
**AN OPPORTUNITY FOR TRANSFORMATIVE LEARNING
IN HIGHER EDUCATION THROUGH VIRTUAL
TEACHING INNOVATION**

*UNA OPORTUNIDAD PARA EL APRENDIZAJE
TRANSFORMADOR EN LA EDUCACIÓN SUPERIOR A
TRAVÉS DE LA INNOVACIÓN DOCENTE VIRTUAL*

2022

Vol.5 Num. 3
231-246

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Language: English

Received: 16 June 2022 / Accepted: 17 July 2022

ABSTRACT

The global pandemic caused by COVID-19 has affected higher education due to the reduction in attendance in classrooms. As a consequence, teaching methodologies have been adapted to hybrid classes where the virtual space has become the new communication place between teachers and students. From this perspective, virtual teaching has become an opportunity for teaching innovation in times of COVID-19. This article is a case study on teaching innovation applied to a degree subject through the Transformative Learning methodology, whose objective is to strengthen students' teamwork skills through a Service-Learning project with disabled children. Once the project was finished, the students

Vaquero-Diego, M.; Lopez-Vazquez, B. (2022). An opportunity for transformative learning in higher education through virtual teaching innovation. Journal of Management and Business Education, 5(3), 231-246. <https://doi.org/10.35564/jmbe.2022.0014>

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<http://www.nitoku.com/@journal.mbe/issues> ISSN: 2605-1044

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expressed their level of satisfaction with this project, reinforcing these skills through a project in the community.

KEYWORDS

transformative learning, virtual teaching, higher education, teaching innovation, service-learning.

RESUMEN

La pandemia mundial provocada por el COVID-19 ha afectado a la educación superior debido a la reducción de la asistencia a las aulas. Como consecuencia, las metodologías de enseñanza se han adaptado a clases híbridas donde el espacio virtual se ha convertido en el nuevo lugar de comunicación entre profesores y alumnos. Desde esta perspectiva, la enseñanza virtual se ha convertido en una oportunidad para la innovación docente en tiempos de COVID-19. Este artículo es un estudio de caso sobre la innovación docente aplicada a una asignatura de grado a través de la metodología Aprendizaje Transformativo, cuyo objetivo es fortalecer las habilidades de trabajo en equipo de los estudiantes a través de un proyecto de Aprendizaje-Servicio con niños con discapacidad. Una vez terminado el proyecto, los estudiantes expresaron su nivel de satisfacción con este proyecto, reforzando estas habilidades a través de un proyecto en la comunidad.

PALABRAS CLAVE

aprendizaje transformador, enseñanza virtual, educación superior, innovación docente, aprendizaje-servicio.

INTRODUCTION

In today's world, university teachers have the opportunity to use innovation to strengthen collaborations between institutions from different countries to train young students as global citizens. As a consequence of the pandemic, other challenges arose that involved the whole of society in the search for solutions to this new scenario. Within the educational field, the solutions can be classified as educational innovation projects or training units that have been affected by these projects through a rapid adaptation in hybrid classes (McMurtrie, 2020). Through the transformative learning methodology (Mezirow, 2008; 2018), educational innovation projects in higher education involve learning and transformation of students through the acquisition of skills and abilities that require involvement with others (Peters et al., 2020). These projects have aimed to develop and meet the curricular objectives included in the teaching guides, through innovation and through the use of technologies to carry out applied knowledge.

In this paper, we explain a university teaching innovation activity, where teaching is carried out following the transformative learning methodology and which has had to adapt to the new pandemic scenario, the isolation proposed by the health authorities in the second semester of the academic year 2021/2022 in ESIC University.

This methodology has been applied in the Teamworking subject for a strategic project of Service-Learning that has been aligned with the academic objectives and the disciplinary competencies. This project is developed within an official subject in an immersive experience and with an associated community center for disabled people that requires support from the students. Through a service identified to develop by degree students, the project consists of offering a service to people with disabilities and putting into practice the skills sought in the Teamworking subject. To do this, the services that can be provided to students are identified and, consequently, they develop skills through resources that offer tools to acquire a set of professional skills.

