



Artistic Experiences of
Collective Murals of
Children's Painting:

..... Let's Protect our Water*

(obra)

(pensamiento), (palabra)... Y obra

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Abstract

The appreciation and importance of water resources at an international level must move beyond the technical sphere and be decisively addressed through an interdisciplinary, cultural, and artistic approach. Therefore, this reflective article presents the creative work and development of children's painting based on the iconographic representation of the slogan "Let's protect our water", carried out by preschool children from Pequeñitos UdeC Nursery School at the University of Concepción Campus Chillán, and the rural elementary school La Quebrada, in the city of Los Angeles, southern Chile. Through arts education and project-based learning methodologies, were conducted a series of artistic activities aimed at strengthening children's artistic expression. In conclusion, two collective murals of children's painting were created, with the goal of fostering creativity, enhancing imagination, expanding aesthetic opportunities for visual communication, and socializing art from early childhood and through the inclusion of diverse educational realities. This helped reinforce the children's cultural identity and artistic personality.

Keywords: water resources; art education; children's painting; nursery school; rural school

Experiências artísticas de murais coletivos de pintura infantil: Vamos cuidar da nossa água

Resumo

A valorização e a importância dos recursos hídricos a nível internacional devem ir além da esfera técnica e ser abordadas de forma decisiva a partir de um enfoque interdisciplinar, cultural e artístico. Portanto, este artigo de reflexão apresenta o trabalho criativo e o desenvolvimento da pintura infantil com base na representação iconográfica do slogan "Vamos cuidar da nossa água", realizada por crianças do nível pré-escolae da Sala Cuna Pequeñitos da Universidade de Concepción, Campus Chillán, e por alunos do ensino fundamental da escola rural La Quebrada, na cidade de Los Angeles, no sul do Chile. Por meio da educação artística e de metodologias de aprendizado baseadas em projetos, conseguimos realizar uma série de atividades artísticas com o objetivo de fortalecer as expressões de arte das crianças. Em conclusão, foram realizados dois murais coletivos de pintura infantil, com o objetivo de fomentar o desenvolvimento da criatividade, fortalecer a imaginação, ampliar as oportunidades estéticas de comunicação visual e socializar a arte desde a primeira infância e a partir da inclusão de realidades educacionais divergentes. Com isso, foi possível reforçar nas crianças sua identidade cultural e personalidade artística.

Palavras-chave: recursos hídricos; educação artística; pintura infantil; creche; escola rural

Experiencias artísticas de murales colectivos de pintura infantil: Cuidemos nuestra agua

Resumen

La valoración e importancia del recurso hídrico a nivel internacional, debe salir de la esfera técnica y abordarse decididamente desde un enfoque interdisciplinar, cultural y artístico. Por tanto, este artículo de reflexión presenta el trabajo creativo y desarrollo de la pintura infantil a partir de la representación iconográfica del lema: Cuidemos nuestra Agua, realizado por los niños y niñas de los niveles preescolares de la Sala Cuna Pequeñitos de la Universidad de Concepción Campus Chillán y de enseñanza básica de la Escuela Rural La Quebrada de ciudad de Los Angeles, al sur de Chile. Por medio de la educación artística y las metodologías de aprendizaje basadas en proyectos, nos permitió realizar una serie de actividades artísticas con el propósito de fortalecer las expresiones del arte infantil. En conclusión, se realizaron dos murales colectivos de pintura infantil, con el fin de fortalecer el desarrollo de la creatividad, afianzar la imaginación, ampliar las oportunidades estéticas de comunicación visual, socializar el arte desde la primera infancia y desde la inclusión de realidades educativas divergentes, logrando con ello, afianzar en los infantes su identidad cultural y personalidad artística.

Palabras clave: recurso hídrico; educación artística; pintura infantil; sala cuna; escuela rural

Introduction

From the perspective of cultural and artistic mediation, the aesthetic experiences linked to the creation of two collective children's painting murals, under the slogan "Let's take care of our water," are inscribed within the dynamics of curricular formation and teaching models in Art Education. These models guide the focus of preschool and school education towards strengthening didactic processes through activities with a marked artistic character, as reflected in the different expressions of children's art.

