

From Sustainability To Integral Ecology: Curricular Innovation Through Service-Learning In Higher Education

Carlos Corrales-Gaitero ^{1*} , Johanna Anabel Herrera Segarra ² 

¹ Facultad De Aprendizajes, Lengua Y Comunicación. Pontificia Universidad Católica del Ecuador. Quito, ECUADOR; ORCID: <https://orcid.org/0000-0001-6903-2375>

² Facultad De Aprendizajes, Lengua Y Comunicación. Pontificia Universidad Católica del Ecuador. Quito, ECUADOR; Email: jherrera228@puce.edu.ec; ORCID: <https://orcid.org/0000-0002-2716-9346>

*Corresponding Author: ccorrales680@puce.edu.ec

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ABSTRACT

The socio-environmental crisis demands a profound transformation of higher education to cultivate professionals committed to sustainability and the care of our common home. This article analyzes the experience of an Ecuadorian university, which integrates the principles of Integral Ecology into its curriculum through a compulsory mission-oriented course using service-learning as its main pedagogical strategy. Methodologically, the study adopts a quantitative, cross-sectional, and descriptive design to assess the self-perception of six humanistic competencies among first-year students (n=913) based on PUCE's competency model. The instrument, a survey whose validity and reliability were previously established, demonstrates excellent internal consistency ($\alpha = 0.97$). Results reveal a significant weakness in the socio-environmental and political commitment dimension—the least developed among the transversal competencies that define the PUCE student profile. This finds a significant weakness in social, political, and environmental commitment, the least developed competency (only 64.85% self-perceive as "Always" or "Almost Always"), highlighting the urgent need for curricular intervention. In response to this gap, the university has integrated Integral Ecology into a mandatory core course. The pedagogical design utilizes the Service-Learning (SL) methodology to promote direct engagement with communities and develop ecological awareness, aiming to close the commitment gap identified. The article concludes that the curricular integration of Integral Ecology through experiential and community-based learning represents a viable institutional pathway to align higher education with global sustainability goals and to form professionals capable of addressing complex socio-environmental challenges.

Keywords: Service-Learning; Integral Ecology; Climate Crisis; Higher Education

INTRODUCTION

According to the Sustainable Development Agenda, the results of its evaluation are a matter of concern for all signatory countries. Only 17% of the 169 targets included in the 17 Sustainable Development Goals (SDGs) are on track to be achieved (United Nations, 2023). Moreover, the current global political, social, and economic situation is alarming. Data from EP Data (2022) indicate that the war in Ukraine and other fratricidal conflicts, such as those in the Middle East, persist, driven by geopolitical and economic interests that relegate environmental problems to the background. In particular, climate change, caused by the accumulation of greenhouse gases in the atmosphere, presents discouraging projections: the world is expected to surpass 1.5°C of warming by 2035 and

face a 2.5°C increase, which will double the rate of sea level rise in the next decade, as already occurred in the past (Sachs, et al., 2023).

The negative consequences, including natural disasters and associated mortality, are fifteen times higher in highly vulnerable regions compared to those that are less vulnerable (González & London, 2021; IPCC, 2022). These global challenges are not evenly distributed; their impacts are particularly acute in countries of the Global South, where structural inequalities, fragile governance, and economic dependence on primary commodities exacerbate the social and environmental costs of climate change (Bonato, et al, 2023). Within this context, Latin America stands out as a region of contrasts: while it harbors some of the planet's greatest reserves of biodiversity and natural resources, it is also highly dependent on extractive industries that accelerate environmental degradation and deepen social inequalities (Gudynas, 2019).

Ecuador illustrates this situation clearly. In recent years, the country has faced profound and interrelated challenges that threaten its sustainable development. The United Nations Common Country Analysis (CCA, 2022) provides an overview of these issues and their implications for the implementation of the 2030 Agenda, highlighting four main areas:

a) Economic and Financial Context: Ecuador has not yet recovered pre-pandemic production levels. Inequalities have widened, reflected in record levels of informal employment. State revenues are insufficient to meet current needs, and severe financial constraints, due to accumulated debt and imminent maturities, limit the government's capacity to implement essential development policies and programs.

b) Institutional Trust and Security: the country is experiencing a generalized security crisis, with the highest rate of violent deaths in the region. The weakening of institutions and lack of social cohesion are evident in the absence of institutional mechanisms to resolve conflicts.

c) Poverty and Vulnerability: poverty indicators have risen, revealing increased impoverishment and vulnerability (ECLAC, 2022). This trend is linked to greater food insecurity and widening gaps in the exercise of rights among diverse groups (children, adolescents, women, Indigenous peoples, LGBTIQ+ communities, people in human mobility, and persons with disabilities).

d) Economic model and environment: Ecuador's extractivist economic model conflicts with the rights of nature and increases the country's vulnerability to climate change (Acosta, 2017). Dependence on extractive activities has led to resource degradation, biodiversity loss, and environmental pollution.

