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The service-learning methodology as a facilitating tool for education for sustainable development (ESD)

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Abstract

INTRODUCTION. An educational environment that facilitates student engagement and critical thinking is essential for the success of Education for Sustainable Development (ESD) according to the 17 Sustainable Development Goals (SDGs). This requires that the tools favour learning from a new approach, which involves a social component and takes into account the students' soft skills.

METHODOLOGY. The Service-Learning (S-L) for educational proposal establishes fruitful relationships with society, in which both parties benefit. This paper proposes the application of the S-L methodology to achieve a successful implementation of ESD.

RESULTS. In line with Goal 11 (SDGs) 'Sustainable Cities and Communities', this proposal aims for students to contribute to making cities more inclusive, safe, resilient and sustainable. To this end, a S-L activity was carried out at the Rey Juan Carlos University with the participation of 140 students of the subject "Tourist Transport".

DISCUSSION. This work demonstrates the usefulness of the Service-Learning methodology in the transmission of values associated with environmental, social and economic sustainability. In the activity, the students provide a service of transferring values to society while improving their communication and teamwork skills.

Keywords

Service-learning; Higher education; Sustainable development goals

Recommended reference

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UNIVERSITAT DE BARCELONA

Título (castellano)

La metodología del aprendizaje-servicio como herramienta facilitadora de la educación para el desarrollo sostenible (EDS)

Resumen

INTRODUCCIÓN. De acuerdo con los 17 Objetivos de Desarrollo Sostenible (ODS), un entorno educativo que posibilite el pensamiento crítico y la participación de los estudiantes resulta fundamental para el éxito de la Educación para el Desarrollo Sostenible (EDS).

METODOLOGÍA. El trabajo propone la aplicación de la metodología ApS para lograr una implementación exitosa de la EDS. Así, tanto los alumnos, trabajando en equipo, aplicando sus capacidades y conocimientos adquiridos, como la sociedad, a la cual se le presta un servicio a través de esta metodología, resultan beneficiados.

RESULTADOS. Este estudio muestra un proyecto en el que se relaciona el Objetivo 11 de los ODS 'Ciudades y Comunidades Sostenibles' con un enfoque ApS en la asignatura 'Transportes Turísticos' de los Grados en Turismo de la Universidad Rey Juan Carlos de Madrid. Por medio de este proyecto se implementa la EDS y los estudiantes tienen la oportunidad de contribuir a que las ciudades sean más seguras, inclusivas, sostenibles y resilientes.

DISCUSIÓN. El trabajo proporciona evidencia práctica sobre la aplicación de los ODS en el ámbito universitario y la utilidad de la metodología ApS para transmitir valores vinculados con la sostenibilidad medioambiental, social y económica.

Palabras clave

Aprendizaje-servicio; Educación superior; Objetivos de desarrollo sostenible

Títol (català)

La metodologia de l'aprenentatge-servei com a eina facilitadora de l'educació per al desenvolupament sostenible

Resum

INTRODUCCIÓ. Un entorn educatiu que faciliti la participació i el pensament crític dels estudiants és essencial per a l'èxit de l'educació per al desenvolupament sostenible (EDS) d'acord amb els disset objectius de desenvolupament sostenible (ODS). Per a això calen eines que afavoreixin l'aprenentatge des d'un nou enfocament, que requereixi un component social i consideri les habilitats suaus dels estudiants.

METODOLOGIA. La proposta educativa de l'aprenentatge-servei (ApS) estableix relacions fructíferes amb la societat, en les quals les dues parts se'n beneficien. En aquest treball es proposa l'aplicació de la metodologia ApS per aconseguir una implementació reeixida de l'EDS.

RESULTATS. D'acord amb l'objectiu 11 (ciutats i comunitats sostenibles), aquesta proposta pretén que els alumnes contribueixin a fer que les ciutats siguin més inclusives, segures, resilients i sostenibles. Per això, s'ha dut a terme una activitat d'ApS a la Universitat Rey Juan Carlos on van participar 140 alumnes de l'assignatura Transports Turístics.

DISCUSSIÓ. Aquest treball demostra la utilitat de la metodologia ApS en la transmissió dels valors associats a la sostenibilitat mediambiental, social i econòmica. A través de la conferència, l'alumnat presta un servei de trasllat de valors a la societat alhora que perfecciona les habilitats de comunicació i treball en equip.