LITERATURE REVIEW

Educational innovation is understood as the process that generates improvements in the training objectives (Sein-EChaluce, et al., 2017), whose results are measurable and achievable for the students. To do this, different trends in educational innovation are used by university professors in order to guarantee learning through methodologies that reinforce skills, such as gamification, MOOCs and Service-Learning, among others (Fidalgo -White et al., 2019). As a consequence of the pandemic, teaching innovations have occurred in an e-learning system, developing an adaptation to the learning of professional and academic skills. We understand e-learning as the process of acquiring skills within a technological ecosystem (García-Holgado, García Peñalvo, 2019) supervised by teachers through activities that assure the training quality of students (García-Peñalvo, Seoane-Pardo, 2015). According to some authors, e-learning has some advantages for students, such as i) accessibility, ii) flexibility and iii) lifelong learning, among others (Dhawan, 2020).

Although this adaptation was carried out very quickly in higher education during the pandemic in 2020, new technologies allowed an efficient solution for virtual classes through the zoom platform (Yan, 2020). In this sense, technologies made work easier for teachers to combine different tools, such as videos and tutorials, among others, to engage students in their learning activities (Sandars et. al., 2020) and create a digital framework to capture the attention of students with different methods compared to a face-to-face classroom (Nicolas-Sans et al., 2022). All of this was developed based on the Transformative Learning methodology (Mezirow, 2018) that puts the student at the center of their learning (Kolb, 2014). As a consequence of the pandemic, these methodologies have been consolidated into a hybrid class system (McMurtrie, 2020) that has allowed teaching and reinforcing the learning of university students in a global context with new teaching challenges. As a consequence, the objective of implementing innovative methods in digital environments is to increase the engagement of the students in learning education (Bigné et. al. 2018).

In this sense, higher education also offers socio-ethical skills to students through projects with social impact. This means that education links the classroom to the community by showing social problems in the classroom (Peters et. al., 2020) and developing learning activities with a social purpose (Muñoz Rodríguez et. al. 2020).

Thus, the Service-Learning projects allow the development of skills and abilities by linking the theoretical content in university to community service and

emphasizing values, such as responsibility and solidarity (Billig, Jesse and Root, 2006; Morgan and Streb, 2003; Tapia, 2006). Service-Learning has a long tradition in the university environment and there are experiences in different environments with an impact on student learning. (Chiva-Bartoll, 2018; Rubio et al., 2013). Moreover, Service-Learning is a method of connecting learning with social engagement, which involves learning by doing a service to the community. In short, it is an educational proposal that combines learning and community service processes in a well-articulated project, in which the participants are trained by getting involved in the real needs of the environment in order to improve it (Aramburuzabala, 2015).

In addition, it should also be noted that the methodologies that promote learning with a social purpose have a direct connection with the sustainable development goals (SDGs) promoted by the United Nations. This institution links education with sustainability through i) the 17 SDGs, where this study has a link with SDG 4, Quality Education, and ii) through the Principles of Responsible Management Education (PRME) linked to responsible education. From this teaching perspective, the Service-Learning methodology can provide an excellent scenario to meet the objectives of the 2030 agenda combining training and commitment to the environment (CADEP, 2012).

As a consequence, sustainable development becomes a challenge for higher education (Muftahu, 2020) considering the global pandemic caused by COVID-19. From this perspective, the health crisis makes it possible to explore methodologies in higher education contributing to the SDGs from the classroom (Pan and Zhang, 2020; Pan and Pee, 2020) because it includes sustainability in the student curriculum (Farnell, 2020). Thus, students and teachers have the opportunity to make a real contribution to sustainable development in the classroom in each of the SDGs, both in promoting equality, reducing poverty and hunger, offering opportunities to fight against climate change or any other global challenge that allows projects to be developed in the classroom through experiential learning and based on social problems that affect the planet (WEF, 2022). All this, through practice, constitutes the main objective of students' learning.