To develop specific interdisciplinary learning activities in the context of rural education and, specifically, in early childhood education, three stages of artistic execution were carried out in both murals: the creative process, the installation, and the inauguration phase. These actions, taken together, allowed us to combine our pedagogical efforts and test divergent learning methodologies that would allow preschool and primary students to iconographically and symbolically narrate various themes about the value of water and its proper preservation (Cárdenas, 2024).

It is precisely this context of socialization and educational feedback, both from rural culture (Rivera, 2015) and from children's expressions mediated by artistic action, that allowed for the development of strategies centered on creative dialogue, integrating artistic skills that are little or not at all developed in school. Additionally, it allowed us to identify those dynamics and concerns of the students that would enable us, as a teaching staff and heterogeneous educational communities, to strengthen self-esteem, foster self-confidence, and eradicate the fear of making mistakes in order to extract the most energetic, visible, and fundamental knowledge from the artistic work of children (Augustowsky, 2012).

These pedagogical concerns required us to adapt our teaching and learning methodologies for the execution of the two murals centered on the representation of WATER, with the purpose of motivating and engaging students with scientific content, artistic languages, and learning methods through visual arts. In this way, we aimed to foster affective connections with their own social, community, and educational reality. Additionally, we sought to create new horizons from which, in close collaboration with students from La Quebrada Rural School and the Pequeñitos UdeC Nursery, we could adapt various

painting techniques to the needs of children's culture within the broad spectrum of artistic activities aimed at promoting social cohesion, cultural exchange, and the strengthening of interculturality (National Council for Culture and the Arts, 2016a).

The materialization of these two children's mural proposals has strengthened integral education, creative inclusion, and the constructivist conception of children's art within a predominantly traditional school system where a lack of aesthetic expectations is evident (Vaquero & Gómez, 2018). Moreover, it has significantly contributed to amplifying diverse artistic practices, making it possible to recognize the preservation of water as a topic of great creative interest among preschool and primary students.

Water Resource Valuation

It is widely known that water scarcity will potentially limit food production, ecosystem function, and urban supply in the coming decades. In 2019, the World Resources Institute (WRI) reported that Chile leads a group of 27 countries at risk of high water stress. From north to south, clear differences in water availability are observed, with lower availability in the north and increasing towards the south. The maximum demand for consumptive water use is agriculture for food production, concentrated in the central and south-central areas of the country, between the Coquimbo and Bio-Bío regions.

In Chile, a significant reservoir of continental surface water is located in the Andes Mountains, where it accumulates as snow or ice during the winter and is gradually released into rivers and lakes throughout the year, providing water to lower parts of the basin and contributing to groundwater recharge, for various human and ecosystem activities. The transport of organic matter and minerals from the mountains to the sea sustains life in diverse ecosystems, providing food and nutrients for countless organisms.

In our country, Chile, and in our region in general, the sustained decrease in precipitation in recent years (Madeira, 2022), the increasing demand for water due to productive activities and population growth, and the deterioration of water quality, primarily caused by human activities, have placed a very high pressure on water resources. Climate change has caused a shift of agricultural areas

southward, reaching zones where the development of certain crops was previously not possible due to frosts and low temperatures.

In this scenario, it is essential to understand the value of water and adopt sustainable practices at both the domestic and productive levels, to guarantee its equitable distribution, preserve ecosystems and ensure a prosperous future for next generations. Now, what does the valuation of such a vital element consist of?