Paraules clau

Aprenentatge-servei; Educació superior; Objectius de desenvolupament sostenible

1. Introduction

Community engagement is one of the fundamental pillars of higher education and has an increasing weight at both the teaching and research levels (Hlengwa, 2010). Based on a significant and inclusive educational philosophy, the Service-Learning (S-L) educational proposal breaks with the traditional methodology, which assumed that learning takes place mainly within the walls of educational institutions, and establishes fruitful relationships with society, in which both parties benefit.

The 17 Sustainable Development Goals (SDGs), adopted by all United Nations Member States in 2015 as part of the 2030 Agenda, are the blueprint for a better and more sustainable future for all. “Each SDG has a set of targets and indicators associated with it, and it is therefore essential that students are aware of their existence and work towards achieving them” (García Laso et al., 2019, p. 441). Figure 1 shows the 17 SDGs. Previous work has demonstrated the usefulness of the application of the S-L methodology for SDG curriculum development due to its real-world implications (Hernández-Barco, Sánchez-Martín, Blanco-Salas, and Ruiz-Téllez, 2020). An educational environment that facilitates student participation and critical thinking is essential for successful Education for Sustainable Development (ESD).

Therefore, universities have a fundamental role to play as generators and transmitters of knowledge, which is why they must ensure that their students acquire a series of transversal competences and soft skills (Aparicio Chofré et al., 2021). This paper proposes using the S-L methodology, which is an active education methodology (Mooney & Edwards, 2001) that combines learning and practices that apply what students learned in class to the social reality (Hernández-Barco et al., 2020; Li et al., 2018) to achieve successful implementation of ESD.

Figure 1

Sustainable Development Goals (https://sdgs.un.org/es/goals)

This work provides new practical evidence that the S-L methodology can be used as a tool for implementing the SDGs at the higher education level (Hernández-Barco et al., 2020). In line with Goal 11 ‘Sustainable Cities and Communities’ (SDGs), this proposal aims to enable learners to contribute to making cities more inclusive, safe, resilient and sustainable. During the 2021/2022 academic year, a S-L activity was carried out at Rey Juan Carlos

University (URJC) with the participation of 140 students of the subject “Tourist Transport”. After group-led research, including an information search in different sources and field activities, the students organized an open conference for both the university community and society in general, to demonstrate key aspects of the environmental impact of transport in different urban areas.

The association of this methodology with the practice of a specific subject makes it easier for students to see its usefulness both for their own learning and to ensure that this learning is useful for society’s progress. On many occasions, students ask themselves how useful the subjects they study in different subjects really are; making an application to a tangible subject solves this gap. Furthermore, giving the students a leading role in the event empowers them and brings them closer to their future professional development while at the same time transferring valuable knowledge to the university community and society (Vázquez Verdera, 2015).

This paper is organized as follows: After the Introduction section, the theoretical background about the S-L conceptualization is presented in section two. Then, section three explains the Methodology carried out in the study, with the three stages of the process. In section four, the three phases of the project are presented: Phase 1) Diagnostic and planification; Phase 2) Implementation of the plan; Phase 3) Evaluation. Finally, section five includes the conclusions and discussion.

2. Conceptualizing Service-Learning methodology

Universities need to become a driver of societal change and therefore working with students' values is essential. Certain pedagogical approaches can be used to address this challenge (Brower, 2011). Achieving the SDGs requires a set of capacities that cannot be achieved through theoretical training alone. Therefore, in order to gain technical and social competences, it is proposed to use methodologies that combine learning with practice (García Laso et al., 2019). The S-L is defined as a set of activities that combine service to the community with reflective learning of knowledge, values and skills, and thus contributes to the understanding of the social reality that surrounds the students (Mitchell, 2008). It has a pedagogical benefit because students play a role in its development.

The S-L methodology links the students' participation in services that satisfy a community need and their curricular learning, enabling them to apply what they have learned in the classroom to serving society in real contexts (Hernández-Barco et al., 2020; Hlengwa, 2010). The educational experience takes place in community. Cooperative learning systems are created and the results are collective. In addition, the values established are useful for students during their academic, professional and community life.

The defining feature of the S-L methodology is the involvement of students in decision-making at all stages of project development. The activity is carried out in cooperative groups to achieve active and constructive learning. Furthermore, communication is facilitated between the agents involved: students, teachers, beneficiaries, and entities involved.

Previous studies have demonstrated the usefulness of using S-L as a tool for developing competencies linked to sustainability. It is necessary to use educational methodologies that allow the development of a transformation in society and its awareness. Academic content cannot remain within the walls of institutions; it must be transferred to its environment to achieve a transforming action to achieve more sustainable environments (Vázquez Verdera, 2015).