In the face of these intertwined crises that particularly affect countries such as Ecuador, universities are called upon to act not only as centers of learning, but also as agents of social transformation and resilience. In this context, universities occupy a privileged position in society by generating, disseminating, and communicating knowledge, driving innovation, and mobilizing social action (García-Gutiérrez & Corrales, 2021). They are thus called upon to convey the importance of the Sustainable Development Goals (SDGs), implement actions to foster their multiplication, and contribute to local and national well-being (UNESCO, 2021). In doing so, they must promote values such as justice, solidarity, and peace; cultivate critical thinking and the arts; encourage both individual and community initiative; and foster the development of skills and capacities for creation and collaboration, as established in the Constitution of Ecuador (2008, art. 27). Normatively, this is reinforced by the principle that higher education is a public good, which entails the university's engagement with business, civil society, and state institutions.

It is within this tetrad that diverse pedagogical approaches and methodologies are embedded for the development of competencies through both curricular and extracurricular interventions. One such approach is service learning (SL), which "softens the walls between the classroom and the community, challenges students' assumptions, and connects them with systems, processes, and experiences larger than their own" (UNESCO, 2015, p. 65). At PUCE, service-learning is proposed as a methodological option through which, by means of collaborative projects carried out with and within the community, students apply the knowledge developed in the classroom, strengthening their civic and solidarity commitments (Arellano, 2023; Corrales, 2023). Moreover, as Corrales and Izquierdo (2022) highlight, its institutionalization is fostered through training, continuous support for courses applying it, and funding and awards for emblematic projects, which not only ensures the sustainability of service-learning practices within the university but also encourages faculty engagement, student motivation, and long-term community partnerships (Ramírez, et al., 2024).

Through service-learning, PUCE contributes to dialogue that promotes well-being within its community while also advancing education in human rights, peace, sustainable development, and international understanding, all oriented toward the common goal of a more just, peaceful, and sustainable world. This multifaceted approach fosters the understanding of multiple identities, awareness of global challenges, and the development of cognitive and humanistic competencies, including critical thinking and social skills. For example, Kuntjara (2019) found that service-learning initiatives in Indonesia enabled students to reflect on and challenge assumptions, enhancing both critical thinking and peace-building capacities through engagement with diverse community groups. Similarly, in

Latin America, service-learning programs are neither university volunteering policies nor isolated solidarity practices, but they require combining educational and social functions in a synergetic way, suggesting that to be effective, SL must integrate academic learning with community-driven social change (Munck, et al., 2023). Moreover, research on Education for Sustainable Development highlights that developing competencies like critical thinking, self-awareness, and integrated problem solving is essential to addressing complex global sustainability challenges. (Straková, 2018).

This institutional commitment to holistic education and community engagement is not isolated but rather aligned with broader international and normative frameworks that guide higher education transformation. Both the curricular and extracurricular transformations proposed by UNESCO, as well as methodological innovations, are reflected in PUCE's Educational Model, which draws inspiration from key doctrinal sources such as Pope Francis's encyclical *Laudato Si'* (2015) and the Global Compact on Education (2019). The encyclical calls on Catholic universities to engage in socio-environmental and cultural commitments with society, while the Global Compact emphasizes the need to work together to care for our "common home" and to confront global challenges. As Ponce León (2018) stresses, *Laudato Si'* should serve as a doctrinal foundation for universities, in harmony with the SDGs. In line with this, PUCE's Rector insists that the university must be recognized for its contribution of its academic excellence to the life of the planet. This orientation is consistent with global trends in higher education, where universities are increasingly expected to align their teaching, research, and community engagement with sustainability and social responsibility agendas (Tilbury, 2011; Cebrián, et al., 2015; Husic, 2024).

