12

Evaluation of the training programme: impact, satisfaction and perceived usefulness

Evaluación del programa de formación: impacto, satisfacción y utilidad percibida

Lina Morgado
https://orcid.org/0000-0002-4973-6727

Ana Afonso
https://orcid.org/0000-0001-6701-0922

Elizabeth Souza
https://orcid.org/0000-0003-0723-5729

Luísa Aires
Universidade Aberta, Portugal[1]
https://orcid.org/0000-0001-5649-276X

Abstract

This chapter describes the study on the satisfaction of participants in the NOOC courses of the ENID-teach[2] program implemented between 2022-2024, in 3 editions. The courses were developed and implemented by European teams of experts in various fields with the aim of training teachers at European universities. Based on its own pedagogical model and in line with MOOC philosophy courses, the program adopted the NOOC format: *Nano, Open, Online, Course* and a microlearning approach. The aim of this research is to assess satisfaction with the ENID-teach program and its resources. The methodological design involved the application of a questionnaire developed

1. The research team is from the R&D unit, the Laboratory of Distance Education and eLearning, Universidade Aberta, Portugal, funded by National Funds through the FCT, within the scope of the projects UIDB/04372/2020 and UIDP/04372/2020 - https://lead.uab.pt/en/lead

2. Contact of Portuguese Team: enidteach@uab.pt or Portuguese ENID-teach Group at EPALE: https://epale.ec.europa.eu/pt/user/169903.

for the purpose with closed questions based on a scale, and four open-ended questions. The data was processed using simple descriptive statistics and a content analysis of the open questions. The results show a high level of satisfaction (above 80%) in twenty four questions and in all dimensions, except for the perceived *Interaction/Communication*. This result may be explained and in connection with the perception of what a collaborative online course should be, which is not the case. We can conclude that the assessment of satisfaction with the NOOC is extremely positive, with most of the dimensions being evaluated above 80%, with the exception of two of them, which deserve further study with additional data.

Keywords: ENID-teach program, Higher Education Professors Training. NOOC quality, Satisfaction Evaluation.

Resumen

Este capítulo describe el estudio sobre la satisfacción de los participantes en los cursos NOOC del programa ENID-teach implementado entre 2022-2024, en 3 ediciones. Los cursos fueron desarrollados e implementados por equipos europeos de expertos en diversos campos con el objetivo de formar profesores en universidades europeas. Basado en un modelo pedagógico propio y en línea con los cursos de filosofía MOOC, el programa adoptó el formato NOOC: Nano, Open, Online, Course y un enfoque de microaprendizaje. El objetivo de esta investigación es evaluar la satisfacción con el programa ENID-teach y sus recursos. El diseño metodológico consistió en la aplicación de un cuestionario elaborado al efecto con preguntas cerradas basadas en una escala, y cuatro preguntas abiertas. Los datos se procesaron mediante estadística descriptiva simple y un análisis de contenido de las preguntas abiertas. Los resultados muestran un alto nivel de satisfacción (superior al 80%) en veinticuatro preguntas y en todas las dimensiones, excepto en la de Interacción/Comunicación percibida. Este resultado puede explicarse y en relación con la percepción de lo que debería ser un curso colaborativo en línea, que no es el caso. Podemos concluir que la evaluación de la satisfacción con el NOOC es extremadamente positiva, con la mayoría de las dimensiones evaluadas por encima del 80%, a excepción de dos de ellas, que merecen un estudio más profundo con datos adicionales.

Palabras clave: programa ENID-teach, formación del profesorado de enseñanza superior, calidad de los NOOC, evaluación de la satisfacción.

Introduction

ENID-Teach is a pedagogical design proposal aimed at university teachers, professors, trainers, and teacher educators. The major goal consists to help educators master D-Flexible Learning methodologies, apply microlearning techniques, and enhance their digital competence in digital pedagogies.

