

Evaluation of a SPOC for online teaching: the case of the #Dienlínea course of the International University of Andalusia

María Sánchez González
Área de Innovación/ Departamento de
Periodismo
Universidad Internacional de
Andalusia/ Universidad de Málaga
Málaga, España
<https://orcid.org/0000-0003-3053-0646>,
m.sanchez@unia.es

Ildefonso Martínez Marchena
Área de Innovación
Universidad Internacional de
Andalusia Málaga, España
i.martinez@unia.es

Alejandro Carrasco Muñoz
Vicerrectorado de Innovación Docente
y Digitalización/ Departamento de
Tecnología Electrónica
Universidad Internacional de
Andalusia/ Universidad de Sevilla
Sevilla, España
<https://orcid.org/0000-0001-9474-3929>,
a.carrasco@unia.es

Francisco José Ruiz Rey
Didáctica de la Matemática, de las
Ciencias Sociales y de las Ciencias
Experimentales
Universidad de Málaga
Málaga, España
<http://orcid.org/0000-0002-5064-6534>,
fruijrey@uma.es

Abstract—This paper presents the results of an innovative teaching training experience developed by a Spanish public university, the International University of Andalusia (UNIA), under the title "Training for innovative teaching of online programs" and in the format of a SPOC course. Focusing on the expectations and previous training needs, on the one hand, and on the results in terms of participants' perception, on the other, we analyze the results of two editions, developed between 2020 and 2021, in which more than 302 professionals linked to education and training have participated as students.

Keywords—teacher training, educational innovation, open online learning, university

I. INTRODUCTION

The changes that have taken place so far in the 21st century, no one is surprised by the demand requested by education professionals at all levels, as well as by society in general, for continuing education on the most innovative dimensions of teaching, especially innovative teaching with the use of information and communication technologies (from now on ICT), which allow distance and hybrid teaching under the premises of promoting active and meaningful learning of students and educational innovation. This demand for training increased exponentially with the emergence of the Covid-19 pandemic in early 2020, which strained and tested global education systems in an unprecedented situation, where 90% of the world's students saw their education interrupted in some way, as stated in the monograph of research proposed by UNICEF during the pandemic (Reuge, et al., 2021) [1]. A fact that occurred at all educational levels, especially at the university level (Karalis, & Raikou, 2020 [2]; Schildkamp, et al., 2020 [3]; Crue Intersectoral Working Group, 2020 [4]), on which we will focus the present work.

To cope with such supervening demands, universities and higher education institutions launched a multitude of emergency actions. Many of them shared their training resources, others created new resource portals and

communicated through different formats (video-conferences, webinars, infographics, etc.), and even today they continue to develop projects financed by European funds, such as the DigitalCompEdu project under the call issued by the Ministry BOE.12614, July 28, 2021, which brings together a large number of Spanish universities to consolidate this training gap in digital competence that aims to respond to the demands felt by teachers and also by students. These demands were followed by other studies on digital competencies such as the impact produced by the pandemic (Schildkamp, et al., 2020 [3]; Moreira-Teixeira and Zapata-Ros, 2020 [5]) worldwide and especially in the context of Latin America and the Caribbean (UNESCO-IESALC, 2020) [6], as well as by others that addressed the changes produced in other areas and dimensions such as the regulations enacted by the Ministry of Education in Spain (Area-Moreira, et al., 2021) [7].

This research focuses on one of the training projects launched within a Spanish university, the International University of Andalusia (UNIA), in the aforementioned context of pandemic. This is the SPOC format program (this is, a Small Private Online Course) entitled *Training for innovative teaching of online programs (#Dienlínea)*, of which two editions have been delivered so far between 2020 and 2021. The first edition of the program, delivered between September and December 2020 as part of the corresponding teacher training plan (Innovation Area, Vice-Rectorate for Teaching Innovation and Digitalization of the UNIA), was designed in response to the urgent training needs expressed by UNIA teachers themselves and other universities and other profiles linked to education and training to address the digitization and transition from face-to-face teaching to online teaching motivated by Covid-19.

