

Open Virtual Mobility

O6 - A2.3 MOOC Evaluation and peer-review

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Imprint

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This paper is to discuss and describe the concept of Open VM MOOC. This document is produced as part of Outcome 6 “OER, MOOC and Pilots ”and aims at designing VM OER and the VM MOOC with a series of different themes and activities both for higher education students and teachers, by means of innovative design methods such as the “MOOC Design Canvas”, the “Crowd Creation” and “Open Learning through Design”.

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Executive summary

This paper describes the process through which MOOCs were peer-assessed internal and external partner institutions. The process was managed by Roma Tre University with the supportive collaboration of all the partner institutions involved in the project. Each partner participated both in the design and assessment phase. In this way, the OpenVM MOOC was produced and assessed through a co-construction and collaborative process.

What are the objectives of this paper?

The objectives of this paper are to describe a method to ensure the quality, by exploiting the value of the European partnership, a MOOC aimed at developing skills necessary to be involved in Virtual Mobillites. This methodology could be applied also in other similar contexts.

Who is this paper for?

1. Technicians interested in using MOOCs in Open Virtual Mobility
2. Pedagogues and didacticians interested in designing MOOCs for their own Open Virtual Mobility experience
3. Researchers interested in discussing and presenting currently existing challenges in the field of MOOCs in Open Education and Open Virtual Mobility

What topics are addressed in this paper?

MOOCs, Virtual Mobility, MOOC quality, Open MOOC.

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1. Aims and Scope

The main aims of this document are: 1. describing the process through which the OpenVM MOOC was peer-assessed 2. sharing good practices related to the implementation of Virtual Mobility (VM) that partners have been developing throughout the project.

2. Background and rationale (State of the Art)

The aim of the Open VM MOOC is to help educators and students developing a defined set of VM skills and applying them to Virtual Mobility programs, actions and activities in various academic disciplines (Yuan & Powell, 2013). Like any successful course, the MOOC requires careful planning and continuous revision (Daradoumis, Bassi, Xhafa, & Caballé, 2013). This is the reason why it was necessary to define strategies to provide an Open VM experience. The MOOC Canvas (Alario-Hoyos, Pérez-Sanagustín, Delgado-Kloos, 2013) was adopted to support the design, and to promote discussions between the different project' partners involved in the creation of a MOOC. The equipment, platform, human and intellectual resources were defined before the beginning of the project whilst part of the design decisions (especially in terms of objective and competences, learning contents and assessment activities) have been negotiated in progress among the output leader and the partners.

In line with the features proposed by Bates (2015), the OpenVM MOOC was conceived in conformity with the xMOOC definition, since we decided to include the following features:

1. a large number of participants, facilities for the storing and on demand streaming of digital materials, automated assessment procedures and student performance tracking;
2. computer-marked assignments after which students receive immediate computerised feedback. These tests are used both for formative assessment and to provide a badge or certificate after the MOOC successful outcome. Most of the assignments are based on multiple-choice and computer-marked questions. In addition, peer-assessment tasks were adopted for competences' assessment. Students were randomly organised into small groups in order to peer assess e-portfolios contents;
3. supporting materials, such as slide shows, supplementary audio files, URLs to other resources, online articles and video lectures can be downloaded by participants and they will have Creative CC License;
4. moderation is directed to all the participants rather than to individuals. Participants are expected to moderate each other's comments or questions;
5. badges or certificates are used to acknowledge the successful completion of a course, based on a final computer-marked assessment.

Eight areas have been identified (Output 1) as main contents for the OpenVM MOOC: 1. Intercultural Skills; 2. Collaborative learning; 3. Autonomy-driven learning; 4. Networked Learning; 5. Media and digital literacy; 6. Active self-regulated learning; 7. Open mindedness; 8. Virtual Mobility Knowledge.

For each area, a miniMOOC was created.

