Virtual education, sustainable leadership, and social transformation: A university training experience with communities in Colombia

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Abstract
This article evaluates the impact of the Sustainable Leaders in Action project, developed by Uniminuto Virtual in Colombia through its Social Responsibility course, on transforming environmental attitudes and practices within local communities. The project led to a meaningful shift from theoretical understanding to applied sustainability, as participants began adopting behaviors such as recycling, organizing clean-up campaigns, and responsible water use. These changes reflected not only deeper environmental awareness but also the development of digital competencies for community engagement. Furthermore, the initiative fostered youth leadership, strengthened collaboration with local authorities, and promoted values of social justice and civic responsibility. Participants transitioned from passive recipients to active change agents, driving the replication of sustainability efforts in broader contexts. The findings highlight the project's potential as a scalable model for environmental education and community empowerment.

INTRODUCTION

In a world marked by environmental crises, growing social inequalities, and transformations accelerated by technology, the need to rethink forms of education and community participation becomes urgent. Digital culture, understood as the set of practices, knowledge, and values that emerge in contexts mediated by technology (Piscitelli, 2009), offers opportunities to connect people and communities in training processes with territorial impact. This article examines the experience of the "Líderes Sostenibles en Acción" (Sustainable Leaders in Action) social training project, an initiative developed by the Uniminuto Virtual Rector's Office that seeks to engage students with local communities in order to address environmental issues through education for sustainability. Inspired by Pope Francis' call for the care of the "common home" (Laudato Si', 2015), the project promotes the creation of gardens and tree planting as concrete actions of territorial transformation, simultaneously strengthening environmental culture and social fabric.

Colombia, despite being one of the most biodiverse countries on the planet, faces alarming environmental degradation. The expansion of extractive economic activities, unregulated urban growth, and the lack of effective public policies have deteriorated key ecosystems. According to the World Bank's Country Climate and Development Report (2023), climate change could reduce Colombia's GDP by between 1.5% and 2.5% by 2050 if investments in adaptation measures are not

made. Additionally, it is estimated that 40% of the country's greenhouse gas emissions come from land-use changes and forestry, reflecting the pressure on natural ecosystems. In response to this situation, the "Líderes Sostenibles en Acción" (Sustainable Leaders in Action) project proposes a training and action strategy that connects academic knowledge, local capacities, and digital culture, aiming to generate transformation processes from within communities. Strengthening youth community leadership is presented as a necessary and urgent approach to promote environmental regeneration and the creation of active citizenships committed to caring for the territory. This approach aligns with recent initiatives, such as the reactivation of the National Network of Environmental Youth in the Orinoquía region, which seeks to empower youth in participatory environmental management and the formulation of sustainable public policies (Ministerio de Ambiente y Desarrollo Sostenible de Colombia, 2024). In the face of the growing ecological and social crises affecting the planet, there is an urgent need to rethink the ways in which we educate, organize, and inhabit our territories. Digital culture, understood as a framework of practices, narratives, and forms of knowledge circulating in technologically mediated environments, enables new forms of connection and collaboration for social change (Jenkins et al., 2009).

From a critical perspective, environmental education cannot be limited to transmitting scientific information about nature. As authors like Sterling (2021) and Sauvé (2005) assert, it must take on a transformative role, promoting collective action, ecological awareness, and socio-environmental justice. This transformation requires the articulation between universities, communities, and technologies, in a dialogue of knowledge that enables contextualized and sustainable solutions (Gutiérrez & Prado, 2020; García et al., 2022).

THEORETICAL FRAMEWORK

The "Líderes Sostenibles en Acción" (Sustainable Leaders in Action) project is articulated from a critical, educational, and community-based perspective, framed within three main approaches: critical environmental education, participatory service-learning, and education for sustainable development. This foundation is enriched by the theoretical contributions of Social Impact Assessment and Cultural Studies, which help to understand the transformative nature of the project in its complexity. First, critical environmental education, as described by Sauvé (2005) and expanded by Sterling (2021), understands that socio-environmental issues cannot be addressed solely through the transmission of content; rather, they require the development of a situated ecological, political, and cultural consciousness. This approach proposes a pedagogy oriented toward action, the questioning of the dominant development model, and the regeneration of relationships between people and the territory. The service-learning approach (Tapia, 2010; CLAYSS, 2023) and the pedagogy of participation align with this perspective by proposing that knowledge is constructed in relation to others, in real contexts, and with an ethical commitment to communities. This fosters an educational practice where students and communities are co-protagonists of the training process.