The SPOC #Dienlínea consisted of several training blocks (13 in total), which addressed issues related to the design of online courses and resources, innovative teaching and learning models and methodologies, or tutoring and evaluation of

online students, among others. The basis of each block was video-content, given by experts in these subjects, accompanied by e-book-type materials prepared ad hoc for the SPOC, complementary resources and a questionnaire with questions that formed part of the evaluation. There was also a final block, oriented to the realization of a project on educational innovation, of practical application of what had been learned, whose completion and passing was also necessary to successfully pass the course and obtain the certificate of achievement. With a total teaching load equivalent to 7 ECTS (175 hours of student work), and a duration of 3 months of teaching, throughout the process the students were accompanied by a team of online facilitators, who in addition to answering questions about the contents of each block tutored and evaluated, using an e-rubric, the aforementioned final projects. This approach was continued along the same lines in the second edition, which took place between September and December 2021 (UNIA, s.d.) [8].

II. METHODOLOGY

The objective of the research presented here is to conduct and share an evaluation of this experience, which continues in 2022-23, based on the analysis of the data provided by these instruments in the two editions, as discussed below. Using a quantitative design with a descriptive approach, based on surveys addressed to the participants, data were collected both before and after their online training experience. In the pre-training phase, a questionnaire of expectations and motivations was provided through the virtual campus of the UNIA where the course was given, in order to assess, among other questions, the main reasons for having enrolled in the course, as well as their level of experience and previous knowledge. At the end of the course, an evaluation survey was sent to the participants, which included their perception of the program's methodology, training resources and teaching performance, among other aspects.

The quantitative research design of descriptive approach by means of surveys where two instruments were used, a first questionnaire of expectations and motives in the enrollment phase before the beginning of the SPOC course, and a second optional questionnaire after the program on the perceived experience.

The completion of both questionnaires, addressed to the entire student body (302 people adding both editions), was optional. Counting both editions, 239 responses were obtained for the initial questionnaire on expectations and training needs and 70 responses for the final evaluation questionnaire, which represents 79.13% and 23.17%, respectively, of the sample.

III. RESULTS

A. SPOC pre-course analysis: expectations and motivations

The sample, in terms of analysis of expectations and motivations was, as indicated, 239 participants (responses to the initial questionnaire) in the two courses, of which 136 participated in 2020 and 103 in 2021.

In terms of profiles, also according to the responses to the first questionnaire of expectations, the majority of students were university teachers 99 (41.42%), followed by a significant number of teachers of other levels 73 (30.54%), technicians in training and others 54 (22.59), and students 13 (5.4%). The geographical origin is mainly from Spain 207 (86.6%) and America 24 (10.04%).

Of the total, 209 (87.4%) participants stated that they had experience in online courses and 30 (12.5%) that they had not taken any program of this type; therefore, most of them had experience in online training. The UNIA website was the main element through which they had learned about the SPOC course and therefore accessed the learning experience in both years.

To analyze the data referring to expectations and motivations, a reliability analysis was carried out according to Cronbach's Alpha with a value of 0.705, considered an adequate value, and a factor analysis of the 7 items mentioned to analyze the possible existing factors, for which we first obtained the value of the KMO parameter. The value obtained is 0.695, considered adequate to perform the confirmatory factor analysis.

Among the main reasons for enrolling, the interest in learning about the subject of the course or the perception of its usefulness for professional development stand out (with averages above 4 out of 5 for both years, 20210 and 2021), followed by others such as the reputation of the technical/teaching team; previous participation in UNIA teacher training programs and the reputation of its training offer and its technical/teaching team; or the fact that the course is free (with averages close to 4 out of 5). To a lesser extent, the fact that other people recommended it to them appears (average slightly higher than 2 out of 5).

Analyzing the averages of the items according to the origin of the respondents, users from Spain (207), Europe (8), Latin America (24) and a single case from South Africa, no significant differences are observed in the averages according to the user profile, showing, once again, that the highest values are related to the interest in learning and the usefulness of the SPOC course for the professional future. These statements are confirmed when performing the one-factor ANOVA test, obtaining significance values greater than 0.05, which confirms that there are no significant differences in the means according to user profile.

B. SPOC post-course analysis: evaluations of the course received

According to the results of the survey provided after the training experience, 90% of the participants rate the SPOC course very positively overall, with responses between likert scales 4 and 5 in both years.