Aligned with four important educational strategies: the DiCompEdu - European Framework for the Digital Competence of Educators (Punie, Redecker (2017); the UNESCO ICT – Competency Framework for Teachers; the SDG - Sustainable Development Goals and finally, and finally, the OEP and OER - Open Education Practices and Resources (Inamorato dos Santos, Punie, Castaño-Muñoz (2016).

The NOOCs - *NANO Open, Massive and Online Courses* in flexible methodologies evaluated by the teachers are designed by five partner istitutions and are the following: NOOC 1. *Connected and critical Methodologies*; NOOC 2. *Collaborative and research Methodologies*; NOOC 3. *Active and gamified learning*; NOOC 4. *Inverted Methodologies* and NOOC 5. *Design of flexible learning digital programs*.

Study Objectives

The aim of this study was to evaluate the ENID Teach program, made up of 5 NOOCs developed specifically for the training of European higher education teachers according to their own pedagogical model, during its 3 iterations, which ran from 2023-2024.

The main objectives are: 1) to determine the level of satisfaction of university teachers who have attended the NOOCs in relation to Contents, methodology, technology; 2) to identify areas for improvement in the courses implemented in each iteration; 3) to contribute to the overall quality feedback of NOOC´s evaluation by participants at least, 80% positive.

Research Design

A mixed methods approach was used. Data was collected through a online questionnaire to faculty in all the NOOCs from the partner institutions. The quantitative and qualitative data were analyzed through simple descriptive statistics and content analysis of the open-ended responses.

A questionnaire was developed in five languages – English, French, Italian, Portuguese and Spanish - giving opportunity to participants response in their native language or in English. The questionnaire has several dimensions to be assessed by the participants attending the NOOCs and a total of thirty nine close multiple-choice questions employing a four-level Likert scale - Inadequate, To be improved, Suitable, and Excellent - and four open-ended questions. The tool proposed to answer the questionnaire was Google forms since it is accessible and free, probably for the majority of the NOOCs participants. It was considered that it is a very widespread and easy-to-answer format.

The questionnaire is comprised of fifteen (15) dimensions and 42 questions. The following dimensions were defined: 1) Demographics (five questions); 2) NOOCs Attendence (four questions); 3) Previous knowledge (one question); 4) Learning objectives (two questions); 5) Course Organization (four questions; 6) Resources (three questions); 7) Content (three questions; 8) Learning activities (three questions; 9) Interaction (three questions); 10) Assessment (three questions); 11) Support (one question; 12) General Experience (four questions); 14) Applicability (three questions); 15) Open questions (four questions).

The questionnaire is addressed to the teachers participating in the NOOCs, It is expected to take around 15 minutes to complete. Participation in this questionnaire is voluntary, ensuring anonymity and confidentiality of data, although the respondent can identify him/herself if he/she so wishes and with a informed consent. It is also guaranteed that the data collected will be used exclusively within the scope of this project. Responding to this questionnaire does not imply any losses or displacements and access was available via an open link until the end of each NOOC course.

Participants

The total of respondents of the questionnaire were 438 participants from the five NOOCs during the three iterations. They are distribute by each NOOC as follow: NOOC 1, from France with 72 responses; NOOC 2, from Italy, with 73 responses; NOOC 3, from Portugal, with126, NOOC 4 from Bulgary, with a total of 81 responses and NOOC 5 from Spain, with 86 contributions.

In terms of *age*, the respondents are distributed as follows: 27.9% are in the 45-54 age group, followed by the 35-44 age group with 26.3%. It is interesting to note that 25.8% of respondents were from the age group of those entering the profession.

With regard to *level of education*, the majority of participants have a doctorate (42.7%), followed by those with a master's degree (24.9%). In terms of *gender*, our respondents were mainly female (67.8%). With regard to *employability*, the majority of respondents are employed (61.9%), although there was a percentage of self-employment (17.6%).

When we asked for the *country of residence*, we got the following distribution: 38.1% lived in Spain, followed by 35.4% in Italy, 8.9% in Bulgaria, 7.1% from Portugal and 0.5% from France.