Education for Sustainable Development (ESD), promoted by UNESCO (2017), proposes that educational processes should prepare citizens to think critically, act responsibly, and promote socially just, environmentally viable, and culturally relevant development. Leicht, Heiss, and Byun (2018) highlight the need to develop capacities for cooperation, resilience, and ethical decision-making in the face of global challenges. From the perspective of Latin American higher education, authors such as Freire & Oliveira (2021) and Gómez & Restrepo (2022) emphasize the political and social role of the university, which must be actively connected to local territories and serve as an actor that facilitates processes of collective transformation and grassroots emancipation. This approach is particularly

relevant in the context of the Rectoría Uniminuto Virtual's Office. With its community-oriented approach, where educational technology is not an end in itself but a means to expand access, strengthen participation, and consolidate territorially distributed learning networks. Salinas (2020) and Bartolomé & Grané (2023) warn that, when properly oriented, virtuality can contribute to educational justice and the empowerment of historically excluded sectors.

We turn to the theory of Social Impact Assessment (SIA), understood not as an instrumental measurement of effects, but as a critical tool for valuing the social, cultural, and subjective transformations generated by intervention projects. Frank Vanclay (2020) argues that the true value of SIA lies in its ability to facilitate deliberative, inclusive, and fair processes where communities have a voice in defining, implementing, and evaluating the projects that affect them. According to Vanclay et al. (2015), assessing impact involves considering dimensions such as community cohesion, cultural identity, perceptions of justice, and collective agency. Thus, integrating SIA from the postulates of Vanclay et al. (2015), considering the ethical and participatory nature of the project, allows for the visibility and valuation of relational, symbolic, and structural changes that emerge from the collaboration between the university and the community. Finally, from the perspective of cultural studies, education is understood as a symbolic practice that contests meanings, creates social bonds, and redefines identity affiliations. Bourdieu (2021) and García Canclini (2022) propose that all educational action involves a struggle for meaning and power, which is particularly relevant in territories marked by historical exclusions. In this sense, projects like "Líderes Sostenibles en Acción" not only provide technical training but also enable processes of cultural transformation from the bottom up.

METHODOLOGY

This study is developed from a qualitative, participatory, and transdisciplinary perspective, centered on the voice of the communities as producers of situated knowledge. In line with the methodological guidelines of participatory action research (PAR) and social impact assessment (SIA), a constructivist approach is chosen that recognizes community knowledge as a valid and necessary epistemological foundation for sustainable territorial transformation (Molina & Rincón, 2023; Villamizar et al., 2021). This article examines the experience of the "Líderes Sostenibles en Acción" (Sustainable Leaders in Action) social training project, an initiative driven by the Center for Education for Development of the Uniminuto Virtual Rector's Office, a higher education institution with a social and territorial focus. This project seeks to engage students with local communities to address environmental issues through sustainability education processes. Inspired by Pope Francis' call for the care of the "common home" (Laudato Si', 2015), it promotes the creation of gardens and tree planting as concrete actions for territorial transformation, while simultaneously strengthening environmental culture, community fabric, and civic responsibility. The methodological design involved the collection of information through open narrative instruments, promoting the spontaneous storytelling of lived experiences by leaders and residents of the communities that participated in the project. A total of 230 testimonies were analyzed, gathered through virtual forms.

This corpus allowed for the identification of significant dimensions of community impact in terms of sustainability, participation, and sociocultural transformation. The data analysis followed an inductive coding strategy based on the principles of thematic analysis (Braun & Clarke, 2021), which led to the emergence of interpretive categories constructed from the language and meanings attributed by the communities themselves. These categories were not imposed by the university logic but emerged from the territory as legitimate expressions of agency, desire for transformation, and

appropriation of the process. The methodology recognizes that every educational and evaluative process is mediated by power relations; therefore, principles of relational ethics, informed consent, and restitution of knowledge to the participating actors were applied. Horizontal relations, respect for local worldviews, and the empowerment of capacities for community self-management were prioritized, aligning with frameworks of epistemic justice and situated education (Santos, 2020; Hernández & Castañeda, 2022). Finally, an eco-socio-community perspective of impact was adopted, in which virtual higher education acts as a catalyst for territorial transformation processes from within communities. This implies shifting the focus from academic results to the lived, cultural, and environmental effects of the project, allowing for the assessment of changes in everyday practices, neighborhood organization, and environmental perception.

Thus, this methodology reflects a commitment to a virtual university engaged with the territory, recognizing the political power of communities to build a future from the land, care, and collective action.