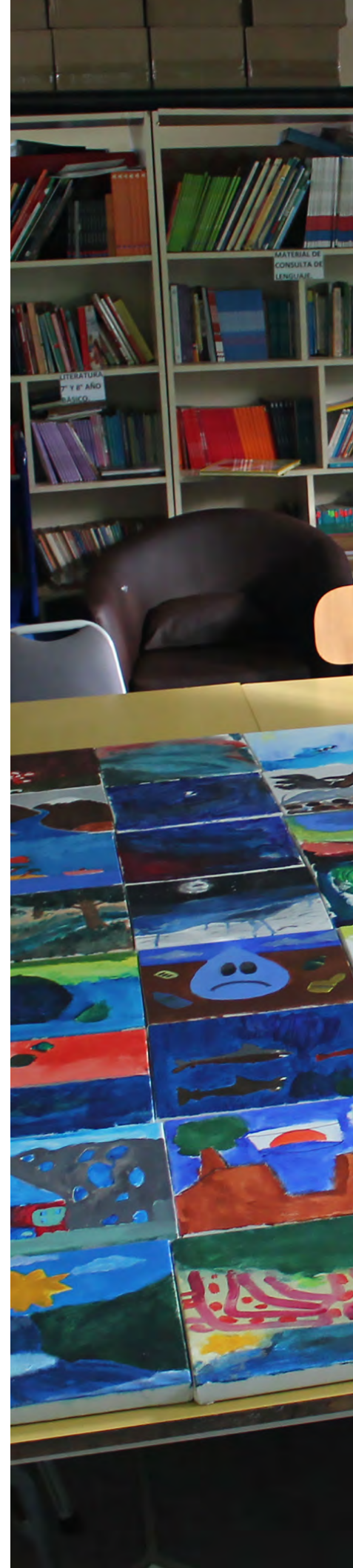
“On the one hand, and in a more social sense, water has a cultural and spiritual significance for many communities around the world. Many cultures have established settlements near water sources, which has influenced their development, traditions, and customs. Therefore, throughout history, water has been an important symbol for many cultures. It is associated with purification, renewal, and fertility. In many religious and spiritual traditions, water is used in rituals and ceremonies to symbolize cleansing, the purification of the soul, or rebirth (Ávila, 2006).

Water also has a cultural value in terms of recreation and leisure. Bodies of water, such as beaches, rivers, lakes, and wetlands, are popular destinations for recreational activities like swimming, surfing, fishing, and water sports. These activities are integrated into the cultural identity of communities or are given new meaning within local traditions, ways of life, and conditions (Strang, 2015).

Furthermore, it is important to understand the importance of water in the life cycle and its close relationship between humans, wildlife, and the environment (Grizzetti et al., 2016). Water plays a fundamental role in providing various ecosystem services. Freshwater bodies such as wetlands, rivers, and lakes support biodiversity, regulate climate, purify water, and offer recreational opportunities. Preserving them implies maintaining their capacity as a natural filter, regulating floods, recharging groundwater, and providing habitat for countless species in a delicate ecological balance.

Humans use these water bodies as sources of extraction, recreational areas, and tourism. Due to their natural condition as drains or accumulation points, they act as receptors for various pollutants from point and non-point sources, altering the natural balance. Understanding this interconnection, and how human development affects these sources, allows us not only to value them but also to develop science and technology for their preservation and mitigation of negative effects (Valdovinos, 2006).

One of the important characteristics of water is the interrelation that exists between users. For example, what a user does in the upper part of a watershed influences the quantity or quality of water that a user can use downstream, whether or not they have a right to use it. Efficiency increases when an integrated approach to water resources management is implemented, minimizing water losses, improving its quality and promoting equitable access, taking into account all actors who interact with or benefit from the watersheds —agriculture, industry, urban and rural domestic use, tourism/recreation and culture— and, at the same time, prioritizing a proper ecological balance (Basualto et al., 2019).



Understanding the Importance of Water in all its Dimensions, How can we Promote Sustainable Practices to Ensure its Availability and Quality in the Long Term?

In agriculture, as the productive sector with the highest consumptive use of water (over 70%) (Intergovernmental Panel on Climate Change, 2013), it is recommended to choose crop varieties that are well adapted to the local climate and require less water, especially in areas vulnerable to water scarcity. This can significantly reduce water use in agriculture, conserve water resources, and maintain productivity. Additionally, it allows for improved design and implementation in the technical operation of different pressurized irrigation systems (drip, sprinkler), or surface-applied technology, and to apply the necessary and timely amount of water to crops, minimizing losses from the root zone. On the other hand, optimizing soil health and structure improves water retention. Practices such as *mulching*, cover crops, and conservation tillage help reduce evaporation, increase water infiltration, and minimize soil erosion. At the watershed level, the development of efficient water accumulation, conduction, and distribution infrastructure can increase water security for all downstream users and, therefore, reduce vulnerability to extended periods of scarcity (Cosgrove and Loucks, 2015). In our climate, rainfall is concentrated in winter periods, while the highest demand occurs in spring and summer. Given the decrease in the amount of water accumulated in the upper part of the watershed in the form of snow as a result of rising temperatures, interannual storage structures allow for a more gradual release of water during dry periods. Generally, these infrastructures are multipurpose, as they serve for water storage for irrigation, power generation, and tourism, among others. We cannot forget the importance of these storage works in regulating flows, especially in events of intense precipitation, as occurred during June and August 2023 in the central zone. Smaller storage systems (seasonal or temporary) also reduce vulnerability and allow for more dynamic distribution systems among different users (Ravanel, 2022).

