

Compromiso medio ambiental en estudiantes de una Escuela de Negocios

Environmental commitment among students of a Business School

Recibido: 28 de febrero 2023, Evaluado: 27 de marzo 2023, Aceptado: 01 de junio 2023

Liliana Hilda Mantilla Escobar ¹
lmantilla@urp.edu.pe

<https://orcid.org/0009-0003-3142-0673>

Universidad Ricardo Palma, Perú

María Judith Murga Prieto ²
maria.murga@urp.edu.pe

<https://orcid.org/0000-0003-2291-2396>

Universidad Ricardo Palma, Perú

Úrsula Idalina Huancas Donayre ³
ursulaihd@gmail.com

<https://orcid.org/0000-0003-0496-9145>

Universidad Ricardo Palma, Perú

David Esteban Espinoza ⁴
estebanmateduc@gmail.com

<https://orcid.org/0000-0001-8025-6409>

Universidad Ricardo Palma, Perú

Como citar el artículo

Mantilla, L. H., Murga, M. J., Huancas, U. I., & Esteban, D. (2023). Compromiso medio ambiental en estudiantes de una Escuela de Negocios. *Revista EDUCA UMCH*, (21), 75–88. <https://doi.org/10.35756/educaumch.202321.264>



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Resumen

El desarrollo sostenible constituye un tema de especial interés en distintas naciones alrededor del mundo, de ahí que en el año 2015 las Naciones Unidas diseñaran la Agenda 2030 con 17 objetivos que incluyen la eliminación de la pobreza, la lucha contra el cambio climático, las ciudades y comunidades sostenibles, entre otros. Por tal motivo, resulta esencial fomentar la integración entre los distintos actores sociales, así como las esferas públicas y privadas a fin de consolidar estos objetivos. En consonancia con este propósito, distintas instituciones educativas han adoptado estrategias que promuevan la sensibilidad con el entorno y la comprensión de la importancia de la sostenibilidad en los estudiantes, de ahí que resulte de interés profundizar en el impacto que generan las actividades de voluntariado para el fortalecimiento del compromiso ambiental en estudiantes de educación superior, considerando las implicaciones de estas acciones a nivel personal y profesional. Para tal fin, se consideró la aplicación de una encuesta a una muestra de 63 estudiantes de la Escuela de Administración de Negocios Globales de la Universidad Ricardo Palma en Perú, cuyas respuestas sugieren que éstos se encuentran comprometidos con causas ambientales principalmente por experiencias previas, sin embargo, es necesario fortalecer los vínculos que se generan en los programas de voluntariado luego de su culminación, a fin de favorecer la sostenibilidad de estas acciones a través del tiempo.

Palabras clave: *compromiso ambiental, sostenibilidad, Voluntariado, responsabilidad social.*

Abstract

Sustainable development is a topic of particular interest in different nations around the world. In 2015, the United Nations designed the 2030 Agenda with 17 goals, including the eradication of poverty, combating climate change, and fostering sustainable cities and communities, among others. Therefore, it is essential to promote integration among various social actors, as well as public and private spheres, in order to consolidate these objectives. In line with this purpose, various educational institutions have adopted strategies that promote environmental awareness and understanding of sustainability among students. It is of interest to delve into the impact that volunteering activities have on strengthening environmental commitment among higher education students, considering the implications of these actions at both personal and professional levels. For this purpose, a survey was conducted among a sample of 63 students from the School of Global Business Administration at Ricardo Palma University in Peru. The survey aimed to explore the students' engagement with environmental causes and their perceptions of volunteering activities. The results suggest that these students are committed to environmental causes primarily due to their previous experiences. However, it is necessary to strengthen the connections established during volunteering programs beyond their completion, in order to promote the sustainability of these actions over time.