PUCE therefore receives a twofold mandate: on the one hand, to promote sustainability within its own structures and management; and on the other, to form professionals who are aware of the climate and socio-economic situation both locally and globally, and who are responsible for the care of the common home, as urged by Pope Francis. This vision underpins the new Educational Model (2024), which is structured around three pillars: experiential learning, the centrality of the person, and a competency- and outcome-based system designed to cultivate capacities within the understanding that knowledge is inherently complex (Corrales & Herrera, 2021). Building on these pillars, PUCE articulates a model of the person embodied in six transversal competencies that guide students throughout their formative process. These competencies are achieved through a systematic teaching process (determined by methodology) that takes experience as the starting point for learning, with outcomes assessed both at the program level and within individual courses. Figure 1 illustrates the six competencies and the levels through which their achievement is measured. These transversal competencies materialize as impacts on student behavior, experiential understanding, mental framework, and resulting habits and values. Arising from these impacts, which are essentially observable actions and conduct, student attitudes in specific situations are evaluated to demonstrate the degree to which the six competencies are being achieved.

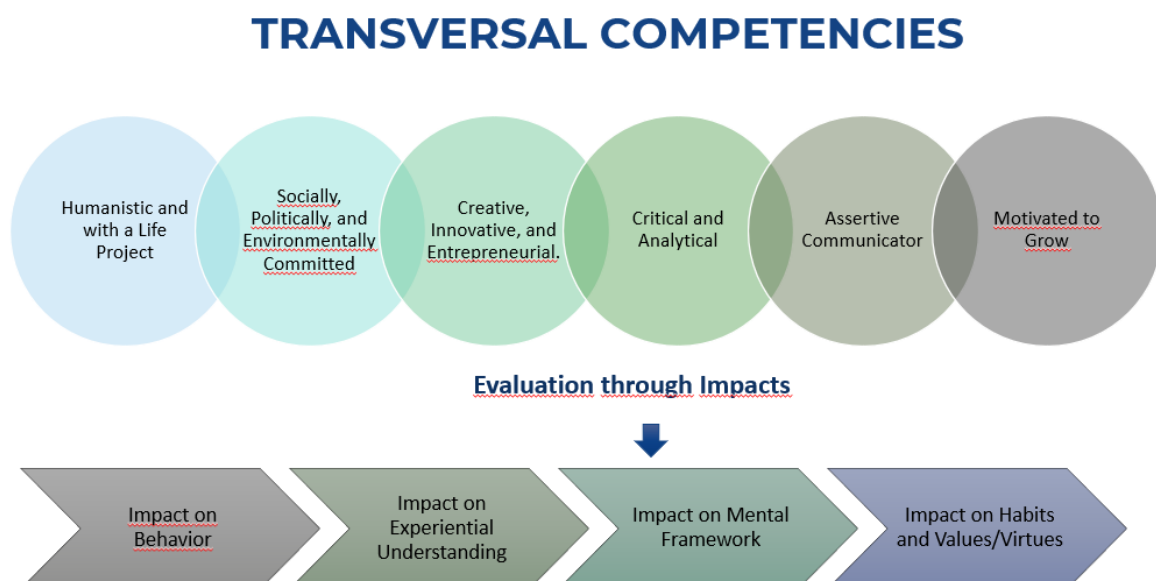


Figure 1. PUCE's Transversal Competencies and their Evaluation through Impacts

In essence, this competency framework ensures that the institutional vision, which mandates the development of holistic individuals, is translated into measurable student outcomes. This strategic alignment between curriculum design and institutional identity is critical for the success of mission-driven universities (Bok, 2006; Hénard & Roseveare, 2012), validating the model's use as the central mechanism for achieving PUCE's comprehensive goals. Ultimately, having received calls from various international bodies to commit to sustainable global development and adopt more ecological social, political, and educational models, PUCE has embraced a new, more humanist

Educational Model. This model is deeply concerned with environmental stewardship, seeking the care of the common home and the integral development of the person to build a more just and equitable future for all. However, this challenge cannot be met without concrete actions within the curricula. Therefore, the curricularization of these proposals is necessary through courses where students can actualize these calls. PUCE proposes five core mandatory courses named ("asignaturas misionales de tronco común") aimed at developing this model of the person. Evidently, there is also a commitment to mainstreaming this approach so that all courses within every degree program embrace the challenge and commitment to integrate experiences that foster ethical attitudes among students. This is the context in which the "Integral Ecology" course is born, which will be described later as a response to the problems outlined.