RESULTS AND DISCUSSION

Regarding the first question of the baseline evaluation about the importance of the "Líderes Sostenibles en Acción" social training project, the results obtained through community feedback reveal a series of activities that students will engage in as part of the project. According to the responses, a strong focus on environmental education from a critical perspective stands out, aiming not only to inform but also to train individuals capable of questioning and acting on their environment. Here, Vanclay's (2003) theory is fundamental, as the author proposes that sustainable development must be based on a relational process that values both local knowledge and collective action to generate real changes.

In this sense, the community perceives that students will play an active role in actions such as raising awareness about environmental care, protecting water sources, responsible waste collection, and conservation of the land. Furthermore, several proposals for direct intervention were identified, such as cleaning days in critical areas, awareness campaigns on waste, and joint collection activities with the community. These initiatives reflect situated learning, where knowledge is built from concrete experiences and has a direct impact on the improvement of the social and environmental context.

Another recurrent theme in the responses is the strengthening of youth leadership with a social and environmental focus. The community values that young people are being trained with a critical perspective and a commitment to their own transformation, recognizing them as agents capable of mobilizing others and generating innovative proposals. This aspect aligns with Vanclay's (2003) vision, which emphasizes the importance of empowering local actors to exercise leadership and act as mediators between technical knowledge and community wisdom.

The use of digital technologies with an ecological purpose was also highlighted by the communities, who believe that students will not only learn how to handle technological tools but also use them to communicate, raise awareness, and educate about the environment. Through blogs, social media, and other digital platforms, students will be able to share sustainable practices and connect with other communities to exchange experiences. This dimension contributes to the creation of a digital eco-pedagogy that links technological and environmental knowledge to promote dynamic, inclusive, and relevant learning (Leff, 2002; Gadotti, 2000).

Additionally, the importance of intergenerational and intercultural participation was identified. The communities value that the project promotes the inclusion of people from different ages, abilities, and cultural backgrounds, fostering a dialogue of knowledge and the collective construction of

learning. This approach aligns with the principles of popular and critical environmental education, which seek social inclusion (Freire, 1970; Sauvé, 2005).

Finally, the project's connection with the university and applied research stands out as a positive aspect. The communities believe that "Líderes Sostenibles en Acción," as an interdisciplinary training space, integrates academic education with territorial action. In this way, not only is the social role of the university strengthened, but it also contributes to the exercise of responsible environmental citizenship, as Vanclay (2003) proposes, suggesting sustainability from the ground up.

When comparing the pre-project and post-project evaluations, we can identify the following transformations:

Before the implementation of the social training project, participants generally valued the program, describing it as "important" or "good." This initial perception focused on the program's usefulness but did not detail specific actions. However, after their participation, the testimonies reveal a clear transformation toward active and concrete involvement. Participants describe specific actions, such as awareness campaigns, waste collection, water conservation, recycling, and the responsible use of technology. These interventions have not only been perceived but have been actively carried out, demonstrating a change in both the perception and practice of the participants. Representative examples include:

Nadel Andrea Trujillo Polo: "I learned that change starts primarily with me, we now have the lesson of the garden, and from it, we can get food to eat better, like vegetables and greens" (Paz de Ariporo, Casanare).

Leider Andres Urieles Rivera: "We did a campaign about the proper disposal of waste, and now we don't see as much disorder; the yards have been cleaned up for planting" (Jardín, Antioquia).

This shift from perception to concrete action demonstrates that the program not only generates knowledge but also promotes the execution of direct activities that impact the participants' immediate environment.

In the initial phase of the project, participants' comments reflected a general gratitude for the support provided and positive expectations regarding the learning process. However, after the intervention, a deeper appropriation of knowledge related to key topics such as sustainability, environmental impact, recycling, and responsible resource management became evident. This appropriation is reflected in participants' testimonies, who not only express what they learned but also demonstrate a detailed understanding of sustainable practices. Examples of this transformation in knowledge appropriation include:

Claudia Ramirez: "I understood that planting native species promotes a more pleasant environment and makes us realize how important clean water, soil, and air are for a better life and to avoid diseases. If we don't take care of native species, the richness of the soil's nutrients can disappear" (Jiguamiandó, Chocó).

Maira Alejandra Martinez Martinez: "I learned that my grandmothers had a great knowledge of medicinal plants, and by valuing this knowledge, we can extract many positive things for the prevention of diseases" (Dibulla, La Guajira).