At the watershed level, but referring to groundwater, although there have been advances in artificial aquifer recharge, it is still a developing topic due to the high uncertainty regarding the destination of infiltrated waters, their quality for preserving aquifers, and legal gaps regarding their subsequent use—rights of use over infiltrated volumes.

Another important practice, with great potential for development, is water recycling and reuse (Anderson, 2003). This involves capturing wastewater, or water that has already been used in productive processes, whose quality allows it to be redirected for irrigation or other non-potable uses, serving the dual purpose of reducing the extraction of freshwater and preventing its contamination. In general, wastewater management, whether for reuse or to reduce pollution sources, presents many challenges and is essential for maintaining water quality and, therefore, preserving the environment.





Water as a means of symbolic representation in the visual arts

The analysis of alternative sources, such as brackish water, has become increasingly viable due to advances in technology and reduced energy costs. Generally, the filtration techniques employed for desalination require energy, which today can be renewable or hybrid, lowering the operating costs of such filtration systems. In addition to the technical aspects that directly influence the availability and use of water, education on water conservation and the promotion of sustainable practices are fundamental. The availability of water resources can be ensured by increasing public awareness of the importance of protecting them, and by promoting responsible water use and quality practices in the long term (Peña et al., 2004).

In recent years, the drought in Chile has posed national challenges, demanding an approach to the water crisis from a variety of disciplines, including natural and social sciences, education, cultural management, and artistic mediation.

Water resources management, in a context of territorial sustainability, requires, on the one hand, the implementation of a socio-ecological approach and, on the other hand, the deployment of the discussion of the water crisis in different localities of Chile, Latin America and internationally, specifying new systemic and multisectoral approaches to knowledge that, together, contribute to the development of the various disciplinary areas —artistic education, natural sciences and social sciences, among others— to understand the complexities of water management, and to collaborate integrally in its care and valuation and the harmonious functioning of watersheds, which implies complex socio-ecological transformations, demographic, economic, migratory and cultural changes.

Although concerns about water preservation in the Biobío province date back several decades, primarily since the construction of the Ralco dam in the high Andean lands of the Pehuenche people of Alto Bío-Bío and, later, with the citizen movement “Patagonia Sin Represas”, these concerns and demands have resurfaced with greater force



in recent times, due to the prolonged periods of drought in the north of the country (Chile), accelerating the discussion on the human right to water, the deprivatization of water resources and the importance of protecting the seas, glaciers, wetlands, basins, and rivers.

These anxieties that Chilean society faces are posed in response to the commitment to defending rivers and the biodiversity of territories affected by extractive projects such as mining or the construction of hydroelectric power plants, which have led to serious problems worldwide regarding this vital and scarce resource: only 2,5% of the planet's surface is covered by freshwater, such as rivers, lakes and aquifers; of this small percentage, 62% can be used for human, agricultural and industrial purposes.

In terms of Chilean sustainability, the Biobío region is home to one of the most important rivers: the Biobío River. Its basin covers an area of 24.029 km² and is considered one of the largest in the country. Its regime is mixed, with higher flows occurring between winter and spring, and its length is 380 km. It originates in the Araucanía Region, in

the Andes Mountains, where the outlet of two mountain lakes is located: Icalma and Galletué. The Duqueco and the Bureo contribute to its middle course. The Biobío River changes direction when crossing the Coastal Range as it traverses the valley, and at the intersection with the Vergara River, it returns to its usual course. On the coast, the river joins the Laja River, which is its main tributary and has an average flow of 173 m³/s⁻¹ (Library of the National Congress of Chile, n.d.).