Three levels are then proposed for each miniMOOCs:

- **foundation level:** focused on knowledge acquisition;
- **intermediate level:** focused on knowledge application in a collaborative learning environment;
- **advanced level:** focused on self-reflection and meta-reflection;

Each miniMOOC has a pre-assessment activity: participants are required to fill in a quiz and, according to the score they obtain, they will be directed to the foundation level, intermediate level or advanced level. Each combination between the level and the miniMOOC is defined a subMOOC. Thus, the OpenVM MOOC is composed by 24 subMOOC, 8 miniMOOCs for 3 levels (Figure 1). Each subMOOC requires 80 minutes to be completed. Each subMOOC has different forms of assessment (Output 4) and tasks. In the foundation level and in the intermediate level there are mainly quizzes (e.g. multiple choices, true or false and drag and drop exercises), whilst in the advanced level there are also e-portfolio and peer-assessment activities, based on the Tune Models of Peer Assessment described by Piech and others (2013). In the intermediate level, there are also collaborative learning activities, supported by the use of the Matching tool, an algorithmic solution for building learning groups (Output 3).

Everyone can participate anytime in the foundation level. Since the foundation level is self-paced, learners can obtain an OpenVM Badge at any time by completing all the activities at this level course. OERs and quizzes at intermediate and advanced levels are also always available. However, in order to obtain OpenVM Badges at intermediate and advanced levels, a group of learners is needed to complete group-based activities. For this reason, we specified specific time-frames for participating in the MOOCs intermediate and advanced levels.

The first window started on the 16th of March 2020 and lasted until the 20th of April 2020. The second window started on the 20th of April 2020 and lasted until the 25th of May 2020. All the schedule were presented within each subMOOC on the learning hub <https://hub.openvirtualmobility.eu/>

At the end of each subMOOC, participants obtain a badge that certifies the skills acquired in that specific subMOOC (Output 5).

All the miniMOOCs contain approximately 9 Open Educational Resources (3 for the foundation level, 3 for the intermediate level and 3 for the advanced level). In the OpenVM MOOC, the study material that participants could read, listen to, download and re-use for their personal purposes are considered OERs. OERs include slide shows, supplementary audio files, URLs to other resources, online articles and video lectures. Three main macro-indicators have been identified for the OERs

Evaluation (Poce, Agrusti & Re 2015), to assess the inclusion of the OERs in the Open VM MOOC: 1 Quality 2. Appropriateness and 3. Technical aspects. After creating an OERs assessment grid based on the three main macro-indicators, the project partners were required to provide OERs in different formats and languages, based on the skills content defined in the Intellectual Output 1.

The pedagogical approaches that guide the OpenVM MOOC design are collaborative and social learning (Andriessen, Baker, & Suthers, 2013), reflective practices (Schön, 2017) and self-regulated learning (Zimmerman, 2013).

The OpenVM MOOC is integrated into a Virtual Mobility Learning HUB (Output 2) that provides a Personal Learning Environment.

