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# Raising concepts and awareness of sustainability and the environment in higher education through French foreign language teaching: a multidisciplinary didactic proposal

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**Abstract:** Our society is affected by the climate crisis, which is largely a consequence of human activity. For this reason, the education and awareness of society plays a fundamental role. Spain and Andalusia are committed to the 17 sustainable development goals established by the United Nations and their fulfilment by 2030, representing an important part of the Challenges of Andalusian Society (CAS). One of the goals to be achieved is to “improve education, awareness and human and institutional capacity for climate change mitigation, adaptation and early warning”. Education and environmental awareness in relation to CAS remain one of the main challenges, especially in foreign language teaching and learning. By means of an innovative educational strategy, this project aims to address four CAS in university language learning/teaching of French as a foreign language (FFL): 1. Climate action, environment, resource and raw material efficiency, 2. Smart, green and integrated transport, 3. Safe, clean and efficient energy, and 4. Health, demographic change and social well-being. The aim is to train and raise awareness of key concepts among undergraduate students through the integration of the CAS as didactic units in FFL subjects of the Bachelor’s Degree in French Studies at the University of Granada (Spain). This project may well have a positive impact on the environmental attitude, interest and motivation of students towards the CAS and the acquisition of linguistic competences in the French language.

**Keywords:** didactic approach; environment; French foreign language teaching; higher education; sustainability; teaching innovation

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# 1 Description of context

The high impact of climate change on the delicate stability of the diverse ecosystems found in our planet is by now unquestionable (Stevenson 2017). The environment, the climate crisis and sustainable development are some of the greatest challenges of our society at the top of the global political agenda. However, change requires the commitment of all of us for it to come into effect (Kay 2020; Stevenson 2017).

In the current scenario, addressing the challenge of sustainability and climate action is urgent and our population should adopt a responsible, respectful and conscious behaviour with our resources and ecosystems. The Educational institutions have started to significantly contribute to this key task, especially in North American colleges and universities (de la Fuente 2022a). In Southern Europe, the importance of education in sustainable development is also crucial and it has been emphasised in both academic literature and policy documents (Andalucía. Consejería de Medio Ambiente y Ordenación del Territorio 2013; Lozano Espinoza et al. 2019). Among the actions developed to face this challenge, the importance of education, training, awareness-raising and participation of the population, as well as creating access to information on climate change (COP21) is particularly important. Furthermore, experts recommend concerted action on an international scale.

In this context, education and public awareness of environmental issues and sustainable development could play a crucial role in promoting public involvement in the search for solutions to these problems (Andalucía. Consejería de Medio Ambiente y Ordenación del Territorio 2013, 2022; Lozano Espinoza et al. 2019). Indeed, a high level of education and awareness of our population in this matter will favour the design of new actions, policies and/or strategies to effectively address the environmental crisis affecting our planet (Andalucía. Consejería de Medio Ambiente y Ordenación del Territorio 2022; Hinojo Lucena et al. 2019; Ramos et al. 2015). Consequently, Higher Education, in addition to training a variety of highly qualified professionals, should be an instrument to educate and raise awareness in the Sustainable Development Goals (SDGs). In fact, research has recently been carried out on the inclusion of environmental and sustainability issues in foreign language teaching and learning at university level (de la Fuente 2022a, 2022b; Melin 2019).

In 2015, Spain committed to the 17 SDGs, established by the United Nations and the fulfilment of Agenda 2030 (Boto-Álvarez and García-Fernández 2020; Miola and Schiltz 2019). In this regard, Spanish universities have been implementing various policies and actions to promote a committed and respectful

attitude towards the environment and people's health. However, no awareness-raising and/or training strategies have been developed in undergraduate programmes that are outside these disciplines or areas of expertise. Therefore, it is necessary to develop new teaching strategies to address the key concepts of the main challenges of future professionals from different areas of knowledge of a given Higher Education institution.