Keywords: *environmental commitment, sustainability, volunteering, social responsibility.*

Introduction

The busy global dynamics have resulted in accelerated economic growth accompanied by impacts on the environment, ranging from alterations in ecosystems to the disappearance of species. In the face of this reality, it is essential to seek a balance in the environment and the development of any economic activity in order to offer greater protection to the environmental system that accompanies human beings in the development of their activities (Rodríguez and Vargas-Chaves, 2015)

There are many examples of environmental damages caused by human beings throughout history due to their activities. These include mining activities, agricultural and livestock expansion, metal processing, among others, which have been exacerbated by the emergence of a globalized and industrialized society where the importance of preserving the environment in which humans live has been underestimated, resulting in a significant environmental debt (Rodríguez and Vargas-Chaves, 2015; Russi and Martínez-Alier, 2003). Due to the significant environmental imbalance caused by human activities over centuries, efforts have been made to promote the adoption of new means of production and technologies that reduce environmental impact and repair the damage caused for the benefit of future generations. However, in some cases, the damage is difficult to repair, such as the intense mining activity in Peru, the oil spill on the Peruvian coast in 2022, the increasing escalation of livestock and agriculture in the Peruvian Andes, among others (Rodríguez y Vargas-Chaves, 2015; Pulido, Cruz, Arana, and Olivera, 2022; Russi and Martínez-Alier, 2003).

In correspondence with this reality, in 2015, the United Nations (UN) designed a working agenda with seventeen Sustainable Development Goals (SDGs), aimed at promoting sustainability in various areas for the benefit of the planet and humanity. This agenda, known as the 2030 Agenda, intrinsically includes environmental commitment to ensure the protection of the planet and its natural resources. In order to achieve this purpose and reduce the impact of human activities on the environment, the participation of various actors from both public and private spheres is sought to develop joint actions in favor of the planet.

Educational institutions play a special role in this, thanks to their significant potential for developing proposals derived from research processes, as well as through voluntary work that elevates the environmental commitment of these institutions to the point of institutionalization. The contributions of educational institutions go beyond environmental education, as they require a greater commitment and involvement from these educational communities with the reality experienced in their surroundings, where the impact of human beings on the environment is evident (Saenz, Plata, Holguín, Mora, and Blanco, 2017).

The involvement of universities in the achievement of the sustainable development goals of the 2030 Agenda represents a significant advancement in the engagement of educational communities in the fight for sustainability. Beyond contributing to the dissemination of knowledge, universities are called upon to actively cooperate in causes that

benefit the planet. In addition, volunteering activities within universities have also extended to the corporate sphere, enabling new forms of participation by companies in the fight against climate change and in favor of environmental sustainability (Louzao, Zanfrillo and Arraigada, 2022).

The plurality of ways in which educational institutions can enhance their environmental commitment offers a wealth of opportunities to increase awareness and reflect on the link between education and the environment, while also developing new forms of participation for those involved in these educational communities. This environmental education or awareness promoted by educational institutions intersects with four dimensions that influence individuals to effectively engage with the planet and its natural resources: cognitive, affective, conative, and active. Even at their lowest levels, these dimensions generate empathy between individuals and their environment (Gomera, 2008).

In order to effectively influence the cognitive, affective, conative, and active dimensions for the establishment of emotional connections between human beings and the environment, educational environments have embraced various tools that have innovated the way students learn, one of which is service learning that is based on the premise of learning by doing (Batlle, 2018; Gomera, 2008). This premise of service-learning is an essential part of volunteer work carried out in educational institutions, where not only a bridge of collaboration is established with the environment but also awareness is raised about the necessary changes the world must undergo in favor of sustainability, while enhancing personal competencies (Batlle, 2018).

This university social responsibility that emerges from within educational institutions involves not only students but also faculty members, researchers, authorities, and local communities, making it a systematic effort that contributes to the integration of university communities with their surroundings, while promoting socio-environmental practices and the interest of societies in contributing to the conservation of their environment and environmental balance (Aguirre *et al.*, 2012). Thus, the impact generated by volunteer actions from universities arises as a response to the changes experienced within them due to the inclusion of environmental education, aiming to foster sustainability and environmental balance in the face of the significant impact of human activities on the planet. Therefore, the participation of all sectors, both public and private, becomes necessary in this task (Perero, Díaz and Litardo, 2019).

The participation of different actors within educational environments undoubtedly contributes to increasing environmental commitment from academic institutions, incorporating the environmental dimension in various fields of knowledge. In doing so, they contribute to the working agenda in favor of the planet, encapsulated in the 2030 Agenda. Volunteer work, altruism, and the various forms of participation by educational institutions in their surroundings bring about substantial changes, the results of which are reflected in the environmental commitment acquired or enhanced by these actions. These efforts are aligned

with the fast-paced global dynamics and are aimed at achieving sustainability through a continuous pursuit (De Castro, 2002).