In the geographic territory of the Biobío province, its main water resource is located in the Lake Laja basin (Precordillera of the Andes, Antuco locality, southern Chile). This allows the development of life and the province in close connection with agriculture, tourism, recreational tourism, the cellulose industry, wastewater treatment plants, and hydroelectric generation reaching 2.841 Mw, corresponding to 40% of the country's hydroelectric generation. The agriculture adjacent to the Laja, Biobío, and Duqueco rivers covers approximately 163.000 hectares, representing 12,5% of the

national agricultural irrigation surface and potable water consumption. In this context, we wonder if it is feasible to develop one or more pictorial proposals from the visual arts from early childhood, in such a way that they allow the reflection of environmental imaginaries and pictorial representations on water importation.

In this regard, Ulrike Broschek (2022) makes an urgent call to raise public awareness about the value and need to protect water resources as part of Chile's natural and inherent heritage, which is currently in a fragile situation due to human action and climate change. Therefore, paying attention to this reality implies, from an interdisciplinary perspective, involving diverse voices and ecological consciousnesses that come from environmental art (Quiñonero and González, 2024).

The aesthetics of the landscape and the abrupt changes in the ecosystem's climate patterns have always been a source of inspiration for artists. Several groups at the national level have shown interest in natural accidents or in the simple representation of the southern landscape as a metaphor for abstract figurative evocation (National Curriculum, n.d.), in order to propose new visual itineraries determined by plastic creation and, more symbolically, by the aesthetics of the landscape, which is always changing and constantly evolving (Valdés, 2017).

From this creative perspective, the emblems, interests, or perceptual motivations of the river landscape, or the diverse themes about water, allow for the creation of diverse representations "with greater or lesser veracity or imagination. Others, turning it into an image to remember, a memory and identification of a place and its intangible values or in a personal interpretation of different ideas and concepts, even with certain extravagances" (Lozano, 2011, p. 2).

Likewise, these perceptions of the landscape reconfigure or model a determined iconographic footprint, based on environmental models that, with the support of various techniques used in the pictorial creation process, can contribute to infinite compositional and visual imaginaries (Lozano, 2017), in relation to water resources and environmental phenomena, which in our case are present in both the Biobío and Ñuble regions.

From an inclusive-creative approach within the context of visual arts (Alsina et al., 2020), we consider that the two proposals for Collective Children's Murals on the value of water and its preservation are a clear compositional example of artistic processes that can be replicated in any educational setting. Through the use of experimental painting—fragmented composition of color, shapes, and textures—, it is possible for students to amplify the diverse visual cartographies that are encrypted in these significantly enriching experiences.

In this way, the bold compositions and childish impressions about the valuation of water resources promote a lasting compositional current characterized by an eco-geography that underlies the parameters of visual culture, expressive and conceptual meanings as varied as they are original and divergent, which converge in aesthetic probabilities that contribute to redirecting the transmission of natural, symbolic, and patrimonial memory, with the purpose of exalting the environmental richness present in the provinces of Biobío and Ñuble, in southern Chile, because:

- Within classrooms/workshops, research models can be adopted through the arts that incorporate different methodologies and strategies of artistic creation.
- Pedagogically, it allows for the reinforcement of a rich iconography through the intersection and conceptual problems that encompass visual arts in art education, closely linked to various universal themes that are inherent in a globalized world, such as environmental care, wealth distribution, greater democratization and citizen participation, reduction of poverty and economic inequality, racial and gender violence, political and financial corruption, or the increase of economic budgets to improve the quality of educational offerings, among others.
- It strengthens the visual language, positioning the disciplinary development of the artist-teacher-student as a researcher, and generating the fusion of a new format for the development of creativity, whose epistemological origin comes from three fundamental aspects related to: the plurality of languages associated with (re)presentation; the semantic complexity of the results obtained; and the compositional flexibility linked to the formal aspects of painting.

Didactic Methodology of Children's Artistic Work

According to the didactic structure and development of children's art (National Council for Culture and the Arts, 2016b), the guiding objective was to sensitize preschool and elementary school children to the importance and value of water, collectively strengthening environmental awareness through aesthetic sensitivity, artistic self-expression, critical reflection, and collaborative work aimed at creating diverse visual and pictorial representations.