This change suggests that the learning is not only theoretical but translates into concrete actions and informed decisions that affect participants' daily behavior.

Before the program, technology was not mentioned as a key component of the educational experience, or it was perceived as external to the process. In contrast, after the implementation of the social training project, participants recognized the crucial role of technology as an educational medium and a tool for social transformation. Technology, in this context, is seen not only as an educational

resource but as a powerful tool for community building and the dissemination of results through environmental education. The testimonies reflect this transformation:

Leider Andres Urieles Rivera: "We used our cell phones to record videos and share them with the teacher. I had never made a blog before, and I thought it turned out great" (Curumaní, Cesar).

Liliana Andrea Ramirez Ramirez: "The digital platforms helped us learn, and now I'm teaching my siblings the things we learned with digital booklets" (Dapa, Valle del Cauca).

This shift in technological perception indicates that participants have understood the value of digital platforms as tools for learning and community action.

Initially, participants saw themselves as recipients of help or teaching. However, after the intervention, the testimonies show a significant transformation in the participants' attitude, as they now identify themselves as active agents of change within their communities. This role change is fundamental, as participants no longer see themselves as beneficiaries but also seek to replicate the project and expand its impact to other institutions and on a larger scale. Examples of this change include:

Carlos Medina: "This should be taught from preschool. In my case, we're going to continue working with the garden because we've seen all the things we can achieve. The idea is for everyone to have their own garden because we have all the materials on hand" (Santa Isabel, Tolima).

Wilson Enoc Salazar Ardila: "We committed to sharing this with more people. We already spoke with the municipal school, and a teacher is interested in implementing it. So, we're already collaborating on that" (Pitalito, Huila).

This change reflects a transformation in environmental culture and the responsibility of the participants, who no longer limit themselves to receiving knowledge but have become multipliers of the information acquired.

Before the implementation of the program, the actions taken by the participants focused on the individual or the household. After participating in *Líderes Sostenibles en Acción*, the testimonies reveal a strengthening of collective awareness. Participants now recognize the importance of teamwork, collaboration with local authorities, and the multiplication of the awareness message, which has led to the creation of support networks and a collective commitment to these transformations. This is reflected in expressions such as:

Angela Patricia Espinosa Romero: "We organized ourselves as a community to make changes. Now we have trees planted on the hillside, and we know that these species will help stabilize the soil so that the mountain doesn't collapse" (Lejanías, Meta).

Santiago Cardona Guzmán: "These activities taught us that change happens as a group because we visited the Umata (Agricultural Office), they were kind, and gave us the trees. They taught us how to take care of them, and now we see them growing" (Cartago, Valle).

This change in community awareness highlights the importance of collaborative work and solidarity as key elements for the effective implementation of social and environmental projects, alongside community management at the institutional level.

Initially, the focus of the testimonies was almost exclusively on environmental care. However, after the intervention, participants have broadened their perspective, incorporating wider socio-environmental values, such as social justice, civic responsibility, social awareness, and sustainability. This holistic approach reflects a significant shift towards a more comprehensive view of environmental challenges, one that not only considers the care of the environment but also the human interaction and social impact of individual and collective actions. Examples of this transformation include:

Leydys Alemeza: "They taught us social responsibility, social justice, and how to act as conscious citizens. We went and shared this with the friends we work with, all of them from the same neighborhood. Now it's our garden, and we want to make one just for salad vegetables. Mine is for tomatoes" (Dosquebradas, Risaralda).

Gilma Patricia Alvarez Escobar: "Teamwork is essential for carrying out any project with the community. In the garden, we integrated, we laughed, we learned, we almost played and got dirty with soil, but we learned and think about the future" (Florencia, Caquetá).

DISCUSSION

The testimonies collected reveal the transformative impact of the "Sustainable Leaders in Action" project across pedagogical, social, environmental, and cultural dimensions. A qualitative analysis identifies four key axes of reflection.

Participants highlighted the value of integrating ancestral practices like medicinal plants and community gardening. These locally rooted practices support environmental preservation and strengthen cultural identity. This aligns with Gutiérrez & Prado's (2020) concept of situated learning, which emphasizes the importance of contextualized, transformative education.

The project enabled students to grow as leaders with technical skills and a deep sense of social responsibility. Participants saw themselves as agents of change, in line with the transformative pedagogy advocated by Sterling (2021) and Freire & Oliveira (2021), which promotes awareness and engagement for a more just and sustainable society.