According to this, various higher education institutions around the world have implemented volunteer programs, such as the University of Córdoba in Argentina, the National University of Colombia, the University Mayor de San Marcos in Peru, among others. These programs are designed to encourage students to take action in favor of their social and environmental surroundings, while promoting values of solidarity, empathy, and commitment to the environment. These values are highly relevant during the process of professional development. The world has undergone significant changes due to undeniable economic growth, and this evolution has extended to educational environments, where active participation from all stakeholders is paramount in advancing sustainability (Gomera, 2008; Molano, Montoya and Montoya, 2016; Tafur and Sánchez, 2020).

This environmental commitment acquired by higher education institutions is based on ethical pillars that go beyond knowledge transfer processes. In this endeavor for the environment, the participation of individuals within these institutions is necessary. They engage in a coherent manner with the theoretical knowledge and principles promoted within the classrooms (Aguirre, De Pelekais and Paz, 2012)

In this way, it is of interest to delve into the impact generated by volunteer work both in the community and in universities, given the important connections that are formed among participants, beneficiary communities, and the environment. These dimensions, including cognitive, affective, conative, and active aspects, are enhanced through the development of actions that bring together the knowledge acquired in professional training and foster personal values and skills. This understanding highlights that the objectives pursued by the 2030 Agenda and the fight for environmental sustainability will be achieved through an integrated effort, in which universities have an important opportunity to contribute to the planet. This contribution is not only a duty but also an altruistic and selfless endeavor in which students and other participating actors can enhance their personal growth (Aguirre, De Pelekais and Paz, 2012).

The objective of this research is to analyze the impact of volunteer programs developed by universities on the students who participate in these programs, in order to understand how these actions contribute to their environmental commitment. To achieve this, the study considers the perspectives of students from a business school that has a volunteer program aimed at promoting social responsibility by addressing issues in the educational, health, labor, and environmental spheres. This case provides an excellent opportunity to gain a comprehensive understanding of the impact of volunteer programs on fostering environmental commitment.

Material and methods

Design:

According to the characteristics of the research, it corresponds to a descriptive and exploratory cross-sectional study, aiming to analyze qualitative variables that assess the impact of volunteer work on the promotion of environmental commitment among university students. With this it is possible to describe characteristics of volunteer programs, the way in which students participate in these programs and the impact they generate both in the environment and on a personal and professional level.

Sample:

The sample selection is based on a non-probabilistic sampling of the causal type, supported by criteria of accessibility and representativeness regarding the students involved in the research. The sample of this study consists of N=63 students from the School of Global Business Administration at Ricardo Palma University in Peru.

Instrument:

To achieve the research objectives, the application of a questionnaire composed of 20 questions has been considered. It explores the students' perception of university social responsibility, volunteer programs, and their impact on the development of values among students. Additionally, the instrument explores the students' previous experiences in volunteer work and their knowledge of the Sustainable Development Goals included in the Agenda 2030. This aims to understand the students' experiences regarding such programs and the impact they generate in favor of sustainability.

Results

Demographic Characteristics:

Regarding the demographic characteristics of the sample under study, it was found that the students had an average age of approximately 29 years, with 61.90% of them being female and 38.10% male, indicating a predominance of female students.

Previous Experiences in Volunteer Programs and Knowledge of the Agenda 2030:

The students were asked about their previous experiences in volunteer programs to understand their background in actions promoting sustainable development and environmental balance. In this regard, the majority of students reported having participated in volunteer programs in the past, while a small proportion indicated otherwise.

Those students who had previous experience in volunteer work primarily engaged in programs aimed at protecting the environment, such as beach cleanups, wetland preservation, and other actions focused on environmental conservation. Similarly, other students participated in social volunteering by supporting vulnerable communities through donations, fundraising activities, among others. Thus, a significant number of students have had prior opportunities to engage in altruistic actions in favor of the environment.

Similarly, the students were asked about the Agenda 2030 and the Sustainable Development Goals included in it. The majority indicated that they had knowledge of it, although a significant proportion stated otherwise. Therefore, these students were engaging in these actions without being aware of the impact they have on achieving the goals of the Agenda 2030.