The methodology employed for the implementation of the three stages involved in the creative process of the two Collective Children's Murals was based on the Project-Based Learning Method (MINEDUC, 2019; UNICEF, 2020) and the Art-Based Problem-Solving Method (Gregori and Menéndez, 2015; Caeiro, 2017).

As participants, we considered the artistic intervention of 24 elementary school students from La Quebrada Rural School, located 26 kilometers from Pedregal in the city of Los Angeles, and 12 students from the younger preschool group at the Pequeñitos UdeC nursery and kindergarten on the Chillán campus. It should be noted that due to the conditions of the spaces for carrying out the artistic interventions (fieldwork) and the schedules established by each educational institution, it was not possible to carry out a phase of semi-structured or open interviews, to be applied to both the teaching staff and the protagonists of the collective murals. This phase was postponed for a continuation in a second project that would allow us to expand the results and impacts of this first experience described here.

Additionally, we had the ongoing support of the teaching staff and educational communities of both schools, who, through their collaborative, motivating, and enthusiastic efforts, contributed to the achievement of the proposed objective, materialized through the development of three execution stages: creative process, installation, and inauguration of the murals. Each of these stages,

which constituted our fieldwork, is briefly described below (Cárdenas, 2024):

First Stage: Mural Creative Process (see Fig. 1 and 2). From a pedagogical practice and situated learning perspective (López et al., 2021), each artistic activity was coordinated to collectively strengthen environmental awareness and care for water through the development of students' painting skills and creative experimentation, organized as follows:

1. Initial meeting: Introduction to the project's objectives and scope within the framework of the Arts Education Week and the Research Project in Artistic Creation entitled 'Appreciation of Water Resources in the Biobío Province from an Interdisciplinary, Cultural, and Artistic Perspective', code No. 2022000647CAR, funded by the Vice-Rectorate for Research and Development, University of Concepción, Chile.
2. Motivational sessions on the importance of water resources in the Biobío Province and Region, as well as the importance, impact, and care of water, led by Dr. Nicole Uslar Valle, lasting 20 to 30 minutes.
3. Formation of artistic work groups and distribution of materials, including: two 30 x 30 cm framed canvases, a set of twelve acrylic paints, a color mixing palette, and three flat-tipped brushes, sizes 12, 8, and 4.
4. Development of a painting creation and representation workshop on the importance and care of water, distributed throughout the morning and afternoon sessions, each lasting two pedagogical hours. The workshop was facilitated by two teachers from La Quebrada School (in the case of Los Ángeles), early childhood educators from the Pequeñitos UdeC nursery, two academics from the University of Concepción, and four students from the General Basic Education program at the University of Concepción, Los Ángeles campus.
5. Exchange of experiences and appreciation of the two resulting mural proposals on the theme "Let's take care of our water".



Figure 1. Motivational session on the care of water resources and preliminary results of the children's painting workshops. Children's painting workshops. Students of La Quebrada school.

Source: Photographic archive of the authors.



Figure 2. Motivational session on the care of water resources and preliminary results of the children's painting workshops. Children of the nursery and kindergarten Pequeñitos UdeC.

Source: Photographic archive of the authors.

Second Stage: Installation of the Mural (see Fig. 2 and 3). It consisted of the following steps:

1. Visual reorganization of the children's pictorial proposals and assembly of the two murals: the first of them was located on the upper wall of the entrance hall of the rural school La Quebrada; and the second, on the wall of the coexistence and recreational meeting room of the Pequeñitos UdeC nursery school and kindergarten.



Figure 3. Celebration of the educational community for the installation of the Collective Mural. La Quebrada rural school.

Source: Photographic archive of the authors.



Figure 4. Celebration of the educational community for the installation of the Collective Mural. Nursery school and kindergarten "Pequeñitos UdeC".

Source: Photographic archive of the authors.