3. Methodology

Classroom practices that link learning and solidarity service allow students to apply what they have learned during theory classes, which acquire a special practical character as they place the students' learning at the service of the community. Competences are developed in real contexts. This can also facilitate students' inclusion in the work world.

There are three stages in the process of developing a S-L project:

1. Diagnosis and planification to determine the reality where the project will be carried out. The main lines of the action plan are established based on this analysis.
2. Implement what has been planned and adapt it to what is possible in a specific context.
3. Finish and evaluate the activity and the achievements obtained. Reflect on the projects carried out.

4. Service-Learning project

4.1. First phase: diagnostic and planification

During the 2021/2022 academic year, a S-L activity was carried out at Fuenlabrada Campus of the URJC with the participation of 140 students enrolled in the two groups of the subject "Tourist Transport" of the Degree in Tourism and Double Degree in Tourism + Business Administration.

We organized the 1st Conference with students from the tourism degrees in relation to the following aspects:

1. The analysis of the key aspects of the environmental impact of transport in Spanish urban areas.
2. The design and implementation of actions to promote sustainable mobility in travel: VMP, public transport, electric cars, carsharing and motorbike sharing.
3. The management of transport for passengers with special needs in the city.

The process started by selecting the best papers and presentations from the groups of the two classes. After a briefing and training session on the S-L methodology, a rehearsal was held and suggestions for improvement were made before the conference. There were six lectures by the students and two lectures by professionals from the academic and professional fields. The conference was open to the university community and young people living in the Community of Madrid. The students gave the presentations and also helped with the logistical aspects of the conference.

4.2. Second phase: Implementation of the plan

A chronology of activities was established before, during and after the exhibitions or talks to determine the best way to carry out the service through the conferences.

Firstly, we held a training day for the students participating in the project so they could learn about S-L before starting the service activities.

After this, the general topics of the talks were assigned at random to the different working groups. Prior research work is required and the teachers of the subjects helped the students with this. The lecturers reviewed the material that the students would use in the lectures. This point ends with the selection of the best papers and presentations from the groups of the two classes.

The working groups gave the conference over two days. Figure 2 shows the information of the conference. To organize the talks, each group was assigned an exhibition day. The conference was aimed at university students, university lecturers and young people living in the Madrid region who are interested in sustainable transport.

The students' presentations played an essential role in the conference. There were two complementary lectures: One of the teachers gave a presentation on the S-L methodology and the SDGs to open the conference, and an expert in tourism sustainability gave the last lecture.

These presentations gave the participants a greater understanding of the students' role in the development of the service activity and the importance of the topic being addressed.

Figure 2

Information leaflet on the conference published on the University website

After the conference, the experience and conclusions were shared through the social network Linkedin (link).

Dissemination after the event contributes to the dissemination of knowledge. It also achieves an increase in the awareness about the subjects involved in the conference. The social network LinkedIn was used based on the professional profile of LinkedIn users, and it is widely used by students.

4.3. Third phase: assessment

To evaluate the students in the subject, the work included two points in the final score, and a recognition by the university's green office.

The activity aims to raise public awareness of the impact of tourist transport on people's health in accordance with Goal 11: by 2030, provide access to safe, affordable, accessible and sustainable transport systems for all and improve road safety, including by expanding public transport, paying special attention to the needs of people in vulnerable situations, such as women, children, persons with disabilities and older people.