It is worth noting that when questioned about the impact of human economic activities on the planet, the majority of students expressed different positions. A small proportion believed that these activities have an unfavorable effect, while others considered them favorable, and a significant proportion remained neutral. Hence, it can be inferred that these students engage in volunteer work without being fully aware of the negative consequences of human economic expansion worldwide, which has influenced the development of environmental volunteer programs.

Perception of Social Responsibility in University Settings:

University Social responsibility is a recent addition in some higher education institutions, while others have made significant progress in promoting social responsibility values within the university context. As part of the data collection instrument, students were questioned about their perception regarding the inclusion of social responsibility activities in the university environment. In this regard, students expressed a favorable view of these activities, while a minimal proportion indicated a neutral position.

Furthermore, regarding the impact of University Social Responsibility on increasing students' awareness of issues in their environment, the majority of students expressed a positive stance. Therefore, it can be affirmed that these students have a positive perception of university social responsibility based on the positive implications it generates.

Likewise, inquiries were made into the areas in which students show a greater interest in participating in volunteer programs, indicating that environmental care is the area in which they have the highest interest in collaborating, followed by the protection of vulnerable populations and education, while health and employability are of lesser proportion. In this sense, it can be affirmed that students have a great interest in contributing to causes that promote environmental care.

On the other hand, students were questioned about the impact of volunteer programs on their engagement with the problems of other communities, to which the majority responded

affirmatively, thus demonstrating that volunteer programs indeed contribute to participants' awareness of the reality of their environment.

Environmental commitment through University Social Responsibility:

As previously mentioned, volunteer programs in university settings promote the development of values and positive behaviors towards the environment in their participants. Therefore, students were questioned about their stance regarding the impact of volunteer programs on the fight against climate change and environmental sustainability. In this regard, students expressed that volunteer programs do indeed have a positive impact on these objectives. This is because they raise awareness among participants about the importance of environmental care and the role humans play in it, while also promoting the reduction of activities with a higher environmental impact through the search for eco-friendly solutions.

In this sense, students positively value the impact of volunteer programs on environmental protection and sustainable development, primarily because these programs foster a greater awareness among participants, leading them to understand the influence of human actions on the environment through direct experiences with affected areas. Furthermore, students mentioned that these programs make them ambassadors of the experiences gained, sharing them with others to raise awareness about climate change and the importance of protecting the environment.

Therefore, students were also questioned about the volunteer program activities they believe have a greater impact on the environment. The majority indicated that beach cleaning, including the collection of waste left by visitors, has the most significant impact. This was followed by waste collection in public areas and the collection of plastic bottles, while activities such as dune cleaning and social media campaigns were mentioned to a lesser extent. Thus, students consider actions in which they have a direct involvement with the environment to have a positive impact on the environment.

Furthermore, most of the students stated that they have made proposals or contributions that contribute to the work of volunteer programs. This is a positive aspect to highlight, as it promotes an interest in contributing to finding solutions for the environment. However, students were also asked about the follow-up conducted after the volunteer program with regards to the environment or the beneficiary communities. The majority indicated that they do not perform follow-up, highlighting an area for improvement in University Social Responsibility programs.

Strengthening values through University Social Responsibility:

Furthermore, the strengthening of values in students through volunteer programs was explored by asking them if they consider themselves altruistic, supportive, and committed to the environment. The majority of students indicated that they do, as they enjoy contributing to the care of the environment and living beings. They strive for responsible and eco-friendly

actions, which makes them empathetic and caring individuals. They also appreciate engaging in actions that contribute to sustainable development.

In this regard, students' responses primarily focus on their contribution to reducing the impact of human actions on the planet. Some students adopt eco-friendly behaviors at home and engage in actions for the environment and sustainability beyond volunteer programs. As mentioned, volunteer programs have a positive impact on students' professional development, while also fostering increased empathy, solidarity, and environmental commitment through their participation in such programs.



Figure 1. Students participating in beach cleaning

Discussion

The results obtained from the application of the data collection instrument in the sample of students suggest that university social responsibility is indeed widely accepted by students due to the positive effects it provides in favor of the environment, the protection of vulnerable populations, and other altruistic causes. Therefore, by delving into different aspects related to environmental commitment in students, a clear understanding of their purpose when participating in volunteer programs can be obtained. Beyond being an obligation during their professional training process, these programs allow them to enhance their skills and competencies while reaffirming behaviors that are inherent to them, such as their interest in protecting the environment.

