



## IMPACT OF AN AWARENESS CAMPAIGN ON STUDENT ECOLOGICAL CONSCIOUSNESS: THE FAEA-UNCO CASE.

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### Abstract

This article addresses the importance of promoting ecological consciousness within the Faculty of Economics and Administration (FAEA) of the National University of Comahue, within the framework of Sustainable Development Goal No. 12: Responsible consumption and production. The main objective was to analyze the impact of an institutional intervention based on the installation of informational posters and awareness campaigns regarding student environmental behavior. A mixed approach was applied, using quantitative and qualitative techniques, and a non-experimental, cross-sectional, and descriptive design. The sample, defined by convenience, included 60 students who responded to digital surveys before and after the campaign. The intervention consisted of posters placed in common areas and publications on a

Instagram account. The results showed significant improvements in three dimensions: greater understanding of the concept of responsible consumption, critical evaluation of the impact of plastics, and an increase in sustainable practices such as recycling. The qualitative analysis revealed that visual stimuli generated reflection among students. The discussion links these findings with previous studies on *nudges* and institutional campaigns, highlighting the effectiveness of simple and accessible strategies. It is concluded that brief and participatory interventions can generate significant changes in university environmental consciousness and strengthen institutional social responsibility

**Keywords:** SDG 12; Responsible consumption; Environmental awareness.

## 1. INTRODUCTION

The contemporary environmental crisis constitutes one of the main challenges of the 21st century, affecting both economic and social dynamics, and putting the sustainability of natural resources at risk. One of the most critical aspects of this problem is the linear model of consumption and production that predominates globally, based on the extraction, use, and disposal of materials, with direct consequences on the increase of waste and environmental pollution.

In this framework, the Sustainable Development Goals (SDGs) proposed by the UN establish the need to transition towards models of responsible production and consumption, with SDG 12 being one of the fundamental pillars. As Khajuria et al. (2025) state, the transition toward a circular economy requires not only technological innovations but also behavioral changes and educational strategies that strengthen environmental awareness.

In this context, the university environment acquires particular relevance. Universities not only train the professionals who will lead the economic, political, and social processes of the future, but they also constitute spaces where practices are experimented with and modeled that

can be replicated at other institutional levels. Abd Hamid and Wan Asrina (2021) emphasize that higher education has an unavoidable transformative role, since habits acquired in academic life tend to be reproduced in professional life. Thus, universities must not only transmit knowledge but also values and practices that promote sustainability.

Various investigations have explored the relationship between sustainability, responsible consumption, and institutional practices. Stefanovska and Mihajloski (2022), for example, analyze how sustainable management in companies not only contributes to reducing environmental impact but also increases efficiency and improves institutional reputation. Although their study focuses on the business sector, its conclusions can be transferred to the university field, insofar as they point out the importance of implementing sustainability strategies as part of comprehensive management.

At the same time, other authors have demonstrated that low-cost interventions can generate significant impacts on behavior. Cosic, Cosic, and Ille (2018), through experiments in European universities, showed that small visual reminders, such as posters or *nudges*, significantly increase the recycling rate among students. These findings are inspiring because they demonstrate that cultural transformation toward sustainability does not always require large investments, but rather clear and consistent communication strategies. This type of approach allows one to think that relevant advances can also be achieved in Latin American universities through simple, low-cost actions.

In the case of Argentina, and particularly in universities such as the National University of Comahue (UNCO), the challenges linked to the management of urban solid waste are increasing. The lack of systematic institutional recycling programs, coupled with the disposable consumption habits typical of student life, contributes to the generation of large volumes of waste, including

single-use plastics. Despite certain advances in isolated awareness campaigns, an integral strategy that articulates academic training with sustainable consumption and disposal practices has not yet been developed.

In this sense, our project seeks to provide evidence and practical solutions based on a simple and replicable intervention design: informational campaigns using posters and diagnostic surveys aimed at the university community of the Faculty of Economics and Administration (FAEA). The choice of these tools responds to the dual need, on the one hand, to sensitize students and teachers about the magnitude of the plastic waste problem, and on the other, to obtain relevant information about the consumption and disposal habits of the university community.

