OpenDCO – Open Data City Officer Project No.: 022-1-CY01-KA220-HED-000089196 Erasmus+ Strategic Partnerships Key Action 2



WP2 - T2.3 EVALUATION OF TOOLS

Development of the Pedagogical Educational Approach







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1. Document Metadata

Document Title: Intermediate Report of the Work Package WP2 (OpenDCO Development of Pedagogical Educational Approach).

Keywords: Competencies; self-assessment tool; learning journeys; learning goals.

Abstract: The purpose of this document is to describe the conduction of the tasks developed in WP2 related to the development of the self-assessment tool that identifies learning gaps in OpenDCO (Open Data City Officer) competencies and determines individual learning experiences and traits, detailing all the activities developed, the applied methodology and the description of the results.





1.1. Document information

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1.2. Document Change History

Version	Who	When	Action	Description
0.1	Victor Barros	06/06/2023	Create	Create an Intermediate Report of the WP2 (OpenDCO Educational Strategy and Approach).
0.2	Leticia Cunico	12/06/2023	Review	Some updates
0.3	Victor Barros	16/06/2022	Draft Version	Report Updated after feedback from the reviewer
0.4	Theodor	26/06/2023	Under Review	Report Updated after feedback from partners
0.5	Kyriakos E. Georgiou	27/06/2023	Under Review	Report Updated after feedback from partners
1.0	Victor	28/06/2023	Final Version	Report Updated
2.0	Victor Barros, Gonçalo Regadas	1/11/2024	Final Version	Report Updated





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2. Introduction

The OPENDCO Project aims to create and strengthen a professional profile focused on open data in smart cities at the European level. The project is to develop a systematic curriculum to address all aspects of an Open Data City Officer (OpenDCO). This curriculum covers various competencies essential for success in the realm of open data, including strategic thinking, long-term planning, decision-making, transparency promotion, and data dissemination.

The purpose of the WP2 is the development of the pedagogical educational approach for the OpenDCO project, aiming to enhance the skills of professionals engaged in the use and management of open data in cities, ensuring effective and individually aligned learning outcomes, as well as benefiting the municipalities.

In this regard, WP2 focuses on the development of a pedagogical educational approach for the OpenDCO project. To achieve this, two specific objectives were identified, as follows:

 Develop a self-assessment tool to evaluate the current competencies of OpenDCO professionals (knowledge, skills, and attitudes) and identify learning goals to enhance their competencies.

The purpose of this tool is to provide professionals with feedback on their level of knowledge, learning preferences, and experience in open data strategies and city management while recommending improvements. This tool will be directly linked to the OpenDCO curriculum and Training Kit, suggesting learning journeys tailored to individual needs.

2) Create a tool for designing personalized learning journeys, aligned with specific city needs and individual competence levels identified by the self-assessment tool.

The objective of this tool is to design personalized learning journeys that allow defining learning objectives, target skill levels, required training resources, and learning experiences that best suit the professional's circumstances. This tool also includes the evaluation of success in achieving the established learning goals, milestones of progress, and demonstration exercises that support their achievement. To fulfill the objectives of WP2, the following tasks have been outlined:

- Development of the self-assessment tool
- Development of a tool for designing personalized learning journeys
- Evaluation of the tools
- Organization of a multiplier event
- Publication in a conference/journal

For each of these tasks, a set of activities has been developed along with a schedule for their completion. The table below presents the activities and their corresponding timeline.

ID	Task	Start	End
T2.1	Development of the self-assessment tool	12/2022	05/2023
T2.2	Tool to design tailored learning journeys	12/2022	10/2023
T2.3	Evaluation of tools	01/2023	10/2023

Table 1. WP2 Activity Schedule (in project proposal).





T2.4	Organization of a multiplier event	10/2023
T2.5	Publication to a conference/journal	02/2024

The target participants for the developed tools include decision-makers, policymakers, municipal associations, and professionals involved in aspects of open data for smart cities. The tools will benefit European local governments, associations, and entities interested in innovation and urban development.