In this way, when students were asked if they consider themselves altruistic and interested in protecting the environment, a large portion of them responded affirmatively, based on their interest in raising awareness among others about climate change, the importance of adopting eco-friendly behaviors at home, such as recycling, and promoting the development of solutions to the problems that currently affect the environment and living beings. The application of the instrument also allowed for a deeper understanding of the importance of incorporating volunteer programs in the university setting, to which students

express that it is beneficial, as these programs contribute to raising awareness not only among participants but also in the community at large.

The results obtained from the application of the data collection instrument are related to those obtained in other research studies on similar topics that have delved into the role of universities and other educational settings in promoting social responsibility and environmental commitment. These studies have shown that there is a plurality of volunteer forms thanks to the incorporation of professional experience, competencies, and intrinsic skills in the participants, as highlighted by Louzao *et al.* (2022). Furthermore, the strengthening of environmental commitment and values in students through their participation in volunteer programs is noteworthy. As reported by the students themselves, they consider themselves altruistic individuals who are committed to the environment and have a great interest in volunteer programs due to the awareness generated about the importance of environmental care. This fosters the development of emotional connections between the students and their surroundings, as reported by Gomera (2008) and Batlle (2018).

This understanding of the importance of incorporating volunteer programs in universities also allows students to realize the close relationship that emerges throughout their professional development with the environment. Indeed, a significant number of the interviewed students are aware of this, which is consistent with the findings reported by Callejas *et al.* (2018). Their findings indicate that the process of institutionalizing environmental commitment has generated significant benefits for higher education institutions, students, and recipient communities. According to these authors, higher education institutions play a crucial role in providing solutions to mitigate environmental issues through training, research, outreach, and social projection. However, as these authors suggest, the inclusion of sustainability topics in the curriculum continues to be one of the deficiencies observed in these environmental education programs.

This last aspect is closely related to the opinions provided by the students. While they have an interest in contributing to environmental care and the fight against climate change, the lack of knowledge among a large portion of students about the 2030 Agenda and the Sustainable Development Goals included therein highlights one of the main deficiencies of volunteer programs in universities. It is essential to incorporate training on sustainability topics that provide a broader understanding of the impact of human actions on the planet. As Callejas (2018) explains, higher education institutions can learn from the experiences of others that have effectively integrated environmental education and sustainability into their curriculum. This is the case with public universities in Costa Rica, which have implemented environmental policies, programs, strategic alliances, didactic strategies, among others, to achieve this purpose, going beyond volunteer programs. This aligns with the discussions held during the General Secretariat of the Ibero-American Seminar in 2018, which called on higher education institutions to engage in research and innovation, undergraduate and graduate education, and the creation of alliances in support of sustainability.

Another aspect highlighted by the results obtained through the data collection instrument is the contributions made by students during volunteer work. They provide solutions to identified problems while promoting active student participation in these programs. This opens up possibilities for innovation and going beyond the established university programs in order to diversify the ways in which higher education institutions can contribute to the environment. However, the lack of follow-up by students after their participation in volunteer programs indicates a weakening of the connections established with the environment. It is necessary to foster the establishment of strong ties that allow the actions carried out by students during volunteer work to have a lasting impact on their immediate surroundings and raise awareness beyond being an academic requirement.

In this regard, Gomera (2008) and Batlle (2018) explain the importance of establishing emotional, cognitive, conative, and active connections to achieve effective engagement between the students and their environment. Therefore, volunteer programs need to undergo a transformation in order to achieve full institutionalization within higher education institutions. This would allow them to be seen not merely as a requirement within the curriculum but as an integral part of it, contributing to the development of skills and competencies in students. Therefore, it is of interest to delve into the subsequent experiences of students after their participation in volunteer programs, as these prepare them to be environmentally conscious individuals, to foster respect for the environment, and to disseminate the knowledge gained. As Callejas *et al.* (2018), Louzao *et al.* (2022), and Saenz *et al.* (2017) argue, the environmental commitment fostered by higher education institutions should go beyond environmental education and volunteer work. It should lead to a transformation in individuals that enables them to understand the impact of their actions by immersing themselves in the reality of their environment.