Third Stage: Mural Inauguration (Figs. 5 and 6). This stage included the following activities:

1. Welcome remarks: Delivered by the directors of the rural school La Quebrada and the UdeC Pequeñitos nursery and kindergarten.
2. Formal greetings and remarks: Given by authorities from the Los Ángeles and Chillán campuses of the University of Concepción, Chile. Additionally, a 7th-grade student who participated in the artistic process of the Children's Collective Painting Murals gave a speech.
3. Reflections on the creative process: Presented by the co-investigator of the VRID research and artistic creation project.
4. Interlude: A musical piece performed by an academic from the University of Concepción, Los Ángeles campus.
5. Award ceremony: Artistic diplomas and gifts were presented to the students who created the Children's Collective Painting Murals.
6. Closing activity: Expressions of gratitude to university authorities, parents, guardians, and the entire educational community for their high level of participation and collaboration in the completion of the two murals.



Figure 5. *Inauguration ceremony and recognition of the student body of La Quebrada rural school.*

Source: Photographic archive of the authors.



Figure 6. *Inauguration ceremony of the mural in the main recreation hall of the Pequeñitos UdeC nursery and kindergarten.*

Source: Photographic archive of the authors.



Figure 7. *Visualization of the Collective Mural of Children's Painting, installed on the upper wall of the entrance hall of the rural school La Quebrada. Technique: acrylic paint on 48 canvases of 30 x 30 cm. Dimensions: 90 cm (height) x 480 cm (length).*

Source: Photographic archive of the authors.



Figure 8. Visualization of the Collective Mural of Children's Painting, installed on the front wall of the central recreation and leisure hall of the nursery and kindergarten Pequeñitos UdeC. Technique: acrylic painting on 16 canvases of 30 x 30 cm. Dimensions: 120 cm (height) x 120 cm (length).

Source: Photographic archive of the authors.

Both iconographies, obtained as a result of the collective murals (Figs. 7 and 8), highlight the importance of perpetuating children's creative work in early childhood and primary education. Additionally, they contribute to strengthening aesthetic appreciation and the environmental meanings underlying the individual understanding of teachers, parents, and guardians, and collectively, the people who make up the educational communities. This is in relation to the relevance of addressing the challenges and difficulties involved in learning processes about the natural, educational, and community ecosystem, through the reflection-concern versus exploration-representation of water, as seen in children's paintings (Kang and Gammel, 2011).

The visual results obtained from the creative work of a group of preschool and primary school students on the theme of water, represented in the two Collective Children's Painting Murals, contribute symbolically to the field of artistic knowledge and to the development of diverse expressions created from this vital water resource.

Throughout the project, it became evident that all the children embraced the challenge of incorporating the didactic and learning tools offered by children's art from a pedagogical and inclusive perspective (Manghi et al., 2020). Indeed, they channeled their own iconographic explorations in accordance with the didactic structures and artistic-cultural activities described by Azagra and Giménez (2018). Each child took on the challenge of revaluing the meanings of children's art, fostering a renewal of research methodologies and artistic mediation, considering as a starting point the themes of care, preservation, and environmental valuation of water resources. All this was made possible through visual arts in art education. Water, in its different states of transformation —solid, liquid, and gaseous— captivated the attention and subsequent visual representation, centered on the particular compositional themes of the youngst.

Although various reports on the approach to muralist themes and content in Latin America and the world (UNESCO, n.d.; Petronienè and Juzelèniènè, 2022; Shegog et al., 2023; UNICEF, 2024) follow artistic procedures and methodologies that coincide with those used in the two Collective Children's Painting Murals, in our experience, geographically limited to the Biobío and Ñuble regions, we observe a dynamic curricular of active teaching (Vera et al., 2022) that favors educational interactions through the realization of diverse simultaneous activities of collective expressions, with a marked and indisputable artistic stamp.

From this curricular perspective, both the rural school La Quebrada and the Pequeñitos UdeC nursery and kindergarten can create specific and multidimensional pedagogical actions through imagination and teamwork, fundamentally mediated by the development of creativity in early childhood.

Through these actions, it is possible to generate a variety of artistic opportunities that allow students to share and provide feedback on their emotional capacities present in an active, experimental education, willing to strengthen the different learnings mediated by art.