In order to get to know our respondents, we asked them a question about their *previous level of knowledge*, the majority of them were at a basic level (39.3%), followed by an intermediate level (33.3%), although 18% were in the No prior knowledge category. This item allows us to keep in mind the starting point of the teachers who have taken the NOOCs.

Results

We present the results for each dimension of the questionnaire, aggregating the level of satisfaction achieved in the 3 editions of the NOOCs over this period of time. We have grouped the categories of the scale so that we can distinguish the results between *inadequate*, *to be improved* and *the positive category* (with suitable and excellent). The average for each item has been calculated (Table 12.1).

NOOC´s Learning Objectives

With regard to the *Learning objectives*, 91,1% of the participants considered their *Appropriateness to each NOOC* e 90.6% classified them as presenting *Clarity.*

NOOC Organization

The dimension of *Course Organization* included the *Adequacy of the duration* (87%) *Timeline of the NOOC* (89, 3%), *Organization of the NOOC* (81, 5%) and *Structure of Course Space* (75,8%). This last question is may be related to the organization of the course on the platform achieving a rating below the rest.

Resources

One of the relevant dimension is about *Resources* because is mandatory the implementation of interactive and descriptive resources (OERs) defined in the pedagogical model of the ENID-teach programme (Ruben et al. 2022). In this respect, both the *Learning Guide* and the *Resources Quality*, the participants rated 85,8 % e 76,6% respectively. However, participants are less satisfied with *Resources Interactivity*, rating it slightly below but nevertheless positive.

Contents

Another key aspect of the evaluation related to is about the *Contents* dimension. The results are very good and are distributed as follows: *Coherence content* (93,4%), *Contents Scientific rigour* (91,6%), *Relevance of Contents* (83,8%).

Methodologies (pedagogical)

Several dimensions were related to *Methodologies: Activities, Interaction, and Assessment* covering various questions as mentioned above.

Thus, with regard to the *Learning activities*, the *Complexity of the activities* (87,4 %), the *Experience of the Activities* (84,9 %), and

the Activities proposed (83,8 %) obtained a very good evaluation from the participants, and therefore a high degree of satisfaction.

The *Interaction* dimension was the one that obtained the lowest results in terms of the degree of satisfaction in the NOOCs. This was followed by *Interaction with the Platform* (64,6%), *Collaboration between Participants* (60,7%) and *Interaction/Communication* between participants (64,4%). These figures could perhaps be explained by the fact that the participants perceived it to be a collaborative course and not so much self-learning. That's why they rated their level of satisfaction in this way, as it didn't correspond to their perspective.

The Evaluation dimension was assessed with the question on the Evaluation Method, the Clarity of the Evaluation Criteria, and also the Certification of the NOOCs.

In general, the teachers who attended the NOOCs were satisfied with the results, with the following percentages respectively: 82,9% for the chosen method, and the clarity of the defined criteria (83,6%). With regard to *Certification*, there was a consensus of high satisfaction (85,4%). This is interesting because, despite the diversity of the NOOCs and their teaching options, they all used automatic quizzes.

Support

One dimension that saw a slight decrease in satisfaction, but still a very positive one, was *Support*, with a question about the support of the facilitation team that reached 79 %. This indicator may be related to the perception that it would be a course with a high teaching presence, which is not the case.

Learning Experience

One of the most important aspects for the coordinators of each NOOC in the ENID-Teach program was the *learning experience* provided to the teachers. Knowing that the prior knowledge of each NOOC is very diverse, as well as the levels of teaching experience, knowing the level of satisfaction of the experience was very important, enabling the transformation of teaching practices.

Thus, in this regard, it was concluded that: teachers were highly satisfied with the *Awareness of innovation* provided by NOOCs

for their educational practices (90,9%) being one of the aspects valued above 90%. This was followed by the *Educational Context proposed* (89.35), and the appreciation of the *Learning Experience* as a whole with 86.1% of the responses. Finally, respondents considered the *Investment needed to complete the NOOC* to be excellent, i.e. very adequate (84,5%).