As explained by Batlle (2018) and Saenz *et al.* (2017), volunteer work in universities serves as a bridge for collaboration between these institutions and the environment. It can also be seen as a space for reflection, where the knowledge acquired during the professional training process converges for the benefit of the causes addressed in volunteering. Therefore, when students show interest in participating in programs such as beach cleaning, plastic bottle collection, or dune cleaning, it is important to encourage reflection on the implications of these actions on the environment and how they can apply the knowledge gained in their professional training. In this case, as students in the Global Business Administration field, these actions should be approached with the aim of making them sustainable over time and contributing to the achievement of the 2030 Agenda.

In this sense, after analyzing the responses obtained from students and considering the contributions of other authors, it can be established that higher education institutions are currently in the process of institutionalizing environmental commitment. Progress needs to be made in environmental education and sustainability, research, and outreach for universities to play an active role in the 2030 Agenda. As reported by Callejas *et al.* (2018), the level of institutionalization of environmental commitment in higher education institutions

is currently very low. Therefore, there is still a long way to go to consolidate this purpose. A joint effort must be made among institutions, students, and recipient communities to establish effective partnerships that determine the actions to be carried out in volunteer programs and the subsequent follow-up required to ensure the sustainability of these actions over time.

Conclusions

The development of the research has allowed for an investigation into various aspects related to volunteer programs and the environmental commitment of students in a business school. This aims to understand the level of commitment they have towards environmental causes, starting from their previous experiences, and subsequently understanding their stance regarding the institutionalization of social responsibility. To achieve this, an information collection instrument was applied to a sample of 63 students in the business school in Peru. These students were questioned on various issues to obtain a general overview of the studied reality. A clear trend in favor of incorporating volunteer programs in universities was observed, especially those aimed at mitigating the impact of human actions on the environment.

The respondents showed great interest in participating in programs focused on beach cleaning, plastic bottle collection, and area cleanups, while also expressing a strong commitment to the environment and considering themselves altruistic individuals. However, deficiencies were observed due to a lack of awareness of the Agenda 2030, which guides the different actions included in volunteer programs. Additionally, there was a lack of follow-up on the actions undertaken by the students during the volunteer program, indicating the fragility of the bond created between the student and their environment. It is essential to address these deficiencies in order to establish strong connections between the student and their environment, which will lead to cognitive, emotional, conative, and active transformation, ultimately fostering greater environmental commitment.

Based on the comparison of the results obtained in the research with those reported by other authors, it was evident that the institutionalization of environmental commitment is indeed an essential part of universities today. It is perceived as beneficial for participants, especially when focused on actions that contribute to environmental protection, as it establishes a collaborative bridge between the environment and higher education institutions. This comparison also allowed determining that many students are intrinsically committed to the environment, which has been strengthened through previous experiences both at home and in their surroundings. Therefore, volunteer programs contribute to reinforcing this commitment. However, this commitment cannot be seen as an isolated effort, as the institutionalization of social responsibility includes education on environmental and sustainability issues, as well as research and extension activities.

In this sense, it can be affirmed that environmental commitment is strengthened not only by educational institutions but also as a continuous task that students must develop in their activities at home and within their social and environmental settings. This allows for the establishment of an effective bond that makes them aware of the impact of their actions on the planet. Ultimately, this awareness enables them to provide accurate solutions and share their experiences in other domains. As previously mentioned, higher education institutions are still in the process of institutionalizing social responsibility. It requires a joint effort involving all participants in these programs. This will ultimately enable universities to actively contribute to generating solutions that help mitigate the impact of human economic expansion on the planet. This expansion is the main cause of environmental degradation.