Before beginning the design of these core courses, it was considered necessary to establish a baseline on the self-perception of PUCE students regarding the development of the transversal competencies. To this end, a study was designed, which is detailed below. Furthermore, in accordance with the results obtained, the need was observed to collaboratively design the Integral Ecology course, involving various university stakeholders, to strengthen the students' social, ecological, and political commitment.

While PUCE has clearly articulated its vision through the new Educational Model and the creation of mission-based courses like Integral Ecology, the link between these policy intentions and measurable student outcomes, particularly in the complex context of the socio-environmental crisis, remains under-explored in the literature. Recent scholarly work consistently calls for evidence-based approaches to higher education for sustainable development, emphasizing the need for studies that link curriculum design to tangible competency development (Lozano, et al., 2017; Christou, et al., 2024; Hastangka, et al., 2025). Specifically, there is a lack of published research detailing how the institutional design of a curriculum-based response (such as the Integral Ecology course) is informed by preliminary student competency assessments and how this design subsequently aims to drive socio-ecological action (Wiek, et al., 2011). Consequently, the primary objective of this article is twofold: first, to present the baseline results of the students' self-perception regarding their transversal competencies; and second, to describe the subsequent design and pedagogical rationale of the Integral Ecology course as a key mechanism for strengthening student commitment to social, ecological, and political engagement in line with the PUCE's institutional mandate.

The remainder of this article is structured as follows: The next section details the methodology used for the baseline assessment of first-year student attitudes towards transversal competencies. This is followed by a presentation and interpretation of the results, which informs the design of curricular actions aimed at reinforcing the least developed competencies. Finally, the curricular proposal for the Integral Ecology course is presented, concluding with a discussion of the implications for higher education and social change.

METHODOLOGY

This study employed a quantitative approach with a descriptive cross-sectional design. The objective was to establish a baseline regarding the self-perception of first-year students at PUCE concerning the status of the university's proposed transversal competencies.

To this end, a structured, expert-validated questionnaire was designed, utilizing a 5-point Likert scale. The instrument items were aligned with the four proposed impact categories used for measuring the six transversal competencies of the PUCE Person Model: Behavioral Impacts, Experiential Understanding Impacts, Mental Framework Impacts, and Impacts on Habits and Values/Virtues.

The study population consisted of 1,601 first-year students across all PUCE programs. Initially, a simple random sample of 50% was selected. However, due to the nature of online administration, the final response was self-selected (or based on voluntary participation), resulting in a total of 913 responses. This corresponds to a participation rate of 57% of the total population (N=1601). The questionnaire was administered online, and data analysis was conducted using basic descriptive statistics via Microsoft Excel software. The internal consistency of the instrument was assessed using the R statistical software.

The following procedures were applied to ensure the validity of the instrument:

Content Validity: an expert panel of faculty members evaluated the instrument questions through a logical judgment process using specific rubric. The purpose was to examine the content and its direct relationship with the objective of the assessment.

Construct Validity: prior to general application, the instrument was administered to a pilot group of 23 students. This step was taken to ensure that the designed instrument accurately measured the intended construct. Based on this application, the instrument was adjusted, resulting in a reduced number of questions and refined language to ensure a shorter response time and greater comprehension for the students.

Internal Consistency: the reliability of the instrument was assessed using Cronbach's alpha (α). The overall coefficient was reported at $\alpha=0.96$, confirming its robustness and suitability for baseline measurement.

The final version of the questionnaire contained 33 questions with an estimated completion time of 10 minutes, divided into the following sections:

- Sociodemographic Data of the Student Body.
- First Competency: Humanistic and with a Life Project.
- Second Competency: Socially, Politically, and Environmentally Committed.
- Third Competency: Critical and Analytical.
- Fourth Competency: Creative, Innovative, and Entrepreneurial.
- Fifth Competency: Assertive Communicator.
- Sixth Competency: Motivated to Grow.