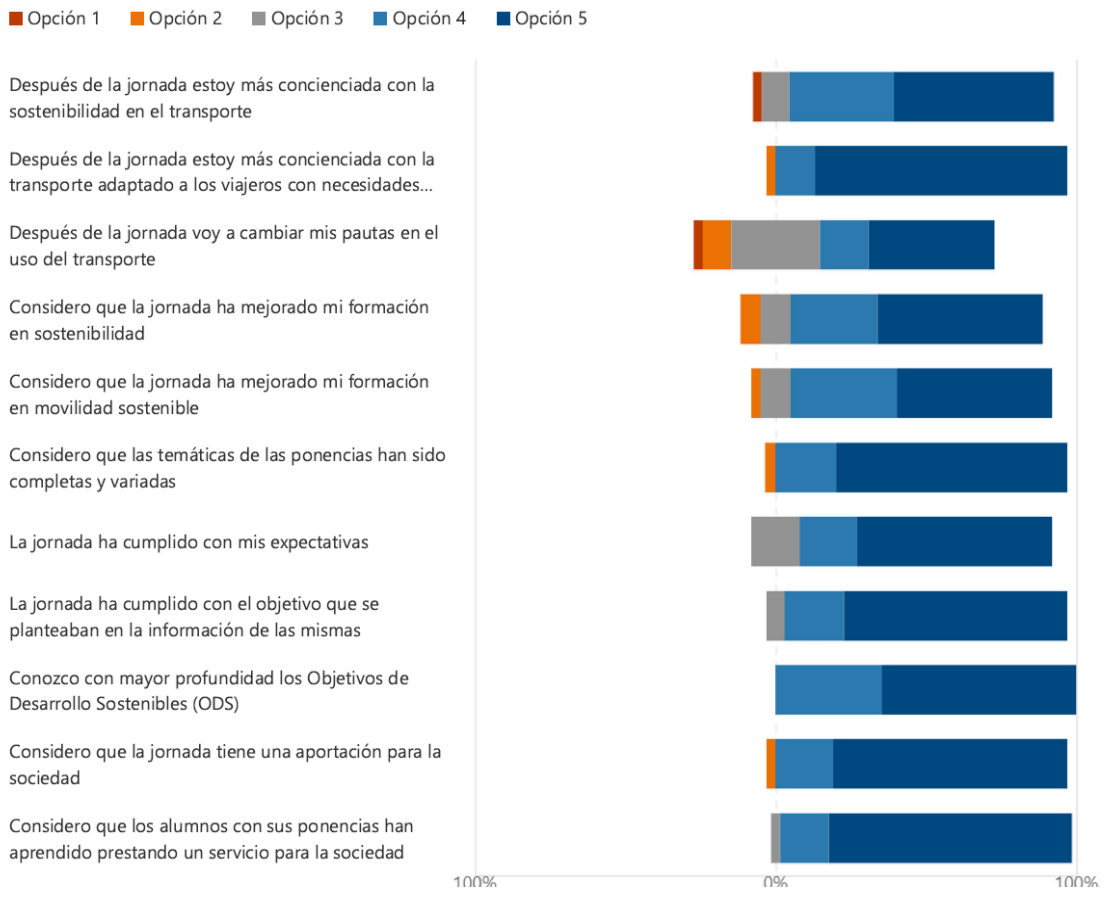
The learning experience involves structured time for students and community participants to reflect on and analyse the service experience (Hlengwa, 2010). This reflection was carried out by means of an evaluation survey for both the student speakers and the attendees. The main results of the survey are shown below.

Figure 3 shows the results of the survey sent to attendees, which represents the level of satisfaction and the students' involvement in the project developed. The survey follows a Likert scale where students rate the statements from 1 (completely disagree) to 5 (completely agree).

Highlighting the following statements: "after the project, I feel more aware of sustainability in transport", "I consider that the topics of the presentations have been comprehensive and varied", "I consider that the project makes a contribution to society", among others. All these statements obtained high scores on the scale (4 and 5 points for the majority of respondents).

Figure 3

Results of the assessment of the main aspects of the conference



Attendees made comments such as, "it has been an enriching experience", "it has been quite interesting and I think that there should be more activities like this" and "this kind of activity makes it a pleasure to go to university,

I think it is the best way to learn and I would have loved to have this opportunity in the second year of my degree. The presentations were very varied and covered important topics of social interest, which increased my interest and the attention I paid to the speakers". Moreover, attendees defined the activity with the words "research, innovation and effort". Among the areas for improvement, some respondents expressed that attendees should be informed in more detail about the S-L methodology in the leaflets and websites for advertising and registering in the event.

5. Conclusions and discussion

Universities become drivers of societal transformation with teaching strategies and methodologies to accelerate the achievement of the SDGs. Therefore, they contribute to achieving social, environmental and economic sustainability (Purcell et al., 2019). Higher education is one of the most favourable environments for the development of activities within the pedagogical framework of "Service-Learning". Its application is fundamental for the training of university students, and interest in it has been growing in recent years. A collaborative approach and a debate are required from a multicultural view of sustainability, both as a topic and as a field of educational research (Leal Filho et al., 2018). We must enrich the training of university students beyond purely technical or academic knowledge, bearing in mind that they will be the future decision-makers in the business or political sphere (Aparicio Chofré et al., 2021).