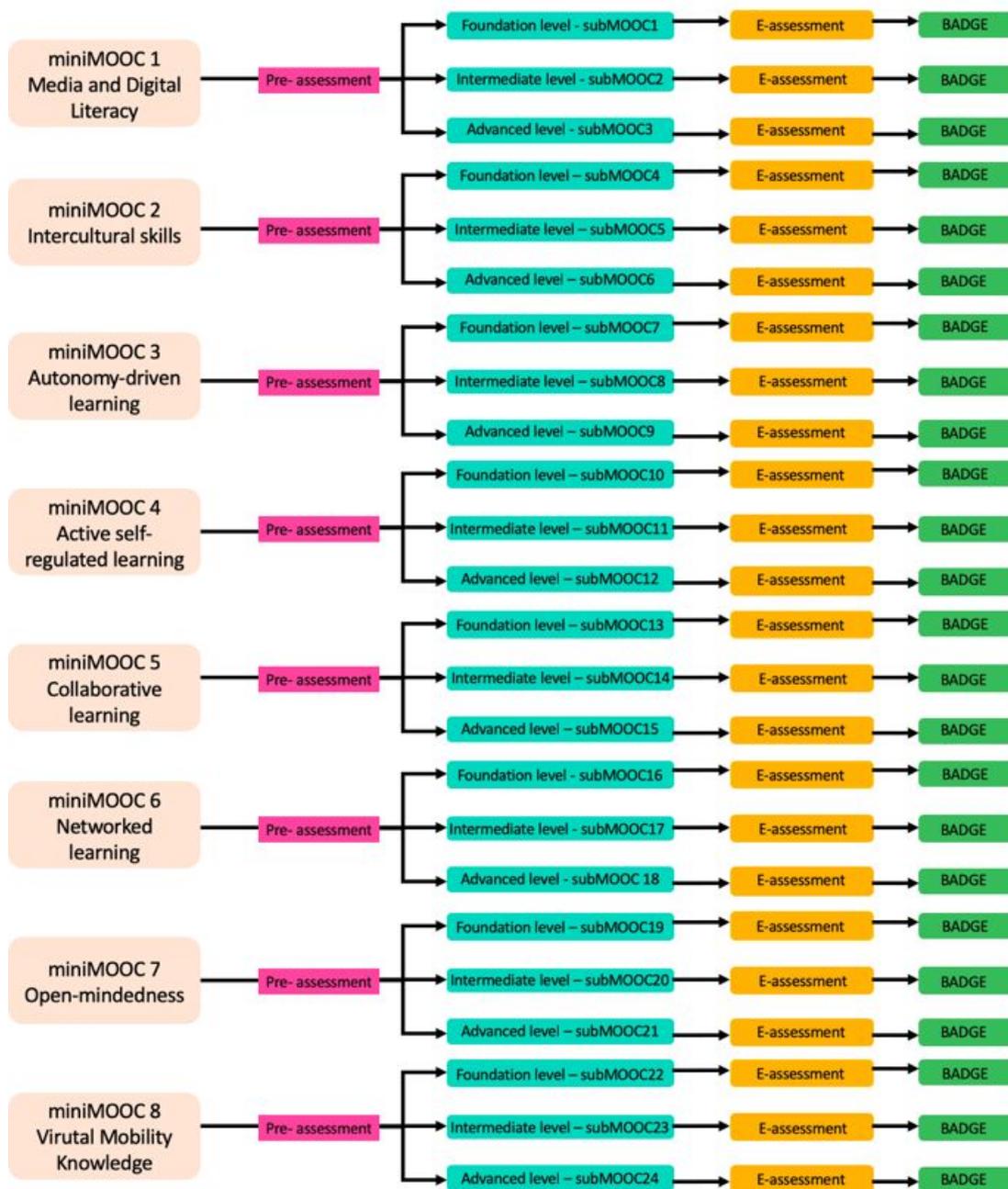


Figure 1 The OpenVM MOOC structure

3. Methodology

Roma Tre University is responsible for the Intellectual Output 6 of the OpenVM project, that includes organizing the process of OERs and MOOC design and assessment.

Designing, assessing and re-designing: a circular approach

In the previous document “O6 - A2 MOOC Delivery & Integration into VM Learning HUB” the MOOC design process and the preliminary results of the peer-assessment were described.

The four phases carried out from October 2018 to September 2019 were the following (for a detailed description of the 4 phases look at the document O6 - A2 MOOC Delivery & Integration into VM Learning HUB

<https://www.openvirtualmobility.eu/uncategorized/2870-mooc-delivery-integration-into-vm-learning-hub/>):

Phase 1: Finding and assessing materials (OERs) to be included in the MOOC (October 2018 - February 2019);

Phase 2. A design thinking workshop carried out in Heerlen (February 2019);

Phase 3. Finalising the miniMOOCs, badges and e-assessment design (March 2019 - June 2019)