Finally, this is the case of learning linked to the needs of society and giving the opportunity of providing solutions from a sustainable perspective (Dean et al., 2018). Consequently, the contribution of the university to sustainable development (SDG 4), also refers to teaching methods that promote learning to foster the social inclusion of people and groups at exclusion risk (WEF, 2022).

METHODOLOGY

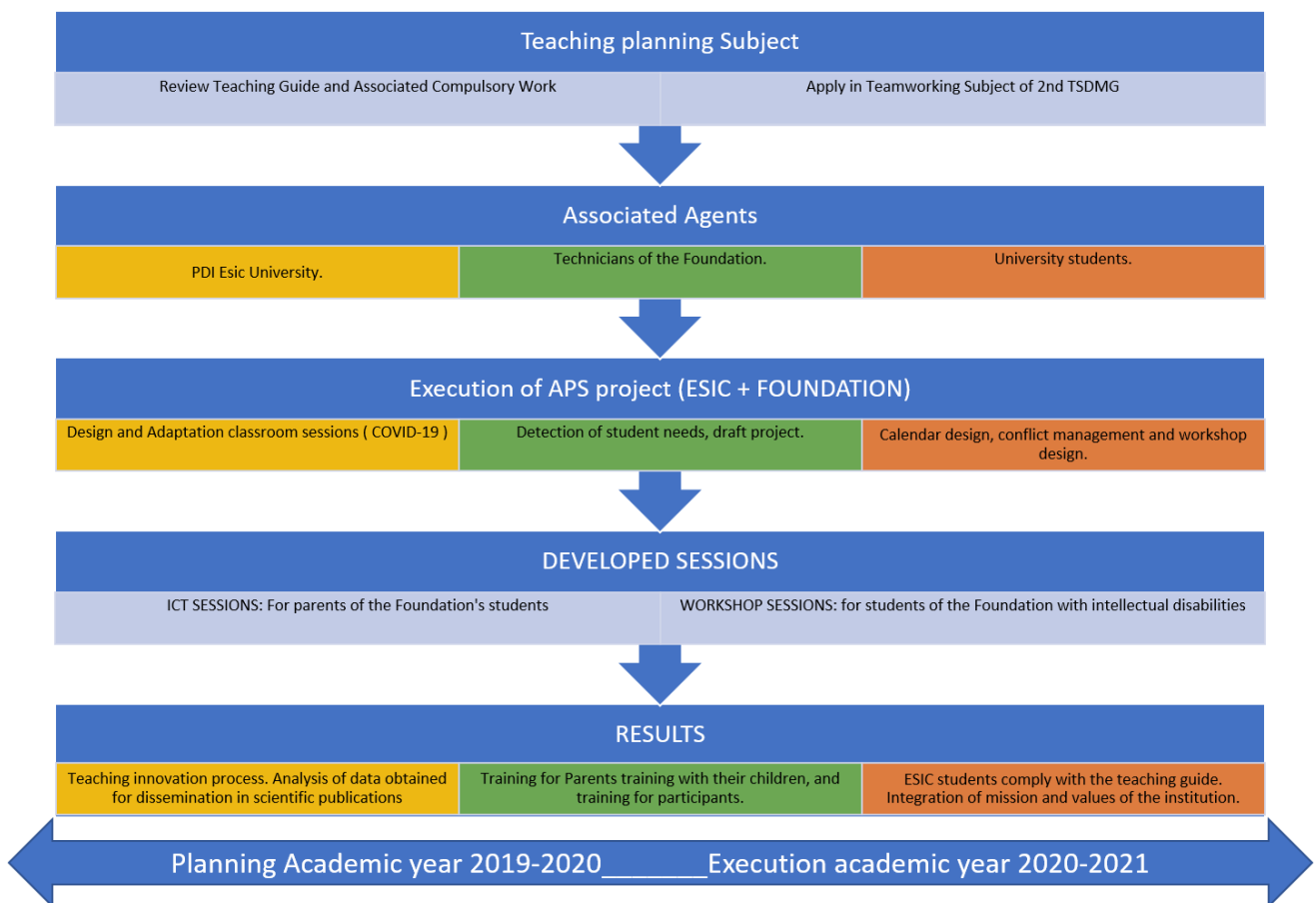
The case presented in this paper is a project of teacher innovation adapting the students' activities to the online platforms in times of COVID-19. In this new scenario, teachers have developed the contents of the subject, as well as the skills integrated into the academic guide. All this has been produced through a process of restructuring the activity to the hybrid class.