It is important to highlight that WP2 is an integral part of a series of WPs designed to accomplish the OpenDCO project. As such, the outcomes of this WP have a direct impact on the other WPs within the project. The diagram below illustrates the interconnection between WP2 and the other WPs of the OpenDCO project.



Figure 1. The diagram illustrates the interrelationship among the various WPs of the OpenDCO Project.

The following sections describe the implementation of WP2 and each of the activities (Table 1). As this is an intermediate report, the activities are based on the delivery date of May 2023.

It is worth noting that UMINHO (University of Minho) leads WP2 and oversees all its tasks. However, it should be emphasized that the partner organizations involved in the OpenDCO Project have been actively involved and collaborated in all the development tasks of WP2.





3. Evaluation of tools (T2.3)

This task focused on gathering feedback to assess the appropriateness and quality of the developed tools. The evaluation process aimed to ensure that the right competencies were being learned in the proper sequence, that the learning environment and journeys were effectively configured, and that suitable teaching approaches were employed.

The evaluation focused on examining the accuracy and comprehensibility of content presentations, as well as the effectiveness of systems and tools across various technical end-user environments.

The main aspects evaluated included:

- Verifying whether the correct competencies were being learned in the appropriate order.
- Evaluating the meaningful configuration of the learning environment and journeys, ensuring they employed suitable teaching approaches.
- Examining the accuracy and clarity of content presentations and assessments.
- Verifying the precision of the assessment tool, aiming for a success rate above 90%.
- Measuring learners' satisfaction with the proposed learning journeys, with a satisfaction target above 90%.

The University of Minho developed a Satisfaction Survey to collect feedback and thoroughly assess these points. This comprehensive evaluation process aimed to continuously enhance the quality and effectiveness of the OpenDCO tools, ensuring the highest level of learner satisfaction and success.

The satisfaction survey conducted by the University of Minho yielded positive results, indicating the success of the OpenDCO tools. Some of the key findings include:

- Accuracy rate: The evaluation of the teaching tools showed over 90% accuracy in matching the competencies taught and the assessments performed. This demonstrates that the tools were effective in correctly evaluating users' learning.
- User satisfaction: Over 92% of learners reported being satisfied or very satisfied with the proposed learning journeys, exceeding the initial target of 90%. This result reinforces the effectiveness of the pedagogical approaches used and the meaningful configuration of the learning environments.
- **Content comprehension**: 95% of participants considered the content to be clearly and understandably presented, indicating that the educational materials and tool interfaces are accessible and appropriate for the target audience.
- Effectiveness of the learning environment: Learners highlighted the effective setup of the learning environment, with 89% agreeing that the environment positively contributed to the competency acquisition process, closely approaching the established target.

These results indicate an overall very positive reception of the developed tools, with feedback contributing to continuous adjustments and improvements in the teaching process and learner experience.



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ANNEX A. LIST OF REFERENCES

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ANNEX B. ASSESSMENT ITERATION TO THE FINAL VERSION OF THE OPENDCO COMPETENCIES

A. OpenDCO Competencies by FernUniversitãt in Hagen (1st draft proposal)



Figure 2. OldOpenDCO Compentencies (older version) proposed by the FernUniversitãt in Hagen

B. OpenDCO Competencies by University of Minho (1st draft proposal)



C. OpenDCO Competences (1st proposal)

UMINHO presented a draft document summarizing the potentially relevant competencies discussed during the KickOff Meeting (14 Feb 23)



D. OpenDCO Competences (2nd proposal)

Based on partners' contributions, UMINHO presented a draft document summarizing the potentially relevant competencies with detailed descriptions for each competence during the monthly meeting (14 Mar 23)

















1. **27** Apr **23**: Based on the partners' contributions, UMINHO presented a second consolidated draft.





2. **11 May 2023**: Based on partners' contributions, UMINHO presented the final draft with consolidated information.

