Could it be possible to address contents related to sustainability development and climate change in the curricula of educational programmes? It appears so. At present, different countries and international alliances (such as the European Union and the Arqus European University Alliance) are working on new policies, programmes and courses to integrate these key concepts into Primary, Secondary and Higher Educational programmes (Arnaldo Valdés and Gómez Comendador 2022; Aznar-Diaz et al. 2019; de la Fuente 2022a; Itard and van den Bogaard 2010; Leal Filho et al. 2018; Melin 2019).

In the case of most Higher Education programmes this is a challenge, as SDGs-related concepts and contents are often far from highly specialized disciplines. Interestingly, degrees in which foreign languages are taught offer a valuable possibility (de la Fuente 2022a; Melin 2019). In these programmes, it is possible to integrate different subjects of social relevance (de la Fuente 2022a), including SDGs-related contents, without the need to modify and/or compromise the linguistic competences to be achieved. In our particular case, we are responsible for the teaching of French as a Foreign Language (FFL) skills in different degree programmes (*Bachelor's Degree in French Studies*, a four-year university degree, the main target degree of this project) at the University of Granada (Spain). Our focus is to ensure the acquisition of language skills in French, for which different contexts and/or situations are explored to promote the teaching-learning of the required language skills (Ruyffelaert 2017). However, in order to contribute to the building of a more conscious, sustainable and environmentally friendly society, we have designed a novel multidisciplinary didactic proposal to integrate four Challenges of Andalusian Society (CAS), corresponding to SDGs-related key aspects during the FFL teaching courses in our institution. In this sense, a multidisciplinary team will be set up, with experience in the fields of environmental education, health sciences, and FFL teaching and learning. The four CAS that are addressed in this project are: CAS 1 Climate action, environment, resource and raw material efficiency; CAS 2 Smart, green and integrated transport; CAS 3 Safe, clean and efficient energy, and; CAS 4 Health, demographic change and social well-being. These CAS correspond to the following SDGs: SDG 13 Climate action; SDG 11 Sustainable cities and communities; SDG 7 Affordable and clean energy; SDG 3 Good health and well-being.

## 2 Future activity

### 2.1 Main objectives

The general aim of this didactic proposal is to educate, raise awareness and train undergraduates of the *Bachelor's Degree in French Studies* in the key concepts of the socio-environmental reality, the crisis and the causes of environmental problems by integrating them, as didactic units, into the teaching of FFL at the University of Granada (Spain).

In addition, the following conceptual, procedural and attitudinal objectives are to be achieved through environmental education:

#### Conceptual objectives

1. To help acquire a basic understanding of the environment as a whole through knowledge of environmental facts and the causes of environmental problems.
2. To understand the concept of reducing the use of fossil fuels.
3. To understand the concept of reduction, reuse and recycling of resources.
4. To understand the concepts of the use of renewable energies as well as intelligent and environmentally friendly transport.
5. To understand the concept of organic and healthy food.

#### Procedural objectives

1. To encourage group learning processes to broaden the conceptual horizon, to enable development and active participation.
2. To learn to participate, to get involved in and to discuss an environmental issue of concern to today's society.
3. To develop linguistic skills, written and oral, in formal and informal communication situations in French as a foreign language.
4. To stimulate and encourage creativity.
5. To improve knowledge and mastery of Information Communication Technology tools.

#### Attitudinal objectives

1. To help to acquire an interest for sustainable development, respectful and conscious environmental skills and attitudes that will encourage students to participate actively in its protection and improvement as well as in the resolution of environmental problems.
2. To strengthen the capacity of observation and perception in order to obtain as much information as possible from the environment.

3. To develop a critical, responsible, tolerant, coherent, participative and supportive spirit.
4. To exercise motivation and curiosity, taking advantage of the students' everyday experiences to increase their receptivity and attention.
5. To acquire attitudes that respect the reduction, reuse and recycling of resources as well as an ecological and healthy diet.

## 2.2 Programme and contents

For this multidisciplinary project, four CAS related to the SDGs have been selected and will be developed as indicated in Table 1.