At the beginning of the course, the strategic Service-Learning project was formulated within the Teamworking subject in the Higher Degree in Marketing (TSDMG). This was planned with face-to-face classrooms within the academic calendar with service activities, which are versatile activities, both for the face-to-face format and the virtual format. This project was generated in the university

and it was based on collaboration between teachers and one external partner, in this case, the Fundación Instituto San José / Hermanos de San Juan de Dios, a reference center in the Community of Madrid in neurological rehabilitation and disability care.

As a consequence of the pandemic, the students and teachers followed lectures at home. However, the teaching practice continued after re-adaptation, also considering that the health crisis revealed problems, such as adaptation to isolation for optimal functioning of the teaching activity. For this, the subject was taken online through the Zoom platform, following the schedule established during synchronous sessions, where the development of knowledge and activities was carried out. In turn, the Service-Learning activities were carried out with the associated center through synchronous sessions through Zoom. Today, in the San Juan de Dios Hospital, there are people suffering from mental disabilities and through these synchronous meetings, different tasks have been carried out. A conceptual map shows the map in Figure 1 created by the teacher to promote collaboration between the University and the Hospital through the students' activities innovating and adapting to the online meetings via zoom.

Figure 1. Conceptual map teaching Innovation



It should be noted that Service-Learning activities served to develop the project by guiding students in their collaboration with young people with disabilities. In this sense, the planning of this project was carried out considering these aspects:

a) Service-Learning serves to promote integrated learning of knowledge, skills, attitudes and values, related to the learning objectives of the subject of study from which Teamworking is promoted in this case in the second year of the Higher Degree in Global Marketing (TSDMG).

b) The provision of a high-quality service to solve nearby social needs, in this case near the university where the students are enrolled.

c) Collaboration between students, teachers and staff of the Foundation, in this case.

d) A relationship is established between this service and the content specified in the academic guide and including the implementation of the content of the subject they are taking and applied to social organizations.

e) The active participation of the students who plan the project assuming appropriate roles and tasks to respond to the real need identified in this case.

f) The civic responsibility of students in the contribution they make to the community and the impact of their actions.

The performance by the university students was carried out from their social area, within the Residence for People with Disabilities and the Day Center for People with Intellectual and Physical Disabilities. The activities were divided into two areas, due to the needs that the Foundation indicated. These needs, on the one hand, were registered by the parents of the Foundation's students and another need came from the students with intellectual disabilities themselves, both caused by the pandemic situation and isolation.

The zoom sessions were organized as follows with ESIC University students of Teamworking classes for a semester with specific objectives in the activities aimed at the young participants and following this structure:

-During sessions 1 and 2 via zoom, the university students followed the instructions provided in a document (see Annex 1: Observation), where they compiled information about the participants. On the other side of the screen were the Foundation's participants and the technicians who accompanied them at all times in their schedule of activities and workshops.

-During sessions 3 and 4 via zoom and, once the participants' profiles had been prepared, the students of the subject organized online workshop sessions (previously they completed Annex 2: Workshop, which was delivered to the technicians of the Foundation). The workshops were developed over 20-30 minutes where they showed through their screens an educational experience, among others:

a) General culture workshops, where they entered a museum via zoom and walked through a city or carried out some type of immersion in museums and cultural centers.