Applicability

Finally, when asked about the applicability of their learning, i.e. the transfer to their pedagogical and institutional reality, the satisfaction results were excellent: Both the Perception of the Applicability of the learning undertaken and the *Usefulness of the skills* developed were valued at 87,2%. It is important to point out that in addition to the competences of each NOOC, the digital competences to be developed were transversal to all of them. On the other hand, they also considered that the NOOCs confirmed their *Initial Expectations* (84,9%).

Table 12.1 Results in the Questionnaire

Dimension	Question	%
NOOC Learning Objetives	2. Appropriateness of learning objectives	91,2
	3. Clarity NOOC´s learning objectives	90,6
Course Organization	4. Adequacy of the duration	87,0
	7.Timeline of the NOOC	89,3
	5. Structure of Course Space	75,8
	6. Organization of the NOOC	81,5
Resources	8. Learning Guide Quality	85,8
	9. Resources Quality	85,6
	10. Resources Interactivity	76,6
Contents	11. Coherence content	93,4
	12. Relevance of Content	83,8
	13. Scientific rigour of Content	91,6
Learning Activities	14. Learning activities proposed	83,8
	15. Activities Experience	84,9
	16. Complexity of activities	87,4

Dimension	Question	%
Interaction	17.Interaction/Communication	64,4
	18. Collaboration participants	60,7
	19. Interaction with Platform	64,6
Assessment	20. Assessment method	82,9
	21. Clarity assessment criteria	83,6
	22. NOOC Certification	85,4
Support	25. Support of the facilitator team	79,0
Learning Experience	23. Educational context proposed	89,3
	24. Awareness of innovation	90,9
	26. Learning experience	86,1
	27. Investment required complete NOOC	84,5
Applicability	28. Applicability of learning	87,2
	29. Meeting initial expectation	84,9
	30. Usefulness of skills	87,2

Some other items came close to the established target (80%), but there is still room for improvement. The *Structure of the Course Space* and *Resource interactivity* both scored an impressive 75,8% and 76,6% respectively. The NOOC conceptors and instructional designers teams should address three other items relating to *Communication*, as the satisfaction level fell below 70%, as Table 12.1 clearly shows.

Open Ended- Questions

In order to qualify and clarify the responses assigned to the items regarding the satisfaction of the NOOCs, the responses obtained in the five open-ended questions of the questionnaire were analyzed. Below are word clouds presented to summarize the main themes of the analyzed responses, as well as the examples of the participants declarations about the NOOCs. The analyze comprise Main Strengths and the Main Weaknesses (table 12.2).

Table 12.2. Main Strengths and Main Weaknesses

Main strengths	Word cloud Main strengths
Quality of learning activities and course organization. Appreciation of multimedia content and connections offered. Possibility of distance learning. Richness of multimedia content and available resources. Specificity and descriptive simplicity of the course. Presence of subtitles and material organization. Quality of content and activities. Topics covered and brevity of lessons. Attention to program schedule.	
Main weaknesses	**Word cloud Main weaknesses**
Slow website performance. Lack of clarity and engagement. Lack of immediate peer interaction. Inadequate platform design and speed. Accessibility issues for visually impaired users. Lack of clarity in platform navigation and communication Forum and platform access issues. Translator malfunction and lack of suitability for visually impaired users. Lack of participant interaction and collaboration. Slow loading times and web design issues.	

In addition to the previously raised issues about missing aspects and potential improvements in the NOOCs, the final comments from participants highlighted some important nuances. Furthermore, there was an additional emphasis on the perceived need for interaction among participants, that are consistent with the results from the close questions. These observations indicate specific aspects that may benefit from organizers' attention to enhance the overall participant experience in the NOOCs.

Conclusions

The overall analysis of the questionnaire responses indicated high levels of satisfaction with various aspects of the NOOCs with some areas that could be improved, in particular interaction with participants and the usability of the platform. In addition, the final comments underlined the importance of addressing specific concerns, highlighting areas that organizers should pay attention to in order to further improve the NOOC experience.

