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## An approach to develop sustainability in a subject of Human Nutrition and Dietetics Degree, a pilot experience

María Ángeles Bustamante<sup>a</sup>, Jonatan Miranda<sup>a</sup>, Edurne Simon<sup>a</sup>, Idoia Larretxi<sup>a</sup>, Itziar  
Txurruka<sup>a</sup>, Arrate Lasa<sup>a</sup> \*

<sup>a</sup>Department of Pharmacy and Food Sciences, Faculty of Pharmacy, University of the Basque Country (UPV-EHU), Spain

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### Abstract

The present study was aimed to develop the skill of sustainability among students of the subject “Collective Restoration” in Human Nutrition and Dietetics Degree. For that purpose activities that dealt with economic, environmental, sanitary and social sustainability were carried out. After defining the skill and learning results, different activities and evaluation criteria were proposed for their development. The skill was carried out in an active, collaborative and classroom-based way. The 75% of the students that attended classes mentioned concepts related to sustainability in the final exam. Concepts such as an adequate food distribution among people or the reduction of food wastes were considered by the students. In view of the obtained results, the skill of sustainability might be developed coordinately in more subjects of this degree in order to make students be competent in this field for their future profession

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### 1. Introduction

The Bologna Process (1999) has brought important changes to the pre-existing University model. University Degrees must train students in competences which include not only specific but also cross-curricular skills and they have to be improved along their education process supported by a continuous assessment (Rodríguez, 2010; Binkley

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\* Corresponding author. Tel: 946 01 20 00  
E-mail address: [arrate.lasa@ehu.eus](mailto:arrate.lasa@ehu.eus)

et al., 2012; Murphy et al., 2001). It must be warranted that new graduates achieve a certain level in competences which matches with that required by the job market (Rahmat et al., 2012; Prideaux et al., 2015). They will have to face a professional environment, be able to communicate, share information, discuss problems, find solutions and at least, be able to function well in a team.

Studies in the literature show that the most developed cross-curricular skills until now in higher education are teamwork, communication skills, interpersonal abilities or critical appraisal. Several methodologies have been designed for the acquisition of these skills, among which, student-centered active learning strategies have been the most used ones (Michael and Model, 2003; Woodrow and Townley, 1993). Even though the reviews regarding the effectiveness of these active methodologies do not show significant effects in terms of academic outcomes (Colliver, 2000; Norman and Schmith, 2000), students opinion about them as suitable methodologies to develop cross-curricular skills has been very positive (Woodrow, 1993; Michael and Model, 2003).

However, there is one skill that although it is included in the list of cross-curricular skills of the university Degrees has not been developed in depth by any kind of methodology yet. That is the skill related to sustainability.

As Federico Mayor, the General Director of UNESCO said, we must assure that “the key for sustainable development is an education that reaches all the society, through new modalities and new technologies in order to provide opportunities for lifelong learning. In all countries, we must be ready to remodel education in order to promote attitudes and behaviors that lead to a culture of sustainability” (General Conference of UNESCO, 1997). Thus, to develop this skill among future professionals is actually a matter of concern and university lecturers must make an effort to include it in the academic programs.

In view of the above, the aim of the present work was to develop the skill of sustainability, among students of the subject “Collective Restoration” of Human Nutrition and Dietetics Degree. Concretely the purpose was to establish an environmental, economical, sanitary and social sustainability vision for finding solutions to face real world problems. This work is a pilot experience from a big project that aims to develop sustainability as a cross- curricular skill along the mentioned Degree. It is funded by the Students, Employment and Social Responsibility Service of the University of the Basque Country.

## 2. Methodology

### 2.1. Subject description

The selected subject is entitled “Collective Restoration”. It is a subject of the first four-month period of 4rd course of Human Nutrition and Dietetics Degree, with a duration of 6 ECTS, divided in 4 ECTS for master lectures and seminars and 2 ECTS for laboratory and food plant cooking sessions and a company visit. Two lecturers and 17 students participated in the teaching-learning of the subject.

The program of the subject with regard to developed specific skills and related themes is summarized in Table 1. The themes were carried out combining different methodologies: master lectures, practical cases, problems, etc. Cross-curricular skills such as the ability to integrate and apply knowledge, teamwork, communication related skills and critical appraisal were also developed.

Table 1. Specific skills and related themes of Collective Restoration subject

Specific skill	Themes
A. Meal production related skills	1. Collective restoration: concept.
To be able to:	2. Collective restoration types
- analyze and apply different production system	3. Meal production and distribution types
- identify specific equipments and determine their effects on nutritional value of food	4. Equipments and establishments
- analyze and apply different distribution chains	5. New technology
- construe and apply food legislation and quality assurance	6. Effects of cooking methods on nutritional value of food
	7. Food legislation and quality assurance related to collective restoration

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