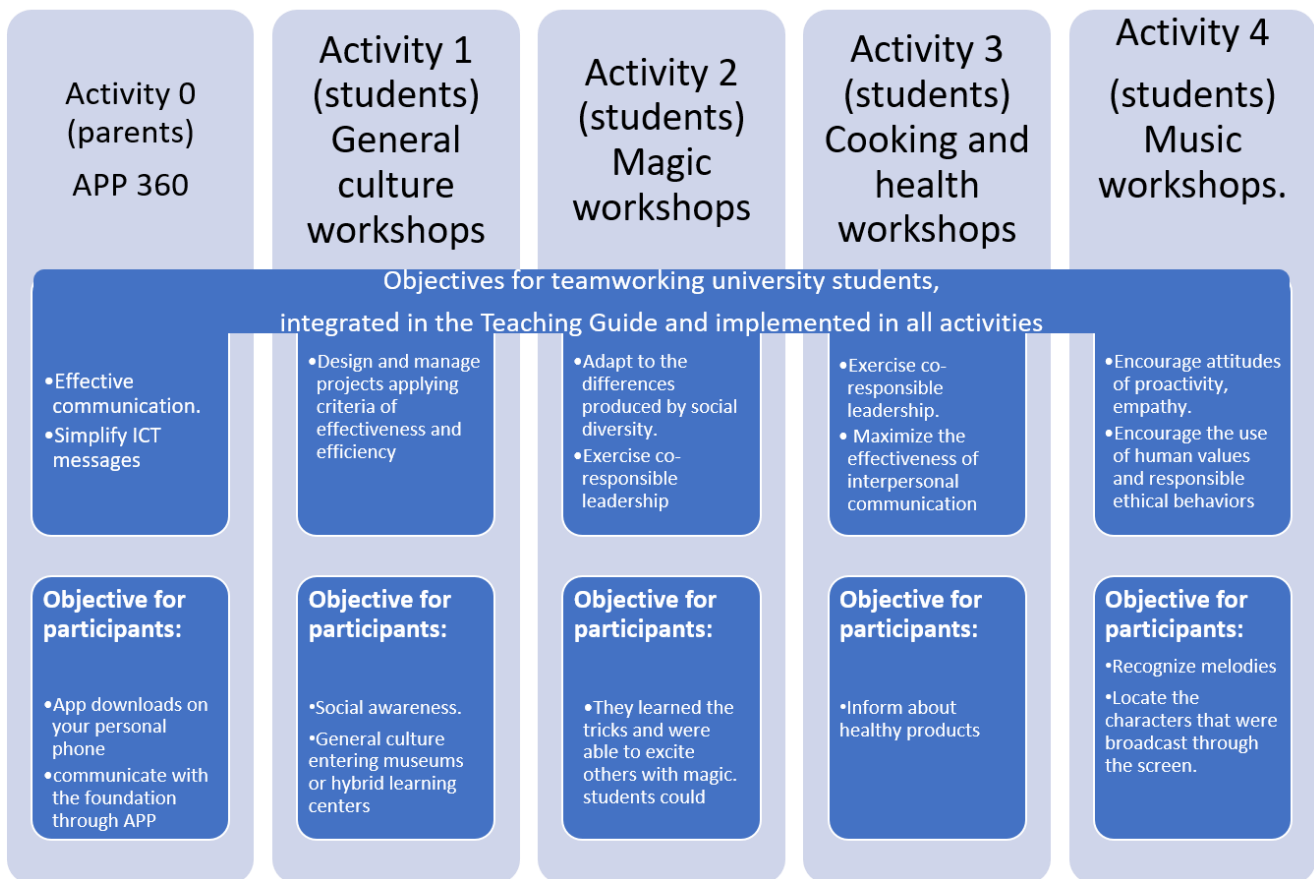
b) Magic workshops, where they learned tricks through the screen that they could replicate with basic elements that they had within their reach.

c) Cooking and health workshops, whose objective was to inform about healthy products and, through interaction with Kahoot, they established this knowledge and content.

d) Music workshops, where the students of the center recognized melodies and characters that were broadcast on the screen.

As a consequence, we can summarize the set of activities carried out as part of the Teamworking subject through this Service-Learning project summarized in the following Figure 2.

Figure 2. Activities and Objectives of ESIC University and San José Foundation Service-Learning project.



Through a data collection system of the activities proposed for each session, the teacher and technicians chose indicators to measure the impact of each activity proposed in the four planned sessions.

