



# Sustainable Development Goals Inclusion in Nutrition and Dietetics courses at the University of Chile: What happens in the classroom?

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## Abstract

Formation for sustainability is key to achieve the Sustainable Development Goals (SDGs) in higher education institutions, which have the mission to prepare professionals who are responsible for the future. The Nutrition and Dietetics program contributes to the SDGs through its graduate profile focused on promoting healthy eating (SDGs 2 and 3) and responsible consumption (SDG 12). At the University of Chile, this program has made progress in incorporating sustainability into its curriculum; however, its transfer to the classroom is unknown. The objective of this study was, through direct observation of classes, to show how sustainability and the SDGs are considered in the teaching-learning process. The results show a consistent allusion to this topic, but there is a lack of greater visibility of the SDGs, and their integration with professional work could be improved. In the theoretical classes, the need for teacher capacitation and sensitization is more evident, in addition to the strengthening of the class structure. Classroom observation allows us to investigate aspects for improvement and shows that, with micro-curricular adjustments and training, the transfer of the SDGs to the classroom can be effective.

KEYWORDS: ODS, SUSTAINABILITY, NUTRITION INSTRUCTION, TEACHER'S COMPETENCIES, CLASSROOM OBSERVATION TECHNIQUES

## Introduction

It is imperative the formation for Sustainable Development or for sustainability (ESD) in higher education institutions (HEI), given the relevance that has for society, economy and environment, the current overcoming of the planetary limits.

The program of Nutrition and Dietetics is aligned with the goals set out in the SDGs by promoting nutritious and safe food, promoting health and wellness. This program at the University of Chile has incorporated sustainability since 2018, but it has yet to demonstrate its transfer to the classroom.

## Theoretical Framework

Since 1992, UNESCO has promoted ESD in educational institutions in response to the intensification of the climate crisis in recent decades (United Nations Educational, Scientific and Cultural Organization - UNESCO, 2017).

HEIs are in a privileged scenario to implement ESD given their mission to educate future decision makers, who must be able to face complex problems with an ethical and responsible approach (González-Campo et al., 2022). In addition, the competency-based model of HEIs promotes active methodologies, which are also recommended for ESD.

Sustainability, objectified through the SDGs and their goals (United Nations, 2018), is strongly relevant to the Nutritionist's graduate profile, since its competencies contribute to SDGs 2 Zero Hunger, 3 Health and Well-being and 12 Responsible Production and Consumption, in addition to SDG 4 Quality Education. The contribution to a greater or lesser degree to other SDGs will depend on the focus of each program and its institution. Even though international (UNESCO, 2017) and national (CUECH, 2024) guidelines promote ESD, in Chile very few nutrition programs include sustainability in their profile.

## Methodology

Qualitative case study. Classroom observation was conducted by a pedagogical assessor of second, third and fourth level courses in the first semester of the year 2024. The participation of the courses, 6 in total, was voluntary. Information was collected based on an observation checklist and through the generation of field notes for each observed session. The data collected were analyzed using descriptive statistics and thematic analysis.

## Results

Theoretical classes, ateliers and laboratories were observed to determine their relevance to the SDGs, according to the learning achievements and themes of each class (Table 1).

Course	Activity	Topics	ODS contributed
Culinary Techniques I	Laboratory	Food Exchange Portions	SDG 3, 6 and 12
Food Culture and Security	Theory lesson	Culture and food systems	SDG 2 and 12
Communication and Education	Grupal activity	Socio-community intervention	SDG 3, 10 and 11
Diets for Adults and the Elderly	Laboratory	Diet for the elderly HACCP food	SDG 2, 3, 6 and 12
Food quality and Safety	Theory lesson	safety assurance system	SDG 3, 6 and 9
Planning in Food Service	Theory lesson	FoodCost	SDG 12

**Table 1. SDGs considered by activity and course observed**

Through the field notes it was possible to show that all the courses include topics related to the SDGs in a consistent manner, however, their visibility and linkage with the profession is lacking.

There are differences by type of activity, showing that in activities where the student has a more active role, such as ateliers and laboratories, the recognition of sustainability is greater. In the theoretical sessions, on the contrary, the variation associated with the teacher is stronger, showing dependence according to their capacitation, sensibilization and knowledge of the SDGs.

Aspects of class structure such as initial activation and final metacognition, which facilitate significative learning, were less present.

The passive role of the students, regardless of the activity performed, is notable. Although there are intervening aspects that can be strengthened, the students do not seem to respond to the teacher's motivation or proximity.

## Discussion

In Latin America, HEIs have made progress in implementing sustainability in institutional governance; however, there is a lack of incorporation of this topic in their formative plans (Hidalgo, 2021).

In 2016, the University of Chile made official the Institutional Sustainability Policy that determines, among its medium- and long-term goals, to incorporate this seal in all its programs (Leiva-Guerrero y Vásquez, 2019). The Nutrition and Dietetics program incorporates it in its curriculum, initially guided by an operational definition of sustainability (Cáceres y Basfi-Fer, 2022). To achieve this, it adjusted its graduate profile, competencies and curricular elements of the selected course programs, subsequently corroborating their contribution to the SDGs and their goals. However, there was no accompaniment to the teaching teams for their microcurricular implementation. Accompaniment is essential as it provides technical and affective (emotional-ethical and effective) support to promote the process of change in teaching practices (Maray Hernández et al., 2022).

Classroom observation is an effective form of monitoring to demonstrate aspects involved in the teaching and learning process and to promote teacher reflection (Hernández-Infante y Infante-Miranda, M. E., 2017). Our results applying this strategy show an incorporation of sustainability in the teaching discourse, but this is dependent on the activity carried out and the teacher in charge. This is strongly manifested in the theoretical classes, where adequate knowledge is required to achieve its integration with the discipline and professional work. On the other hand, there was evidence of the need to improve the class structure with emphasis on the beginning and end, key stages in the fixation of learning (Hernández-Infante y Infante-Miranda, M. E., 2017). Finally, the lack of student participation and/or motivation is considered a generational phenomenon.

## Conclusions

Classroom observation revealed the micro-curricular implementation of the SDGs, which depends on the teacher and the type of activity.

All the courses visited work on sustainability according to their nature and purpose; however, there is a lack of specification of the SDGs worked on and their integration to the future role. Teacher training in sustainability aspects and class structure is required.

## Limitations and Future investigations

One limitation is that, due to logistical factors, human capacity and resources, not all courses were observed, nor were all the methodologies of each course. Nevertheless, courses from different levels of the program were considered. In the future, it is proposed to evaluate the perception of the teachers observed on this experience and on the incorporation of sustainability in the curriculum.

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