Testimonies reflect a shift from individual to collective action, as participants embraced community collaboration and partnerships with local authorities. Initiatives like community gardens illustrate how sustainability practices foster civic engagement and social transformation.

Initially focused on environmental care, participants broadened their understanding to include the interconnectedness of social, economic, and ecological issues. This evolving awareness reflects principles of critical environmental education, promoting not only sustainable practices but also structural social change.

Participants called for better logistical planning and adaptation to local conditions, demonstrating critical thinking aligned with service-learning frameworks (Tapia, 2010). The use of social media to promote home gardening showcases the role of digital tools in expanding impact and fostering participatory, purpose-driven content creation, as described by Jenkins et al. (2009).

CONCLUSION

The "Sustainable Leaders in Action" project has catalyzed a significant cultural transformation process, in which specific environmental actions have been redefined as everyday practices of an emerging environmental culture. This culture is inhabited by more conscious individuals, connected to a pedagogy of care that is rooted in the territory, collective memory, and a relational ethics with nature. As Wilkinson (2020) and Gilligan (2025) argue, sustainability cannot be limited to a set of policies or technological innovations; it requires an emotional and symbolic transformation, where the bonds between people and ecosystems are regenerated through ethical and communal commitment.

The results of the project, measured through participatory impact evaluation tools, show indicators of strengthened environmental awareness (28%) and community empowerment (25%), figures that reflect not only knowledge acquisition but also a redefinition of territorial bonds and collective agency. These figures, although partial, express a transformative dimension that is also

manifested in concrete practices such as the creation of school and family gardens, tree planting, the revitalization of traditional knowledge, and intergenerational dialogue.

The intentional use of virtuality as a pedagogical mediation has been another key contribution of the project, enabling the creation of translocal learning communities that overcome geographical barriers and strengthen collaboration networks between students and communities. This experience shows that it is possible to integrate university education, digital culture, territorial action, and environmental sustainability into a single educational process, in line with approaches to critical environmental education (Sauvé, 2005), service-learning (CLAYSS, 2023), and social impact evaluation from a relational perspective (Vanclay, 2020).

The testimonies collected indicate that this type of initiative not only transforms knowledge but also subjectivities, social fabric, and community education. In this sense, "Sustainable Leaders in Action" should not be seen as a one-time project, but rather as a replicable and scalable model that can inform public policies, university strategies, and community sustainability programs.

It is recommended, therefore, to move towards the institutionalization of the project within the university curriculum, strengthen inter-institutional alliances with territorial actors, and build long-term follow-up pathways to consolidate the learnings and ensure the sustainability of the transformations initiated. Education, when experienced as situated, dialogical, and collective, can become a powerful tool to regenerate the bond between people, nature, and the sense of community development.

REFERENCES

Armstrong, C. (2022). *A blue new deal: Why we need a new politics for the ocean*. Yale University Press.

Bamberger, M., Vaessen, J., & Raimondo, E. (2021). *RealWorld evaluation: Working under budget, time, data, and political constraints*. SAGE Publications.

Banco Mundial. (2023). *Informe sobre clima y desarrollo del país: Colombia*. https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099072023124010841/p1781040ddec680a00aebf0315573ff6d8d

Bartolomé, A. (2023). Analíticas de aprendizaje: Una aproximación global. In B. Gros Salvat (Ed.), *Aprenentatge, tecnologies i educació* (pp. 95–98). Universitat de Barcelona.

Bourdieu, P. (2021). *El sentido práctico*. Siglo XXI Editores.

Braun, V., & Clarke, V. (2021). *Thematic analysis: A practical guide*. SAGE Publications.

Dhara, R., & Singh, N. (2021). Beyond growth: Education for sustainable development in a world of limits. *Environmental Education Research, 27*(5), 689–706. https://doi.org/10.1080/13504622.2021.1903658

Francisco. (2015). *Laudato si': Sobre el cuidado de la casa común*. Librería Editrice Vaticana. https://www.vatican.va/content/francesco/es/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html

Freire, P., & Oliveira, A. (2021). *Pedagogía de la esperanza*. Siglo XXI Editores.

Gadotti, M. (2000). *Pedagogía de la Tierra y cultura de la sustentabilidad*. Foro sobre Nuestros Retos Globales, Universidad para la Paz, San José, Costa Rica. https://earthcharter.org/library/pedagogia-de-la-tierra-y-cultura-de-la-sustentabilidad-2000/

García Canclini, N. (2022). *Ciudadanos reemplazados por algoritmos*. Ariel.