RESULTS

During the sessions, the objective was to cover the needs of the Foundation. On the one hand, the need of the parents of the members who be part or live in the Foundation. In this case, the need was pressing because they needed a training course to be able to communicate with their children who were in the Foundation. They have designed an app called 360, as a method of communication; however, parents and technicians did not know how to use it. Thus, the students also designed 4 sessions in which they were in charge of explaining the 360° computer program to the families of the students of the San Juan de Dios center. During the first two sessions, the parents and technicians have not attended the training with the university students because they had access problems. Once these problems were solved, during sessions 3 and 4,

the parents have attended the zoom sessions organized by the University students. Almost all parents and technicians have been able to download the 360 app and they did some communication tests with the Foundation. The results of all the activities are these:

1.The main result of this experience is that 70% of the parents have achieved the objective and after finishing the fourth session they managed to communicate with the Foundation, which was the specific need they shared with ESIC University. On the other hand, the second need was related to the development of workshops and learning activities and knowledge of the environment. University students conducted 4 sessions to encourage student learning through active participation.

The main results of the Service-Learning workshops with the Foundation are shown below:

2.The experience in the Museums, culture/geography workshop: considering the duration of the workshops, the Foundation's participants have been able to visit several museums, including the Science Museum in Valencia and the Prado Museum in Madrid, both have websites that give access to immersive experiences. They have also walked through world capitals through Google Earth, where the university students themselves have shown them their places of origin, from Buenos Aires (Argentina), Beijing (China), Cairo (Egypt), and New York (USA), among others. The Foundation's participants have been participatory by asking about these and the Foundation's technicians informed us that the participants who showed a lack of attention in previous experiences, in this case, were mostly interested and awaited the sessions with a positive attitude.

3.During the music sessions through the zoom session, students were asked to locate the performer in some situations and to continue the song in others. The Foundation's participants were very active and the technicians indicated that the stimulation through music caused a very receptive emotional state and they commented on the slight improvement they showed the day they had these online sessions.

4.The magic sessions had a double challenge; a first challenge where the university students showed off their magic and the Foundation's participants were excited and surprised. Magic through a screen made some people uninterested as it is not easy to attract attention. A second challenge was that the students could reproduce the magic, they made little tricks that were prepared for the next time. This activity reached fewer Foundation participants, one of the causes may be the difficulty involved.

5.Finally, the results obtained in the cooking workshop are linked to the students' learning. This course was, before the pandemic, prepared to cook and consume food; but, with the situation that arose, the university students designed sessions on food consumption, defining what was good and what was not using images and colours to determine it. The participants of the Foundation took part in this activity and the results were satisfactory.

As a global result, it is worth highlighting the fulfilment of the academic guide by the university students, since with this activity both cooperative work and time

management have been completed, put into practice by carrying out group activities at predetermined times, in sessions only 20 minutes long.

In the academic guide is made a description of the contents of the subject highlighting that it covers the field of teamwork as a work tool in the business field where students will acquire knowledge and skills in the professional field in today's world, taking into account the demands of society.

In relation to the learning objectives, the students at the end are able to: i) Identify and adapt to the differences produced by multiculturalism and social diversity. ii) Manage people and exercise co-responsible leadership. iii) Maximize the effectiveness of interpersonal communication. iv) Develop attitudes of proactivity, empathy, know-how and knowing how to be in all kinds of circumstances in personal and professional situations. v) Promote the use of human values and responsible ethical behaviour both with individuals and with the company and society as a whole. vi) Design and manage projects applying criteria of efficiency in global environments. vii) Carry out a diagnosis of the labour and social profile aimed at the creation of work teams, instilling the importance of assuming success in the students.