**Table 1:** Selection of CAS and SDGs contents for integration in FFL teaching programmes at the University of Granada.

Challenges of Andalusian Society (CAS)	SDGs	Contents	French language subjects involved
CAS 1	13	<i>Climate action, environment, resource efficiency and raw materials: This challenge will analyse the causes and consequences of climate change, and the actions that can be taken to contribute to an improvement in environmental quality, such as reducing CO<sub>2</sub> emissions; saving water; reducing, reusing and recycling resources.</i>	French language B2+ (2nd year)
CAS 2	11	<i>Smart, green and integrated transport: This challenge will analyse the impact of transport modes on global warming. In addition, the environmental benefits of using smart, green and renewable energy-based modes of transport will be highlighted.</i>	French language B2+ (2nd year) French language C1 (3rd year)
CAS 3	7	<i>Safe, clean and efficient energy: In this challenge the importance of renewable energy sources (e.g. wind, solar, kinetic, biomass) in improving the quality of the environment by reducing CO<sub>2</sub> emissions will be studied and discussed. In addition, the reduction of unnecessary energy use will be promoted through responsible energy use.</i>	French language C1 (3rd year) French language C1+ (4th year)

**Table 1:** (continued)

Challenges of Andalusian Society (CAS)	SDGs	Contents	French language subjects involved
CAS 4	3	<i>Health, demographic change and social well-being: This challenge will address the main health problems affecting our population, mainly those related to environmental impact, environmental and noise pollution, ecological and healthy food, tobacco. In addition, concepts and issues related to the demographic change experienced by our population will be integrated. Finally, the problems of immigration, integration and diversity of people in our society will be developed.</i>	French language C1+ (4th year)

The CAS will be analysed by the research team in order to select the key concepts as well as to compile and elaborate teaching material for each of them. For this purpose, the members of the team will select and analyse scientific articles, textbooks, press articles, documentaries and lectures on climate change, sustainable development, environmental problems and solutions.

Subsequently, the key concepts will be progressively integrated, as thematic units, into several French language subjects from the 2nd till the 4th year (*French Language B2+*, *French Language C1*, *French Language C1+*) in the corresponding curricula. During this process, care will be taken to ensure that the CAS are integrated taking into account the degree of complexity of the subjects and concepts, as well as the years of study. In this sense, two CAS will be integrated per academic year, with their full integration and analysis to be completed within two years.

Each didactic unit will be worked on in six different sessions (2 h each), organised in the same way, encouraging the acquisition of written and oral linguistic competences in FFL according to the level of the subject (Table 2).

**Table 2:** Organization of sessions and content for FFL teaching.

Session	Content
Session 1	Introduction to the topic, (self)-assessment of background knowledge
Session 2	Key concepts, vocabulary
Session 3	Reading comprehension
Session 4	Listening comprehension
Session 5	Written production (individual work)
Session 6	Oral production (discussion/oral presentation of a group work)

## 2.3 Methodology

Through this proposal, the members of the multidisciplinary team (environmental education, health sciences and FFL teaching and learning) will work together to integrate certain concepts related to climate action at undergraduate level. In this sense, several teaching teams from these areas join their teaching and research experience to provide a joint solution with a high social impact, through education, to the challenges posed by the environmental challenges of society (de Castro 2016). Throughout the process, emphasis will be placed on meeting, dialogue, task sharing and joint review. The activities to be developed by the team will be practical and cooperative.

Our proposal is aligned to content-based instruction or content-based foreign language education, a curricular approach that embeds language instruction in the context of meaningful content for learners (Turpin 2021). The primary purpose is to work on language, integrating topics relating to environmental and social dimensions of sustainability, as has already been carried out successfully in other university contexts (de la Fuente 2022a; Turpin 2021). In our case, the integration of the contents selected for each of the units in the teaching of French will not alter the methodology nor the teaching instruments contemplated in the Spanish degree programme verification (the national approval procedure) and course guides of the respective French language subjects and training programmes. Moreover, these topics will be worked on to ensure the acquisition of the four linguistic competences (written and oral comprehension and expression) and to satisfactorily reach the level proposed, according to the *Common European framework of reference for languages* (Council of Europe 2001), for each of the subjects (from B2+ till C1+).