The importance of this project lies in several complementary aspects. Firstly, it addresses a gap in research and action in Latin American universities, where low-cost and high-visibility educational interventions have not yet been systematically explored. Secondly, it articulates different theoretical approaches: the circular economy perspective proposed by Khajuria et al. (2025), the vision of transformative education by Abd Hamid and Wan Asrina (2021), the business evidence from Stefanovska and Mihajloski (2022), the behavioral interventions analyzed by Cosic et al. (2018) and the systemic perspective of Zhao and Chead (2023). Finally, it contributes to our training as future Administration professionals, developing competencies in management, social responsibility, and ethical decision-making oriented toward the fulfillment of SDG 12.

In summary, this article aims to analyze the implementation of an environmental awareness strategy at UNCo, centered on informative and diagnostic campaigns, as a contribution to the construction of a university culture oriented toward responsible consumption and sustainability. Next, the theoretical framework supporting this research will be presented,

followed by the methodological description, the results obtained, and the discussion in relation to the contributions of the existing literature.

## **2. METHODOLOGY**

The current research was developed under a mixed approach, combining quantitative and qualitative techniques with the purpose of evaluating the degree of environmental information and commitment held by members of the administration faculty and obtaining an integral understanding of the studied phenomenon. This approach allows for the analysis of both the measurable levels of knowledge and attitudes of participants regarding responsible consumption, as well as the perceptions, motivations, and subjective barriers expressed in their responses.

The study design was non-experimental, cross-sectional, and descriptive, since variables were not manipulated, but rather reality was observed and analyzed as it presented itself at a specific moment. Furthermore, the study was organized into two measurement moments (pre-test and post-test), which allowed for the identification of possible changes in the perceptions and practices of participants after the implementation of the educational intervention. This type of design is appropriate for evaluating the impact of awareness strategies in this educational context, without directly interfering with the subjects' behavior.

The reference population was made up of students from the Faculty of Economics and Administration (FAEA) of the National University of Comahue. The sample was defined using non-probabilistic convenience sampling, given that participants were selected based on their accessibility, availability, and willingness to participate. This type of sampling is common in social research in university settings. It was planned to reach a sample of 100 FAEA students through

surveys distributed on social networks and informational posters. However, an effective sample of 60 people was achieved, who collaborated anonymously, voluntarily, and without distinction of gender, age, or course of study, thus guaranteeing the diversity and internal representativeness of the studied group.

Data collection was carried out using a structured questionnaire in digital format (Google Forms), composed of closed multiple-choice questions and Likert-type scales, which allowed for the quantification of attitudes, knowledge levels, and disposition toward sustainable practices. Furthermore, open questions were included to collect personal comments and reflections. The instrument addressed dimensions such as the level of knowledge about responsible consumption and SDG 12, consumption and disposal habits, and the predisposition to modify daily behaviors. To ensure content validity, the questionnaire was reviewed by colleagues from the research team and subsequently a pilot test was conducted with a reduced group of students, which allowed for the adjustment of the wording of some items and improved the clarity of the questions.

The procedure was developed in three stages. In the first, an initial diagnostic survey (pretest) was applied. In the second stage, the educational intervention was implemented, consisting of an awareness campaign integrated by two main components:

1. Informational and reflective posters placed in high-traffic areas within the faculty, with brief and visual messages about sustainable practices.
2. The creation and management of an institutional Instagram account, used as a digital dissemination channel to expand the campaign's reach and promote student interaction around content on sustainability and responsible consumption.

Finally, in the third stage, a second survey (post-test) was applied with items identical to those in the initial questionnaire, in order to evaluate the evolution of awareness and knowledge after the intervention.

Data analysis included two complementary dimensions. On the quantitative level, descriptive statistical techniques were used (absolute and relative frequencies, percentages, and comparative graphics between pre- and post-test), which allowed for the observation of changes in the participants' knowledge and sustainable practices. On the qualitative level, a content analysis was performed on the open responses, identifying emergent categories related to motivations, obstacles, and perceptions about responsible consumption. The triangulation of data from both sources strengthened the internal validity of the study and allowed for a richer and more grounded interpretation of the results.

Regarding ethical aspects, the confidentiality and anonymity of the participants are guaranteed, who were informed about the study objectives and gave their informed consent before answering the questionnaire. Participation was voluntary, without offering economic incentives or compromising academic evaluations. Furthermore, it was ensured that the collected data would be used exclusively for academic and research purposes, respecting the ethical principles established by the National University of Comahue and international guidelines in social research.

In summary, the proposed methodology allowed for the diagnosis of the level of knowledge and environmental commitment of the university community, evaluating the impact of an educational campaign, and generating empirical evidence about the effectiveness of interventions aimed at fulfilling SDG 12 within educational contexts.

