children not only gained knowledge about the plant life cycle but also developed a sense of responsibility toward the environment. The experience of growing and caring for a plant allowed them to understand practically how their actions have a direct impact on their surroundings. This reinforces the ideas of Dahlberg, Moss, and Pence (2007), who state that early connection with nature not only promotes children's emotional well-being but also teaches them principles of sustainability and environmental ethics.

The pedagogical strategy used in this project was effective for knowledge acquisition and for fostering an inclusive and participatory learning environment. The children collaborated both in gardening and in creating their verses, which helped develop their social and emotional skills, such as cooperation and mutual respect. This aspect of the project highlights the significance of collaborative pedagogical approaches, as noted by Moss (2013). Moss emphasizes that collective work in creative activities encourages active participation and a sense of belonging among children.

Finally, although the project demonstrated a positive impact on the children, some challenges related to the diversity of students' abilities and learning paces were also identified. In particular, some children needed more support and time to develop their poetic compositions, highlighting the need for a flexible pedagogical approach that adapts to each child's individual characteristics. These challenges underscore the importance of personalized teacher intervention and constant support, as proposed by Mendoza (2016) and Brown (2002), who suggest that effective learning is achieved when teachers provide individualized support and foster student autonomy. In this sense, the results obtained encourage further exploration and refinement of pedagogical strategies that integrate art, nature, and active learning to continue promoting children's holistic development from the earliest stages of education.

REFERENCES

- AGUILERA, P. **La expresión y comunicación en la infancia a través de la poesía**. 2009.
- Arenas, S. Beneficios de la jardinería en el desarrollo infantil. **Revista de Educación Infantil**, [s.l.], v. 15, n. 3, p. 42-56, 2016.
- Ávila, A. I. *et al.* **Infancias que preguntan, maestras/os que acompañan sistematización de la estrategia de acompañamiento a docentes**. Bucaramanga: Universidad Autónoma de Bucaramanga, 2025. Repositorio Institucional UNAB. Disponible en: <http://hdl.handle.net/20.500.12749/28954>. Acceso en: 09 May 2025.
- Ávila, A.; Gómez, P. **La importancia de las plantas en el ecosistema**. Santiago: Editorial Universitaria, 1990.
- Bravo, M. **Estrategias pedagógicas y su impacto en el aprendizaje infantil**. Bogotá: Editorial Pedagógica, 2008.
- Brito, C. **La poesía como recurso pedagógico en educación infantil**. Bogotá: Editorial Pedagógica, 2017.
- BRITO, M. La poesía en la educación preescolar: Herramienta para el desarrollo cognitivo y creativo. 2016.
- Brown, H. D. **Principles of language learning and teaching**. 5th ed. Upper Saddle River: Pearson Education, 2002.
- CARRILLO CABEZA, M. *et al.* (ed.). **Descubriendo nuevos horizontes en innovación educativa**. Dykinson, 2024. Disponible en: <https://www-digitalpublishing-com.aure.unab.edu.co/a/162660>. Acceso en: 09 May 2025.
- COLCIENCIAS. **La investigación en el Programa Ondas. Guía para grupos de investigación**. Bogotá, 2018.
- Dahlberg, G.; Moss, P.; Pence, A. **Beyond quality in early childhood education and care: languages of evaluation**. London: Routledge, 2007. <https://doi.org/10.4324/9780203966150>.
- Gómez, L.; Ortega, R. La huerta escolar como herramienta educativa. **Revista de Ciencias de la Educación**, Valencia, v. 28, n. 4, p. 12-20, 2012.
- Kellert, S. R. **Building for life: Designing and understanding the human-nature connection**. Washington: Island Press, 2005.
- Mendoza, A. **La poesía como recurso pedagógico en educación infantil**. Madrid: Editorial de Educación, 2016.
- Moss, P. **Early childhood education: A critical introduction**. London: Routledge, 2012.
- Sepúlveda, S. L. **La percepción docente respecto a las metodologías artísticas integradas en el plan de estudio educativo**. 2018 (Doctoral dissertation) - Universidad Andrés Bello, Santiago, Chile, 2018.
- Vygotsky, L. **Mind in society: The development of higher psychological processes**. Cambridge: Harvard University Press, 1978.

Authors contribution

EGL: Diseño y desarrollo del estudio.
LAA: Supervisión y revisión crítica del escrito.
AIÁ: Supervisión y revisión crítica del escrito.
MJN: Supervisión y revisión crítica del escrito.

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