In order to stimulate the learning of FFL as well as the interest and motivation for the subjects, the team will use a variety of teaching aids and resources. With this material, various collaborative meaningful activities (such as the creation of conceptual maps and infographics, critical oral and written reflection tasks, field work for local environmental problems in their daily lives in order to organize debates with FFL students about topics related to sustainability and their own city, town, institution and/or faculty, ...) will be prepared to encourage active student participation, teamwork, objectivity and critical thinking in relation to the topics. Indeed, since the aim is to awaken awareness, the participation and presence of the pupil as the central subject of the educational process is essential (de la Fuente 2022a). For both written and oral skills, reading, critical thinking and self-learning will be encouraged, especially in order to address environmental issues in greater depth. Indeed, self-learning and critical thinking is an important skill for the 21st century and researchers believe that content knowledge is crucial to effective critical thinking (Willingham 2019: 3).

### 3 Summary of results/experience

There is a growing awareness that the realisation of a more sustainable world is perhaps one of the greatest social challenges of our time, which requires the commitment of all. The challenge of sustainability and climate action is urgent and universities must contribute to the development of a respectful, responsible and environmentally conscious society, which depends directly on the education of our population.

The proposed activity, in which a new teaching strategy will be developed for the integration of the SDGs in undergraduate teaching, represents an important scientific-technical development in the field of education. This teaching method could be applied to promote or strengthen joint teaching and/or skill acquisition between 2 or more disciplines (environmental education, health sciences and FFL teaching). In this case, the main teaching is the acquisition of language skills in French, but in addition, students internalise concepts, ideas and actions that are essential in order to promote sustainable development in our society. Therefore, it could also have a social impact by contributing to the improvement of our society.

In this context, training and awareness of the population (students) will effectively contribute to the economy. It is very likely that students will adopt a respectful and responsible behaviour towards each of the selected SDGs, which will undeniably have a positive impact on the economy and the environment. Our project will promote students' awareness of the importance of human action on the environment, therefore we aim to: promote the reduction of fossil fuel use; promote the reduction, reuse and recycling of resources; promote the use of renewable energies; as well as the importance of smart and green transport. In addition to the challenge of climate change, our project will promote the importance of ecological and healthy eating, as well as the main issues of health, immigration, integration and diversity that affect our society, and it will have a great social impact on all the humanities students involved in the project.

Finally, in this multidisciplinary project, we have selected a very specific study population, which are: future language teachers of Primary and Secondary Education, baccalaureate and vocational training; and tourism graduates. It is expected that each of these professionals, or a large percentage of them, will acquire a basic training and/or awareness in relation to the selected SDGs. Therefore, these professionals could contribute, through their teaching work, to the training and awareness of future generations in these matters with an impact on the economy, health, environment and undeniably on our society that could go beyond the objectives set out in this project.

It is important to highlight that the investment needed to develop this project is minimal compared to other projects that seek technical or scientific developments,



and this minimal investment ensures a large dissemination, which will have a direct and future impact on part of our society, that if it were not for this didactic proposal, would have no access to these key concepts about CAS and SDGs.

## 4 Conclusion

In terms of its character, environmental education should not be incorporated into educational programmes as a separate discipline or a particular subject of study, but as a dimension that must be integrated into these programmes. Environmental education is the result of a reorientation and articulation of various disciplines and different educational experiences (e.g. natural sciences, social sciences, arts and letters) allowing an integrated perception of the environment and with respect to it, a more rational and proper attitude to respond to social needs. Thus, environmental education should not be just another subject to be added to existing university curricula but should be incorporated into programmes for all students. In addition, through content-based instruction, foreign language teaching and learning can contribute to a more sustainable future, making available (inter)disciplinary knowledge to language students, enabling them to become multi-competent users of the target language and to take part of a more sustainable world. In both the medium and long term, the best way to ensure the development of environmental education at the (inter)national level is to incorporate the environmental dimension into the initial training of teachers and other educational staff.

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