RESULTS

Prior to describing the data obtained from the baseline assessment, it is worth highlighting the sociodemographic characteristics of the student body. Firstly, most respondents identified as female, constituting 59% of the total student sample, with 40% identifying as male, and 1% self-identifying with a different gender. Secondly, 81% of the respondents were aged between 17 and 19 years old, while the remaining students were 20 years or older. Thirdly, most of the students came from four main programs: Medicine, Law, Clinical Psychology, and Physical Therapy. Consequently, the Academic Domain of Health was the most highly represented, followed by Social Sciences and Humanities. Finally, regarding the students' previous schooling, 39% came from private religious schools, 22% from secular private schools, and 39% from public institutions.

Having established the sociodemographic profile of the first-year student sample, the analysis proceeds to the central objective of the study, establishing a baseline of the students' self-perception regarding the six transversal competencies. The following table presents the overall results for each competency, aggregated by response frequency (Always, Almost Always, Occasionally, Almost Never, Never). These initial findings serve as the foundation for identifying the areas where students feel strongest and, critically, where curricular reinforcement is most urgently needed to fulfill the PUCE Educational Model.

Table 1: Baseline of the PUCE Person Model Transversal Competencies

Transversal Competencies of the Person Model	Always (%)	Almost always (%)	Occasionally (%)	Almost never (%)	Never (%)
Humanistic and with a Life Project	53,34	36,29	9,38	0,86	0,13
Socially, Politically, and Environmentally Committed	31,33	33,52	26,40	6,64	2,12
Critical and Analytical	40,43	40,47	16,85	1,90	0,35
Creative, Innovative, and Entrepreneurial	40,53	36,56	19,76	2,72	0,44
Motivated to Grow	48,57	34,24	15,14	1,82	0,24
Assertive Communicator	49,74	35,98	12,65	1,42	0,20

Upon analyzing the results for each competency, it is evident that the self-perception of Humanistic and with a Life Project showed the highest results, reaching 89.63% between the "Always" and "Almost Always" responses. The Assertive Communicator competency reached 85.72%, followed by Motivated for Self-Improvement with 82.81%, and Critical and Analytical with 80.90%. The competencies with the lowest self-perception were, on one hand, Creative, Innovative, and Entrepreneurial at 77.09%, and, on the other, Socially, Politically, and Environmentally Committed at just 64.85% across the "Always" and "Almost Always" responses.

This result is particularly relevant to our article. A student body committed to society and the environment is essential for fostering a *Laudato Si'* university that practically implements sustainable development and ecological awareness. Consequently, the low score for this specific competency is concerning if adequate measures are not taken to strengthen it among the PUCE student body. Literature suggests that the primary reasons for such deficiencies are often the prevailing curricular emphasis on technical competencies and the lack of opportunities for the effective development of social and environmental commitment (Durán, 2022; Pegalajar, et al., 2022).

The necessity of pedagogical intervention to address this deficiency is not unique to PUCE. Globally, there have been numerous attempts in higher education to develop pedagogical models that explicitly link academic learning with social and environmental commitment, particularly in response to major sustainability challenges

(Barth & Michelsen, 2011; Tilbury, 2011). Universities have been challenged to move beyond mere transmission of knowledge towards fostering 'transformative' and action-oriented learning that integrates cognitive, socio-emotional, and behavioral outcomes (UNESCO, 2017). Within this context, Service-Learning (SL) has emerged as one of the most effective and widely recognized high-impact educational practices that naturally bridges academic theory with practical citizenship and commitment, making it a critical methodology for addressing the deficiencies found in the baseline study (Bringle & Hatcher, 1995; Eyler, 2002).

Recent literature demonstrates that ensuring Service-Learning (SL) experiences (Solís & López, 2020; Corrales & Andrade, 2021; Corrales, Herrera & Erazo, 2021), coupled with dialogical, guided, and peer-to-peer learning with the community (Pérez-Vásquez & Arroyo-Tirado, 2022; Amber-Montes, Martínez-Valdivia & Pegalajar-Palomino, 2024), extracurricular environmental education workshops and activities, and the curricularization of ecological projects that foster reflection and debate (Bravo, 2022), will significantly increase social, environmental, and political commitment among university students.

Following this logic, the mandatory Integral Ecology course, a mission-based subject for all PUCE programs, is proposed under the SL approach. This course serves as the first concrete proposal designed to enable students to identify the realities and the changes (both positive and negative) in their local, national, and global surroundings, assuming them as a challenge for their personal, environmental, and sociopolitical development.