### 3. RESULTS

After the implementation of the awareness campaign on responsible consumption at the Faculty of Economics and Administration (FAEA) of the National University of Comahue, the second survey (post-test) was applied, for the purpose of comparing the results with the initial measurement (pretest) and determining whether the intervention contributed to the fulfillment of the general objective of fostering ecological consciousness in students through education and sustainable action.

The results obtained evidenced a positive and measurable variation across the three dimensions analyzed: conceptual knowledge, environmental perception, and sustainable practices. In general terms, it was observed that students manifested a higher level of understanding of the concept of responsible consumption, a more critical evaluation of the environmental impacts associated with the use of plastics, and an increase in the frequency of behaviors linked to recycling and waste separation. These changes were consistent with the initial hypothesis of the study.

In the cognitive dimension, linked to knowledge about responsible consumption, the data reflected an expansion of the level of information and a decrease in responses that indicated lack of knowledge or conceptual confusion. Exposure to visual and informational materials, along with social media dissemination, allowed a greater number of students to recognize the term and understand its relationship with the principles of sustainability and circular economy. The graphics showed an upward trend in categories reflecting clear understanding of the concept, and a proportional reduction in those that expressed partial or total lack of knowledge.

The perceptive dimension, focused on evaluating the impact of plastic and expanded polystyrene (*telgopor*) on the environment, also presented notable improvements. The results



indicated that, after the campaign, the proportion of students who considered these materials to be highly polluting increased, while responses that qualified them as low impact were reduced. This change suggests that the information transmitted by the campaign—especially in the posters—was effective in making visible the environmental problem posed by the linear production and consumption model.

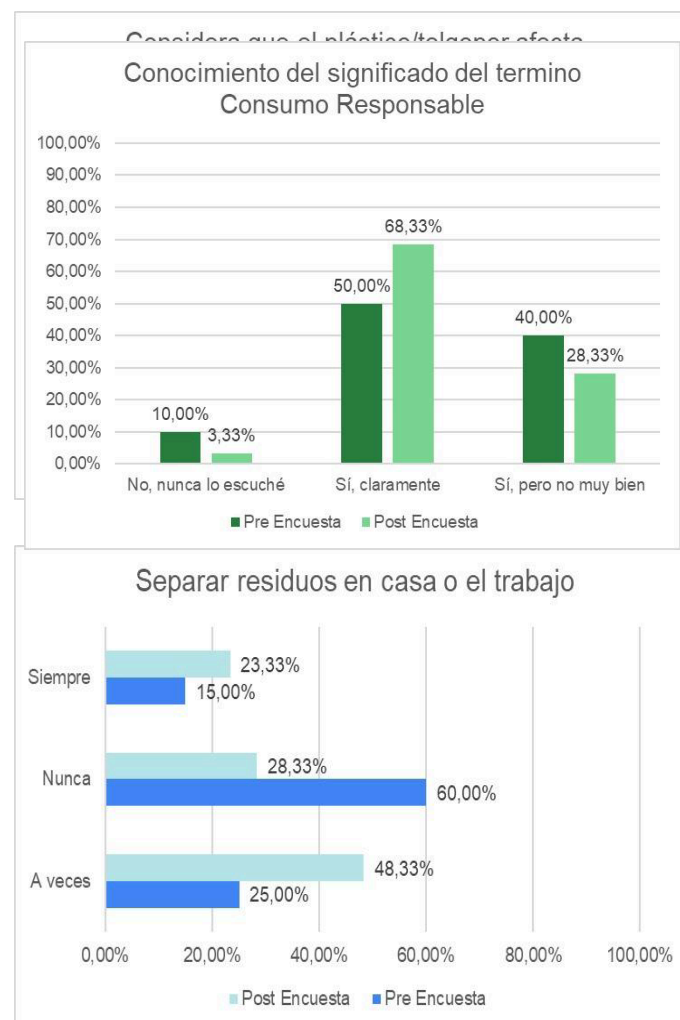
Regarding the behavioral dimension, associated with separation and management habits of waste, the post-test data showed a significant reduction in responses that declared the total absence of sustainable practices. Simultaneously, an increase was recorded in categories that reflected the frequent or eventual adoption of behaviors linked to recycling. This result evidenced a gradual change toward more responsible behaviors, coinciding with the specific purpose of the project to incentivize daily actions that contribute to reducing environmental impact. The corresponding graphics showed this trend clearly, evidencing a redistribution of responses toward options indicating greater environmental commitment.