García, A., Ospina, D., & Torres, M. (2022). *Universidad, innovación y territorio*. Ediciones Uniandes.

García, M. L., & Navarro, C. (2023). Educación virtual crítica y transformación territorial. *Revista Iberoamericana de Educación a Distancia, 26*(1), 35–54. https://doi.org/10.5944/ried.26.1.35014

Gilligan, C. (2025). *Ethics of care in a changing climate: Rethinking human responsibility*. Harvard University Press.

Gómez, D., & Restrepo, M. (2022). Formación universitaria y compromiso social. *Revista Latinoamericana de Educación*.

Gutiérrez, L., & Prado, D. (2020). Aprendizaje situado y cambio social. *Revista Educación y Pedagogía*.

Hernández, D., & Castañeda, S. (2022). Justicia epistémica y co-investigación en contextos comunitarios. *Revista Latinoamericana de Metodología de las Ciencias Sociales, 12*(2), 57–78.

Jenkins, H., Clinton, K., Purushotma, R., Robison, A. J., & Weigel, M. (2009). *Confronting the challenges of participatory culture: Media education for the 21st century*. MIT Press.

Leal, J. (2024). *Informe de evaluación proyecto Líderes Sostenibles*. Centro de Educación para el Desarrollo, Unidad de Proyección Social, Rectoría Uniminuto Virtual.

Leff, E. (2002). Racionalidad ambiental y diálogo de saberes: Significancia y sentido en la construcción de un futuro sustentable. *Polis. Revista Latinoamericana*(1), 61–109.

Leicht, A., Heiss, J., & Byun, W. J. (2018). *Issues and trends in education for sustainable development*. UNESCO.

Marder, M. (2023). *Green mass: The ecological theology of stupidity*. Stanford University Press.

Martín-Barbero, J. (2002). *Oficio de cartógrafo*. Fondo de Cultura Económica.

Ministerio de Ambiente y Desarrollo Sostenible. (2024). *Red Nacional de Jóvenes de Ambiente*. https://savia.minambiente.gov.co/rnja/

Molina, L., & Rincón, M. (2023). Investigación acción participativa en educación ambiental: Reflexiones desde el territorio. *Revista de Investigación Educativa Ambiental, 7*(1), 11–25.

Piscitelli, A. (2009). *Nativos digitales: Dieta cognitiva, inteligencia colectiva y arquitecturas de la participación*. Santillana.

Rockström, J., & Gupta, J. (2023). Earth system boundaries. *Nature, 619*(7968), 31–33. https://doi.org/10.1038/d41586-023-02075-2

Salinas, J. (2020). *Innovación educativa y uso de tecnologías*. Ediciones UOC.

Salinas, J., & Pérez-Mateo, M. (2021). Ecologías de aprendizaje y redes distribuidas en la educación superior digital. *Comunicar, 67*, 45–56. https://doi.org/10.3916/C67-2021-04

Santos, B. de S. (2020). *La cruel pedagogía del virus*. CLACSO. https://www.clacso.org/la-cruel-pedagogia-del-virus

Sauvé, L. (2005). Perspectivas curriculares de la educación ambiental. *Revista Iberoamericana de Educación*.

Sterling, S. (2021). *Sustainable education: Re-visioning learning and change*. Green Books.

Tapia, M. (2010). *Aprendizaje-servicio solidario*. CLAYSS.

UNESCO. (2017). *Education for sustainable development goals: Learning objectives*. UNESCO Publishing.

Vanclay, F. (2003). International principles for social impact assessment. *Impact Assessment and Project Appraisal, 21*(1), 5–11. https://doi.org/10.3152/147154603781766491

Vanclay, F. (2020). Reflections on social impact assessment in the 21st century. *Impact Assessment and Project Appraisal, 38*(2), 126–131. https://doi.org/10.1080/14615517.2019.1685807

Vanclay, F., Esteves, A. M., Franks, D. M., & Costa, H. (2015). *Evaluación de impacto social: Lineamientos para la evaluación y gestión de impactos sociales de proyectos*. Asociación Internacional para la Evaluación de Impactos (IAIA). https://www.iaia.org/pdf/Evaluacion-Impacto-Social-Lineamientos.pdf

Villamizar, D., Rodríguez, A., & Castaño, F. (2021). Evaluación del impacto social en proyectos educativos territoriales. *Educación y Sociedad, 42*(2), 89–108.

Wilkinson, K., & Kalloch, C. (2022). The power of inclusive climate leadership. *Project Drawdown Reports*. https://drawdown.org