Integral Ecology Course and Service-Learning Proposal

PUCE includes mission-based courses across its entire academic offering to contribute coherence, identity, and a deeper purpose to higher education. This aligns academic training with institutional values and prepares students to be committed citizens and competent professionals in their respective fields.

Currently, as part of the academic program renovation process, a new mission-based course titled Integral Ecology is being established. This course seeks to address the relationship between human beings, nature, and the environment in a broad and holistic sense. The subject not only focuses on the biological and ecological aspects of natural systems but also considers the social, cultural, and ethical dimensions of the interaction between humans and their living environment. Through the Integral Ecology course, PUCE also responds to the requirement for Community Service, which adds value by providing an experience that involves students, faculty, and community partners within a reflective and practical framework of Pope Francis's Integral Ecology, as articulated in his encyclical *Laudato Si'*.

These community service practices are practical learning experiences that students carry out with vulnerable populations. They are structured by combining the service (executed through a community outreach project coordinated by the project leader) with situated and dialogical reflection with the community and dedicated Integral Ecology seminars. This complex micro-curricular design requires articulated work among various faculty members and university departments: the Directorate of Identity and Mission, which establishes the foundation of Integral Ecology at PUCE; the Directorate of Community Outreach (*Vinculación*), which is responsible for community partnerships and ensuring mutual compliance with agreed commitments; and finally, faculty members from different knowledge areas who tutor and accompany students in applying their disciplinary knowledge to the project. All actors continuously and formatively evaluate both the quality of the service and the students' learning outcomes.

This course, in alignment with the development of ecology and the vision of a university that embraces Pope Francis's invitation to protect the planet and unite the human family in the search for sustainable and integral development, proposes to understand and ethically address the current environmental and social crisis caused by human activity and its impact on the environment. It does this from the perspective of constructing a more human and sustainable world. Based on the Service-Learning approach, this course is called to create "ecological citizenship" and allows for progress toward a courageous cultural revolution aimed at the effective care of the "common home."

To effectively establish the Learning Outcomes and instill the mission-based character into the Integral Ecology course, it was necessary to define the University's specific interpretation of this concept. PUCE's stance on Integral Ecology is holistic and action-oriented, serving as the foundational philosophy for the course's design. This vision is articulated around several core characteristics, which are intrinsically linked to Pope Francis's teachings (*Laudato Si'*, 2015) and the global mandate for sustainability (Scharmer, 2016; UNEP, 2021):

Framework for Reflection and Action: Integral Ecology is defined as the University's way of dwelling in the world (a reflection framework) and sustainability is its way of acting within it (an action framework). This dual focus is recognized as vital for transformative education (Galloway, et al., 2025).

Socio-Environmental Justice: it clearly denounces the socio-environmental crisis, its causes, and effects, working for socio-environmental justice and reconciliation in these relationships. This mirrors the focus on the "cry of the Earth and the cry of the poor" central to Integral Ecology (Pope Francis, 2015; Luetz, et al., 2025).

Complex Relationships: it impacts on the complex human, social, and environmental relationships that affect us. Addressing this interconnectedness is key to achieving the Sustainable Development Goals (SDGs) (UN, 2023).

Institutional Sustainability: it fosters sustainability within the institution itself. Institutional commitment is considered a prerequisite for educational effectiveness in sustainability (Leal Filho et al., 2021).

Community Development: Community Outreach Groups promote initiatives that contribute to the economic, social, cultural, and environmental development of the community. This aligns with the Service-Learning emphasis on community-driven social change (Stanton, 1990).

Sustainable Development Goals (SDGs): it contributes to integral and sustainable development and its objectives (SDGs). This ensures global relevance and accountability in higher education initiatives (UNESCO, 2021).

Service to Society: it places science and knowledge at the service of society for the care of the common home (Thomas & Pugh, 2020). This reflects the university's role as a public good and its ethical obligation to society.

This institutional definition provides the necessary pedagogical mandate, ensuring that the course goes beyond mere environmental education to focus on transformative action and the development of the specific competencies required for this commitment.

This institutional definition of Integral Ecology, which calls for reflection alongside transformative action and service to society, necessitates a curricular design that transcends the traditional classroom. Consequently, the course design prioritizes the creation of significant learning experiences aimed at transforming reality, focusing on a formative process where the student can value the changes produced both at the personal and social community levels.