Regarding the reach and participation, the campaign managed to reach more than 60% of the estimated student population, thus complying with the goal defined in the SMART objective. The response rate achieved in both surveys exceeded 60%, facilitating valid comparisons. This high level of participation was favored by the accessibility of the questionnaire in digital format and by continuous dissemination on institutional social networks.

The analysis of the open comments complemented the quantitative results. Participants highlighted that the presence of posters generated curiosity and promoted informal conversations. Some students stated that the campaign allowed them to reflect on their own daily behavior. The informational posters installed in high-circulation areas proved to be the elements with the highest recall, their visual design facilitating quick comprehension. The

publications on the institutional Instagram account contributed to extending the campaign's reach, reaching a broader audience, especially younger students, and maintaining a constant presence of the message.

The findings also showed that the intervention managed to integrate different actors, including students, faculty, and non-teaching staff. In the general comparison, no decreases were registered in any of the analyzed variables. On the contrary, the three axes—knowledge, perception, and practice—showed a favorable evolution.



#### 4. DISCUSSION

The results confirm that low-cost educational interventions, focused on visual awareness and strategic communication, can generate significant changes in environmental consciousness and practices within the university setting. The improvement observed in the three dimensions coincides with the findings of Cosic, Cosic, and Ille (2018), who demonstrated that the application of *nudges* or visual reminders can modify daily environmental behaviors. In our case, posters and digital publications acted as stimuli that facilitated reflection and habit change, demonstrating that simplicity and accessibility are key factors for effectiveness.

The change in sustainable perceptions aligns with what was proposed by Abd Hamid and Wan Asrina (2020), who evidenced in Malaysian universities that institutional "zero waste" campaigns increase awareness and modify student habits regarding the use of plastics. Environmental education acts as a catalyst for behavioral changes, especially when actions are visible, contextualized, and accompanied by symbolic or normative incentives.

The results reinforce the idea proposed by Khajuria et al. (2025) regarding the need to integrate the circular economy approach with educational and change management strategies. The improvement in conceptual understanding shows that information and communication are essential components for moving toward circular consumption patterns.

From the institutional perspective, the findings coincide with Stefanovska and Mihajloski (2022), who point out that sustainable practices not only reduce environmental impacts but also strengthen the image and efficiency of organizations. The implementation of a systematic environmental education strategy at FAEA could consolidate a replicable model in other UNCO faculties, contributing to the fulfillment of SDG 12 and the strengthening of university social responsibility.

Finally, the empirical evidence coincides with Zhao and Cheah (2023) that individual changes in environmental behavior require institutional frameworks to sustain them. The intervention demonstrated that the willingness to act responsibly exists, but its permanence will depend on the continuity of institutional policies, infrastructure, and communication.

## 5. CONCLUSION

The research allowed verifying that a brief, visual, and participatory educational campaign can significantly influence the environmental consciousness of the university community. The results show concrete advances in knowledge about responsible consumption, in the critical perception of plastic impacts, and in the adoption of sustainable practices, demonstrating that awareness is an effective first step toward cultural transformation.

Simultaneously, the limitations presented by this research must be considered. Firstly, it was executed on a limited base of 60 people, comprised solely of students; it is suggested for future research to expand this base in quantity and variety of profiles. Secondly, only virtual interviews were conducted anonymously; this methodology could change to an in-person interview format with the same candidates for both the pre-survey and the post-survey.

In conjunction with the revised literature, it is concluded that environmental education at the higher level should not only focus on the transmission of content but on the creation of environments that promote sustainable habits. The combination of simple communication strategies, such as *nudges*, with long-term formative approaches, constitutes a viable tool for advancing toward the fulfillment of SDG 12 in universities.

This study provides empirical evidence about the effectiveness of low-cost interventions in Latin American contexts and underscores the need to institutionalize sustainability policies

within the UNCO. Promoting environmental education through practice represents a concrete way to build more responsible and sustainable academic communities, based on a trained workforce and committed people worldwide. Furthermore, institutions that promote this type of initiative tend to strengthen their public reputation, by positioning themselves as actors committed to sustainability and the formation of critical citizenship. This social legitimacy improves their image and also enhances student participation and the link with the community.

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