References

- Aguirre, R., De Pelekais, C., & Paz, A. (2012) Responsabilidad social: compromiso u obligación universitaria. *TELOS. Revista de Estudios Interdisciplinarios en Ciencias Sociales*, 14 (1), 11 – 20. <https://dialnet.unirioja.es/download/articulo/3903767.pdf>
- Batlle, R. (2018) *Aprendizaje-servicio: orientar el talento hacia el compromiso ambiental*. Boletín Carpeta Informativa del CENEAM, abril. https://www.miteco.gob.es/en/ceneam/articulosdeopinion/201804roserbatlle_tcm38444539.pdf
- Callejas, M., Sáenz, O., Plata, A., Holguín, M., & Mora, W. (2018) El Compromiso Ambiental de Instituciones de Educación Superior en Colombia. *Praxis & Saber* 9(21), 197-220. <https://www.redalyc.org/journal/4772/477258898009/html/>
- De Castro, R. (2002) Voluntariado, altruismo y participación activa en la conservación del medio ambiente. *Intervención Psicosocial*, 11(3), 317-331. <https://journals.copmadrid.org/pi/art/-3e9e39fed3b8369ed940f52cf300cf88>
- Gomera, A. (2008) La conciencia ambiental como herramienta para la educación ambiental: conclusiones y reflexiones de un estudio en el ámbito universitario. Centro Nacional de Educación Ambiental. En Gomera, A. (2008) *Estudio de la conciencia ambiental del alumnado de la Universidad de Córdoba*. <https://saneambiente.co/wpcontent/uploads/-2016/05/01/articulo-concienciaambiental.pdf>
- Louzao, E., Zanfrillo, A., & Arraigada, M. (2022) Programas de voluntariado corporativo: integración a los objetivos de desarrollo sostenible. *Revista de investigación SIGMA*, 9(02). <https://doi.org/10.24133/sigma.v9i02.2832>
- Molano, S., Montoya, I., & Montoya, L. (2016) Compromiso Ambiental Universitario: El caso de la Sede Bogotá de la Universidad Nacional de Colombia. *Ambiente y Desarrollo*, 20(39), 21-34. <https://dialnet.unirioja.es/download/articulo/5644429.pdf>

- Perero, G., Díaz, J., & Litardo, C. (2019) Contribución a la gestión ambiental sostenible de la Universidad en Ecuador. *Revista Cubana de Ingeniería* 10(1), 42 – 50. <https://rci.cujae.-edu.cu/index.php/rci/article/view/717>
- Pulido, V., Cruz, J., Arana, C., & Olivera, E. (2022) Daño ambiental en el litoral marino peruano causado por el derrame de petróleo (enero 2022) en la refinería La Pampilla. Manglar, *Revista de Investigación Científica*, 19(1). 67-75. <https://erp.untumbes.edu.pe/revistas/index.-php/manglar/article/view/303/430>
- Rodríguez, G., & Vargas-Chaves, I. (2015) Reflexiones preliminares sobre la responsabilidad por daños ambientales. En Rodríguez, G., y Vargas-Chaves, I. (Eds.) *Perspectivas de responsabilidad por daños ambientales en Colombia* (pp-1-11). Editorial Universidad del Rosario. <http://books.scielo.org/id/jqzqj/pdf/amparo-9789587386448-01.pdf>
- Russi, D., & Martínez-Alier, J. (2003) Los pasivos ambientales. Iconos, *Revista de Ciencias Sociales*, 15, 123-131. <https://www.redalyc.org/pdf/509/50901513.pdf>
- Sáenz, O., Plata, A., Holguín, M., Mora, W., & Blanco, N. (2017) Institucionalización del compromiso ambiental de las universidades colombianas. *Civilizar Ciencias Sociales y Humanas*, 17(33), 189-208. <https://doi.org/10.22518/16578953.908>
- Tafur, R., & Sánchez, A. (2020) La gestión de la responsabilidad social en las Universidades de Perú. En Gairín, J. y López, S. (coord.) *La gestión de la responsabilidad social en las universidades iberoamericanas* (pp- 193-215). <https://files.pucp.education/departamento/educacion/2020/07/09224107/rosatafuryal-exsanchez-la-gestiondelaresponsabilidadsocialenlasuniversidades-de-peru.pdf>

Trayectoria académica

1. Magister en Comportamiento Organizacional y Recursos Humanos (Universidad Ricardo Palma).
Licenciada en Educación especialidad idioma extranjero - inglés (Universidad Nacional Mayor de San Marcos)
2. Licenciada en Educación especialidad idioma extranjero - inglés (Universidad Nacional Mayor de San Marcos)
3. Licenciada en Educación especialidad idioma extranjero - inglés (Universidad Nacional Mayor de San Marcos)
4. Doctor en Educación (Universidad Nacional Mayor de San Marcos).
Magister en Enseñanza de las Matemáticas (Pontificia Universidad Católica del Perú).
Licenciado en Educación Matemática - Física (Universidad Nacional Daniel Alcides Carrión).