Along these lines, faculty-led learning must not be confined to the classroom as the setting, especially not practical experimental learning. Regarding autonomous work, the instructor must select, curate, and monitor his activities to ensure the student feels always supported. To achieve this, the faculty will select reading materials, develop seminars, invite specialists, and, fundamentally, develop procedural content in the field, making the territory itself the classroom.

Therefore, the course offers three Learning Outcomes (LOs) that are complementary and increasingly complex:

Critical Understanding: Comprehend the components and the anthropogenic causes of the socio-environmental crisis (environmental degradation, poverty and inequality).

Practical Application: Apply the criteria of integral ecology in a participatory and dialogical project with the community.

Transformative Commitment: Value the service-learning experience within the community from commitment to ecological citizenship.

Ultimately, the design of this course aligns with the recommendations indicated by the most recent literature concerning the development of concrete measures that higher education must propose to implement sustainable development and an ecological consciousness among the university community.

CONCLUSIONS AND RESEARCH OUTLOOK

The results of this study reveal an urgent need to strengthen the socio-environmental commitment of future professionals (Sterling, 2024). This deficiency not only confirms the trends observed in the literature regarding the excessive curricular emphasis on technical competencies, but also fully justifies the university's mission-based approach (Blohm, 2021). The proposal for an integral ecology course, based on Service-Learning (SL), represents a valuable opportunity to cultivate a deep environmental awareness and pro-social leadership skills in students. This is because SL has been consistently proven as an effective methodology for integrating academic knowledge with civic action and an ethic of service (Jacoby, 2015; Renick, et al., 2025).

It can be concluded that, in general, the transversal competencies, and particularly socio-environmental commitment, present a similar level of development based on the self-perception of newly admitted students. It is possible to identify specific strengths and weaknesses in each of the competencies based on the impacts they propose, which will allow for the design of more focused intervention strategies.

It is worth noting that the results reveal no significant differences in the development of transversal competencies between students coming from public (state-run, municipal, or publicly subsidized secular) schools compared to those from private religious schools. This diversity in the results underscores the necessity of understanding how each type of school contributes to the development of humanistic competencies among the student body, confirming that prior educational context often fails to predict later performance in non-cognitive skills (Pascarella & Terenzini, 2005). The lack of a clear advantage based on the type of secondary institution highlights the critical and shared responsibility of the university to uniformly instill these transversal humanistic competencies across all student cohorts.

The strategic relevance of the proposal for an Integral Ecology course, based on Service-Learning (SL), is confirmed as a pertinent strategy for strengthening students' socio-environmental commitment. This course contributes to closing the gap identified in the analysis of transversal competencies in general, and particularly in the competency of social, political, and environmental commitment (Stewart, et al., 2021)

It is important to mention that this research encountered the inherent biases of self-perception studies, especially since it involved newly admitted students who may tend to respond in a way they believe is socially acceptable or desirable, rather than responding honestly (Podsakoff et al., 2003). Furthermore, not all individuals have the same capacity to reflect on their own thoughts, feelings, and behaviors (Mezirow, 2000).

As future lines of research, we highlight the need for qualitative studies to complement the descriptive analysis provided by the self-perception survey, specifically with focus groups. Furthermore, these findings should be reinforced with the results obtained by students in achieving the learning outcomes within the mission-based courses. Ultimately, the evaluation of these competencies merits a long-term longitudinal study, which would allow for the comparison of different cohorts of students entering PUCE.

Additionally, it will be necessary to establish relationships between the different competencies, identifying those that are mutually reinforcing and those that require more integrated development. For example, a positive correlation could be found between two transversal competencies, allowing for the planning of complementary activities that strengthen both. These correlations can be extended to other sociodemographic data to explore whether, depending on gender, age, major, or academic area of study, students are more prone to self-perceive in one way or another, and thus are more sensitive to acting in a manner aligned with the PUCE person model. This would also allow for the reinforcement of the curriculum across different academic areas or for specific student profiles.

As demonstrated, the present study opens important new lines of research that have barely been explored. For universities, particularly those with a Catholic charism, this presents a unique opportunity to innovate their educational models by integrating the spiritual and ethical dimension with professional competencies, thereby responding to the global challenges of our time.

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