We aim for students to acquire awareness and practical usefulness in the subject they are studying. The specific competences are related to the development of the capacity to analyse the impacts generated by tourism. On one hand, this research makes it possible to improve the specific skills of the subject concerned, applying the knowledge acquired to practice and improve decision-making and teamwork. In addition, students work on generic and transversal skills, such as civic commitment. Finally, as a novelty in our study, we use the S-L methodology as a tool for mainstreaming the SDGs about Goal 11 in university education.

The present work also has limitations. Although selecting the best groups to participate in the conference means that teams make more effort so they will be selected, it also excludes those groups that are not selected from learning. As future lines of research, we will develop other activities that allow us to carry out services in a complementary way to the conference, such as training workshops or experimental activities. This would broaden the participation of groups and enrich the contribution or service provided. We also intend to extend this experience to other subjects in order to work on other SDGs in other degrees. Less professional social networks could also be used to reach a wider audience, which would mean a wider dissemination to more members of society.

References

Aparicio Chofré, L., Bohorques Marchori, L., De Paredes Gallardo, C., Escamilla Robla, C., Giménez Fita, E., & Quilez Moreno, J. M. (2021). Los ODS como instrumento de aprendizaje: una experiencia multidisciplinar en los estudios universitarios. *Revista de Educación y Derecho, 1 Extraordinario*, 307–332. https://doi.org/10.1344/REYD2021.1EXT.37706

Brower, H. H. (2011). Sustainable development through service learning: A pedagogical framework and case example in a third world context. *Academy of Management Learning & Education*, *10*(1), 58–76. https://doi.org/10.5465/amle.10.1.zqr58

García Laso, A., Martín Sanchez, D. A., Costafreda Mustelier, J. L., Nuñez Varela, E., & Rodríguez Rama, J. A. (2019, 9-11 octubre). *Aprendizaje-Servicio (ApS) como metodología para alcanzar los Objetivos de Desarrollo Sostenible (ODS)/ Service-Learning (S-L) as a methodology to achieve the Sustainable Development Goals (SDG)* [Paper]. Actas del V Congreso Internacional sobre Aprendizaje, Innovación y Cooperación. CINAIC 2019 "Aprendizaje, Innovación y Cooperación como impulsores del cambio metodológico" (pp. 441–446), Madrid.

Hernández-Barco, M., Sánchez-Martín, J., Blanco-Salas, J., & Ruiz-Téllez, T. (2020). Teaching Down to Earth—Service-Learning Methodology for Science Education and Sustainability at the University Level: A Practical Approach. *Sustainability*, *12*(2), 542. https://doi.org/10.3390/su12020542

Hlengwa, A. (2010). Institutionalising service-learning. *Independent Journal of Teaching and Learning, 5*, 24–33. https://hdl.handle.net/10520/EJC131578

Leal Filho, W., Raath, S., Lazzarini, B., Vargas, V. R., de Souza, L., Anholon, R., Quelhas, O. L. G., Haddad, R., Klavins, M., & Orlovic, V. L. (2018). The role of transformation in learning and education for sustainability. *Journal of Cleaner Production, 199,* 286–295. https://doi.org/10.1016/j.jclepro.2018.07.017

Li, L., Kung, H.-C., Tsai, F.-S., Liu, C.-F., & Lu, K.-H. (2018) Service Learning, Service Climate, and Service-Based Social Innovation for Sustainability. *Sustainability*, *10*, 2566. https://doi.org/10.3390/su10072566

Mitchell, T. D. (2008). Traditional vs. critical service-learning: Engaging the literature to differentiate two models. *Michigan Journal of Community Service Learning*, *14*, 50–65. http://hdl.handle.net/2027/spo.3239521.0014.205

Mooney, L. A., & Edwards, B. (2001) Experiential Learning in Sociology: Service Learning and Other Community-Based Learning Initiatives. *Teaching Sociology, 29*(2), 181–194. https://doi.org/10.2307/1318716

Purcell, W. M., Henriksen, H., & Spengler, J. D. (2019). Universities as the engine of transformational sustainability toward delivering the sustainable development goals: 'Living labs' for sustainability. *International Journal of Sustainability in Higher Education*, *20*(8), 1343–1357. https://doi.org/10.1108/IJSHE-02-2019-0103

UN. (2015). *17 goals to transform our world*. https://www.un.org/sustainabledevelopment/es/

Vázquez Verdera, V. (2015). El aprendizaje-servicio: una estrategia para la formación de competencias en sostenibilidad. *Foro de Educación, 13*(19)*,* 193–212. http://dx.doi.org/10.14516/fde.2015.013.019.009