In relation to the competencies of this subject, the students acquired the following in the Teamworking subject:

Figure 3. Teamwork Subject Skills

COMPETENCIES	DESCRIPTION
CprD 5	Ability to lead people identifying and adapting to the differences produced by multiculturalism and social diversity and to lead in a responsible way.
CprE 4	Ability to know how to present, argument and defend ideas in different environments and with different publics maximizing the effectiveness of interpersonal communication.
CpeHA 1	Ability to perform a self-diagnosis of the own professional and personal profile at different levels and capabilities according to knowledge and experiences acquired.
CpeHA 2	Ability to develop spirit of quality, self-demand and excellence.
CpeHU 1	Ability to assume success and failure from a position of humility, with the spirit of sacrifice and the vocation of service.
CpeHU 2	Ability to develop know-doing and know-being attitudes in all kinds of personal and professional circumstances and situations.
CpeHU 3	Ability to focus and prevail critical attitude to reflect and generate coherent criteria.
CpeHU 4	Ability to enhance the spirit of a vocation for service, both in personal and professional fields.

When the experience finished, a test was carried out on university students to find out their level of satisfaction with this Service-Learning project. A total of 14 students answered the test showing their high level of personal satisfaction. Their opinion on the following question are attached here:

Question- Expose comments about the experience:

S1: "Experience that I would repeat and meet people like this is always very rewarding, learning different things from each person. The only thing that I would change about this experience was the way of meeting people online, I would have

liked to have done it face-to-face since the connection with people would have been much better and at the same time the activities more effective.”

S2: “Sometimes everything happened fast. We were interested in music and history. In general, we liked it.”

S3: “It was a fun, different and entertaining experience. Also being able to interact with each other.”

S4: “There was a bit of noise and it was hard for me to concentrate, but I really enjoyed the experience. I would repeat it again”.

S5: “Solidarity experience”.

S6: “The only downside I could put is the short duration of the volunteering. I would have liked it to have lasted a year and have taught them to use other types of applications or anything related to technology”.

S7: "The experience has been incredible and very rewarding."

S8: “Excellent experience”.

S9: “Personally, it helped me a lot, since sometimes we don't have time to volunteer or help others. ESIC provides it within a subject helping us to be human, better people”.

In short, the objective of covering the needs of the Foundation is fulfilled and the skills that university students developed are also reinforced, completing learning focused on "Learning by doing" and experimenting with different resources available for this purpose. Thus, Service-Learning represents an advance in educational innovation. Its application in a pandemic context has had a favorable effect on the Foundation's participants. Finally, students are human beings and social beings, so this experience of face-to-face learning would increase the connection between everyone and favour the application of this type of methodology with good results from the perspective of professional skills and emotions.

DISCUSSION AND CONCLUSIONS

The main objective of this paper is to verify how learning and service activities are part of academic learning to reinforce the students’ skills in the Teamworking subject. All of this is applied to a system called Transformative Learning (Mezirow, 2018), in order to implement educational innovation projects in COVID-19 time to guarantee students learning and engagement (Bigné et al., 2018) by supporting people in the community.

This methodology has been applied to a strategic Service-Learning project that has been aligned with the academic objectives and disciplinary competencies. This project is developed within an official subject in an immersive experience with an associated community center that requires support from the students.

The activities carried out allow verifying that the students have the capacity to implement activities with a social purpose (Peters et. al., 2020), such as the workshops they created to stimulate the learning of disabled people of this Foundation. In addition, it must be considered that these activities had to be adapted to an online teaching system, as a consequence of the limitations caused by COVID-19. Even so, the students used their creativity, organization, teamwork and communication skills, among other skills, to quickly adapt and carry out their workshops via zoom.

As a consequence, we can conclude that the pandemic has favoured teaching innovation experiences through Service-Learning projects with positive social impact and reinforcing the professional and academic skills of students. All this, in addition, contributes directly to SDG 4, quality education, following the Sustainable Development Goals promoted by the United Nations.

This Service-Learning experience applied in HE represents a contribution in the area of teaching methodologies to promote student learning and engagement (Bigné et al., 2018). All this, in a situation with a rapid adaptation to the online teaching system (Nicolas-Sans et al., 2022) as a result of the global pandemic. Therefore, this theoretical-practical research represents an example of the transformation of students (Mezirow, 2018) through experiences that connect them to the reality of disabled people living in a Foundation. They could apply their knowledge online by offering this service to the community. As a consequence, they could see the impact of learning in society.