Furthermore, these recreational activities centered around children's mural painting are related to the Sustainable Development Goals (SDGs) of Chile and the 2030 Agenda of the United Nations (UN) (Cárdenas, 2024), as well as to those conceptions of art education in early

childhood that are grounded in the idea that art is a tool for expressing, sensitizing, and manifesting emotions.

However, art is also an expression of the inner self that enables the enrichment of the learner's social and cultural heritage. It is a didactic tool that allows the child to enrich their capacities for comprehension, communication, interpretation, and creation; that is, a set of experiences —artistic contents: light and color, performance and installation, inclusion of media and technologies, art and ecology, among others— and subjective daily lives “that can be carried out in the classroom through the teaching of art” (Huertas et al., 2018, p. 25).

It is essential to consider the challenge of revaluing the meanings of children's art as a basis for developing a methodology of artistic research that considers as a starting point the themes of care and preservation of water resources as biographical-educational narratives that impact contemporary visual arts.

Moreover, the varied compositional themes centered on this element —water— have raised diverse dynamics of compositional reflections that attempt to document, through children's graphic experience and development, a corollary of contemporary settings that starts from local scenarios towards international cultural spectrums about a certain “value for art” which, according to its relationship of belonging or environmental stratification and socio-performative identification, expand and communicate the narrative substrate of children's pictorial productions.

Each iconographic evidence of infant groups, incidentally, originates from the children's own subjective understanding of art as a material, symbolic, and contextual object, and can even surpass the limits of the artwork itself to be conceived within a broad multidisciplinary historiography about the care, commitment, and conscious conservation of water for future generations.

On the other hand, living in a country susceptible and vulnerable to the effects of climate change implies a level of responsibility for each of us. In this context, the State must play a vital role by establishing regulations, incentives, and support programs that promote efficient water use practices. In that sense, and to cite an example, in Chile we have Law 18.450, which provides subsidies for adopting efficient water use technologies and investing in minor agricultural infrastructure. To achieve significant advances in

technologies, investment in research and innovation to find sustainable solutions to water-related challenges is also a fundamental pillar.

Consequently, the three mentioned stages are part of the testimonies and artistic exchanges of the students from La Quebrada rural school and the Pequeñitos UdeC nursery and kindergarten, as they allow us to consolidate a microhistory of water iconography, recorded in each of the visual narratives of the two murals created. But it is also a collective responsibility to take care of water resources, which requires the participation of States, educational communities, and truly committed citizens to create a sustainable and prosperous future.

Conclusion

Visual arts in childhood, through art education, have positioned themselves as a key disciplinary area for the development of educational communities, becoming a versatile and effective didactic tool for the comprehensive strengthening of creative processes in childhood and adolescence. Indeed, the two Collective Children's Painting Murals can have a positive impact on a wide sector of society and educational communities, by creatively imagining the environmental ecosystem we want, recognizing the problems that affect it and its characteristic features that constitute its natural attractions.

Both educational realities, preschool and primary education, invite us to connect, sensitize, and act in the world from many possible artistic scenarios and, in this sense, the pictorial representation "Let's take care of our water" seeks to install in the traditional training curriculum, pedagogical strategies with the objective of rethinking their own environmental realities and promoting significant changes that allow them to intervene and improve their immediate environmental and local environment.

The two collective children's painting murals initially represent these changes, and from a multidisciplinary conception, they constitute a symbolic-expressive certainty of the inter and transdisciplinary experiences that best represent the complexity and current uncertainty about water care. Experiences like those of the murals instill attitudes, values, and patterns of behavior that endure and promote respect for natural resources and the protection of biodiversity.

It is necessary to highlight these collective creation initiatives that aim to raise awareness among the population of Biobío and Ñuble about the importance of protecting our water resources, generating spaces for collective inclusion and the visibility of the great patrimonial, environmental, and ecosystemic water heritage present in the two works of children's murals. Finally, the visual arts transform traditional education for the development of children's creativity, organizing artistic learning within a wide range of expressive possibilities that playfully invite experimentation, play, and creation. Art education, at the preschool level, undoubtedly improves visual communication skills, creative self-esteem, and the fluency of divergent knowledge that enriches artistic learning in childhood, ensuring that young children are motivated to learn, interact and grow aware of their own natural environment, water and environmental wealth.

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