The results show a high level of satisfaction (above 80%) in twenty four (24) of the questions and in all dimensions, except for the perceived Interaction/Communication. But that may have a connection with the perception of what a collaborative online course should be, which is not the case with this one, revealing a very positive experience. We can conclude that the assessment of satisfaction with the NOOC is extremely positive, with most of the dimensions being above 80%, with the exception of two of them, which deserve further study with additional data. Some aspectst could be improved, in particular interaction with participants and the usability of the platform. In addition, the final comments underlined the importance of addressing specific concerns, highlighting areas that organizers should pay attention to in order to further improve the NOOC experience in the future.

Acknowledgments

The authors would like to thank to the Portuguese researchers Filipe Penicheiro and Antonieta Rocha for supporting the implementation of this study.

References

D-flexible teaching. (2022, December 16). *Media and Learning Association*. https://media-and-learning.eu/type/featured-articles/d-flexible-teaching/

Enid-Teach (2022). https://www.enidteach.eu/

Frau-Meigs, D. (2025). *Guide to Good Practices in Flexible Digital Pedagogies*, Savoir Devenir.

Gómez, R., Méndez, I., Lavernia, K., Hueso, J., Cantillo, C., Regina, S., Santoveña, S. (2022). *Didactic support guide for the development of NOOCs*, ENID-teach, UNED.

Inamorato dos Santos, A., Punie, Y., Castaño-Muñoz, J. (2016). *Opening up Education: a Support Framework for Higher Education Institutions*. JRC Science for Policy Report, EUR27938EN; doi:10.279.1/293408

NOOC 1 (2024). *Connected and Critical Methodologies*, France, ECO platform:. https://www.enidteach.eu/courses/connected-and-critical-methodologies

NOOC 2 (2024). *Collaborative and Research Methodologies*, Italy, ECO platform. https://www.enidteach.eu/courses/collaborative-and-research-methodologies

NOOC 3 (2024). *Active and Gamified Learning*, Portugal, ECO platform: https://www.enidteach.eu/courses/nooc-3-active-and-gamified-learning

NOOC 4 (2024). *Inverted Methodologies*, Bulgaria, ECO platform: https://www.enidteach.eu/courses/nooc-4-inverted-methodologies

NOOC 5 (2024). *Designing Flexible Learning E-Programs*, Spain, ECO platform: https://www.enidteach.eu/courses/nooc-5-flexible-learning

Pereira, A., Mendes, A. Q., Morgado, L., Amante, L. Bidarra, J. (2008). *Universidade Aberta's pedagogical model for distance education: a university for the future*, Universidade Abert, Lisbon, http://hdl.handle.net/10400.2/2388

Punie, Y., Redecker, C., (2017). *European Framework for the Digital Competence of Educators: DigCompEdu*, EUR 28775 EN, Publications Office of the European Union, Luxembourg, doi:10.2760/178382.

UNESCO (2011). *UNESCO ICT Competency Framework for Teachers*, Paris.

Conclusions

Sonia Santoveña-Casal
Universidad Nacional de Educación a Distancia

This book analyses the effectiveness of microlearning and flexible digital methodologies in the training of university teachers in Europe. Throughout its chapters, it examines both the achievements and the challenges identified in the implementation of NOOCs (Nano Open Online Courses) within the ENID-Teach project.

One of the main results has been the consolidation of a wide participation network, with 827 teachers enrolled in the training courses, of which 578 belong to universities in the European Union, more than 100 to other educational levels within the EU and 60 come from countries outside Europe (chapter 1). In total, 3,044 people have participated in the courses, which reflects a growing interest in the adoption of digital methodologies in higher education.

From a methodological perspective, NOOCs have been well received for their structure, content and applicability, which confirms the interest of university teachers in integrating innovative strategies into their teaching practice. In this sense, it is worth noting that participants especially valued the clarity and organisation of the course, as well as the applicability of the content in their teaching (chapter 3). However, the need to reinforce the interaction between participants and the presence of instructors during the training process has been identified, which would allow for greater appropriation of the content and a more collaborative learning experience.

The flexibility and accessibility of the courses have been key aspects, as they have allowed teachers to organise their study time according to their needs. This element has been essential