The evaluation of different aspects of the course is also very positive, and can be summarized as follows:

- The degree of satisfaction with the objectives and contents of the course are valued above 90% on likert scales 4 and 5.
- The methodology and design of the course (duration and distribution of contents/weekly teaching load) is valued in likert scales 4 and 5 above 85% in both years.
- The tutoring and dynamization of the course by the teachers is valued on likert scales 4 and 5 above 80% in both years.
- The evaluations of the teaching staff, academic managers and technical managers are valued at around 90% in both years on likert scales 4 and 5.
- Online resources (didactic guide, video guide, materials and resources, online activities and virtual

forums) are rated above 85% in both years on likert scales 4 and 5, with the exception of virtual forums (around 70%).

- -Videoconferences, social networks and rubrics (methodology used in the evaluation of the project) are rated very positively in both years on likert scales 4 and 5 (social networks being the least rated with less than 70%).
- And perhaps most relevantly, over 95% of the respondents stated that their level of knowledge after the training action is medium or advanced.

When asked if they would do a training activity with the UNIA again, the majority answered yes, 100% in 2020, 88.24% said yes and 11.7% said no in 2021. We believe that the level of demand and need in 2020 was more pressing due to the pandemic, and once the urgency had passed, the evaluations had some nuances but the differences between the two courses were not significant.

IV. CONCLUSIONS

With a high profile of participants in terms of experience through online training (87.4%) and only a small group (12.5%) with no experience in the subject, the responses report a need for further training and training in innovative methodologies to those already experienced.

Undoubtedly, the pandemic situation made it necessary to favor this training as a means and objective, but we can say that most of them have experience as students/teachers in receiving training in this format but not as teachers who teach online. Hence, even knowing, they want to improve and innovate in this field of teaching. As can be seen in the statistical analysis of the quantitative data and qualitative responses collected, we find two major reasons and expectations for choosing SPOC: the need for training in online teaching, on the one hand; and the need for training in methodological innovations for teaching, on the other.

ACKNOWLEDGMENT

This research has been carried out with the data available from the Innovation Area/ Vice-rectorate for Teaching Innovation and Digitization of the International University of Andalusia (UNIA) and as part of its policy of dissemination and transfer of results.

REFERENCES

- [1] N. Reuge, R. Jenkins, M. Brossard, B. Soobrayan, S. Mizunoya, J. Ackers, L. Jones, and W.G. Taulo (2021). "Education response to COVID 19 pandemic, a special issue proposed by UNICEF: Editorial review". *International Journal of Educational Development*, vol. 87, 102485. <https://doi.org/10.1016/j.ijedudev.2021.102485>
- [2] T. Karalis, and N. Raikou (2020). "Teaching at the times of COVID-19: Inferences and implications for higher education pedagogy". *International Journal of Academic Research in Business and Social Sciences*, vol. 10, n°5, pp. 479-493. <https://doi.org/10.6007/ijarbs/v10-i5/7219>
- [3] K. Schildkamp, I. Wopereis, M.K-D. Jong, A. Peet, and I. Hoetjes (2020). "Building blocks of instructor professional development for innovative ICT use during a pandemic." *Journal of Professional Capital and Community*, vol. 5, n° 3-4, pp. 281-293. <https://doi.org/10.1108/JPC-06-2020-0034>
- [4] Grupo de Trabajo Intersectorial Crue (2020). Informe sobre Procedimientos de Evaluación no Presencial. Estudio del Impacto de su Implantación en las Universidades españolas y recomendaciones. CRUE. <https://cutt.ly/cQK7J0l>
- [5] A. Moreira-Teixeira and M. Zapata-Ros (2020). "Presentación del número especial de RED Transición de la educación convencional a la educación y al aprendizaje en línea, como consecuencia del COVID19". *Revista de Educación a Distancia*, vol. 21, n° 65, pp. 1-8. <https://doi.org/10.6018/red.46104>
- [6] UNESCO-IESALC, (2020). COVID-19 y educación superior: De los efectos inmediatos al día después. IESALC. <http://www.iesalc.unesco.org/wp-content/uploads/2020/04/COVID-19-060420-ES-2.pdf>
- [7] M. Area-Moreira, A. Bethencourt-Aguilar, S. Martín-Gómez and M.B.S. Nicolás-Santos (2021). Análisis de las políticas de enseñanza universitaria en España en tiempos de Covid-19. La presencialidad adaptada. *Revista de Educación a Distancia (RED)*, 21(65). <https://doi.org/10.6018/red.450461>
- [8] UNIA (s.d.). Área de Innovación>Formación de Profesorado. <https://www.unia.es/es/innovacion/formacion-del-profesorado>.