The main implications of this study in higher education are several. On the one hand, this experience serves to share an experience where learning is based on supporting disabled people. This experience also has the ability to generate a higher impact on students because it requires greater involvement from students in virtual teaching compared to the face-to-face teaching methods. In turn, students have the opportunity to see the effect generated on others through specific activities. As a consequence, all of this allows the development of social skills based on other human values and community service, as part of learning in a subject whose purpose is to promote teamworking and other competences through practice helping others.

Finally, we can conclude that learning adapted to a virtual system, as explained in this paper, is a case of educational innovation with positive results since students have considered this Service-Learning experience in a significant way, as reflected in their comments once the experience is over. Although workshops have been designed, among other activities, which have been well received by the participants, however, the impact of these activities on the learning of disabled people has not been measured. This limitation can be solved in future experiences by following specific measurement indicators to determine the impact of these actions on the participants, as well as the impact on the level of learning and skills of the university students.

In future research, it can also be proposed that students contribute to the design of the activities to be carried out by reasoning what learning objectives they are going to achieve and explore with the participants, as well as the specific indicators that they are going to use in their measurement, beyond qualitative aspects, such as the global value of this experience. In this sense, results will be achieved over time modifying those aspects collected in the evaluation every academic year.

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ACKNOWLEDGMENTS

We would also like to thank the Fundación Instituto San José / Hermanos de San Juan de Dios, providing their team of technicians and access to their facilities to carry out the activities. Thanks to all the participants of the Foundation and also thanks to the University students for lending themselves to this methodology of Service-Learning. Thanks to our institution ESIC University for providing support to our Research Groups.

DECLARATION OF CONFLICTING INTERESTS

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

FUNDING

The authors received no financial support for the research, authorship, and/or publication of this article.

ANNEX 1: OBSERVATION RECORD

		ACTA DE OBSERVACIÓN  <small>HERMANOS DE SAN JUAN DE DIOS</small>	
N.º de reunión:	Áreas Implicadas: Grupo	Asunto: Observación	
Asistentes:			
Fecha: Click or tap to enter a date.	Comienzo:	Final:	

DOCUMENTO FINAL 800-1000 PALABRAS

1. Objetivos de la observación:

- a. Autodiagnóstico; como me enfrento a observar
- b. Observación de los otros
 - i. Visual
 - ii. escucha

Indicar los motivos y objetivos por los que habéis ido a realizar la fase de observación.

Acta de la sesión:

Toma nota de todos los momentos, antes, durante y después. Anota el número de participantes, sus palabras, acciones preguntas.

Conoce a los participantes, a los técnicos de aula y a tus compañeros

¿Qué has descubierto de ellos en la observación?

Impresiones y conclusión después de la observación.

Explicar vuestras propias impresiones y una conclusión sobre la sesión.

PRÓXIMA OBSERVACION			
Lugar	Asistentes	Fecha	Hora

ANNEX 2: WORKSHOP SERVICE-LEARNING



Equipo	Áreas Implicadas:	Asunto: TALLER
Asistentes:		
Fecha: Click or tap to enter a date.	Comienzo:	Final:

El taller: La duración del taller será de 30 MINUTOS, y la dividimos en tres momentos principales:

- Activa
- Objetivo:
- Cómo:

Mi rol dentro del grupo de trabajo.: Durante los siguientes minutos, les presentaremos que es lo que vamos a hacer

- Aprende
- Objetivo: aprendizaje

Acto seguido

- Los alumnos deberán
- Repartiremos los materiales

Objetivo: Repasar lo aprendido y validar que lo han aprendido de verdad

PRÓXIMA REUNIÓN			
Lugar	Asistentes	Fecha	Hora

Cite

Vaquero-Diego, M.; Lopez-Vazquez, B. (2022). An opportunity for transformative learning in higher education through virtual teaching innovation. *Journal of Management and Business Education*, 5(3), 231-246
<https://doi.org/10.35564/jmbe.2022.0014>