Phase 4. The MOOC improvement working group (July 2019 - September 2019)

Based on the results of the MOOC improvement working group, aimed at developing and improving the quality of the MOOCs, 7 implementations have been carried out by the O6 team based on the analysis of the weaknesses identified by the project partners (for a detailed description of the implementations carried out based on the results of the preliminary peer-assessment, look at the document O6 - A2 MOOC Delivery & Integration into VM Learning HUB

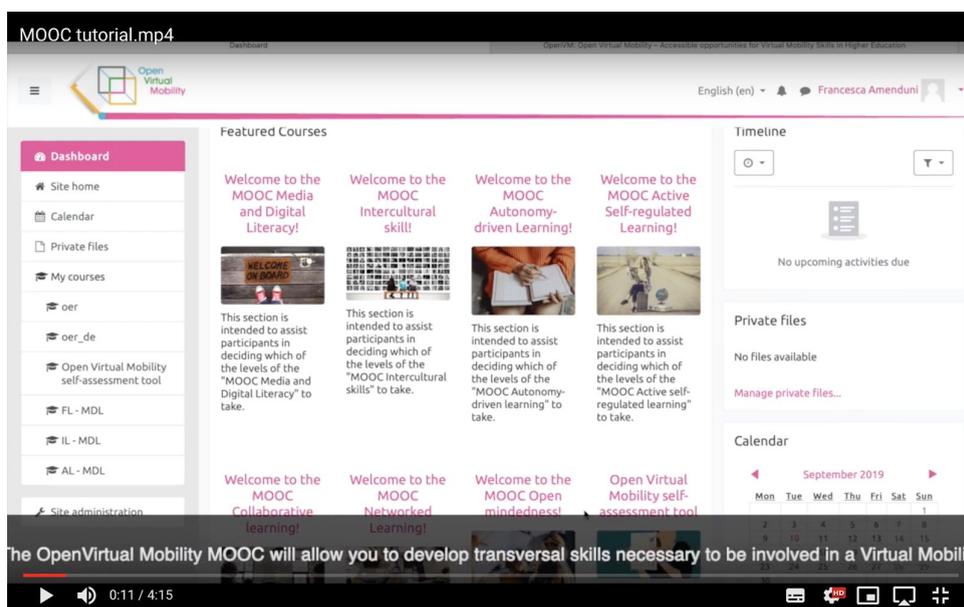
<https://www.openvirtualmobility.eu/uncategorized/2870-mooc-delivery-integration-into-vm-learning-hub/>):

- diagrams in the Welcome Page of each miniMOOC;
- a course completion bar named “My course status”;
- color tabs to highlight both learning objectives and the number and kinds of OERs materials that users find within each level;
- The number of questions and the maximum score was inserted in the description of each quiz;
- features that ensure users to get a badge only if users effectively compete all the required activities.

- shorter and splitted quizzes within each subMOOC;
- a block above the badge with instructions regarding how to get previous and next level was inserted.
- the homepage of each miniMOOC specify whether the MOOC was more teacher or student oriented (Figure 6).

In addition to the all described solutions, a tutorial was prepared by the Roma Tre Team:

https://drive.google.com/open?id=156S_DW3zjoLgluk-8QPrE_ROgVMINMII



From September 2019 to June 2020, qualitative feedback have been collected by partners and external teachers who introduced the MOOCs in their courses during the first and second pilot phase cycle.

Hereby comments are summarized, based on the experiences of teachers from different partner institutions (both internal and external) who introduced the OpenVM MOOCs in their university courses. More specifically the three institutions involved are:

- Beuth University (Germany). Role: OpenVM Project Leader;
- University of the Balearic Islands (Spain). Role: OpenVM Project Partner;
- University of Maribor (Slovenia). Role: external to the OpenVM partnership.

4 Results

Comments related to the MOOC peer-assessment were organized and presented in three macro-areas:

1. E-assessment: the e-assessment was further classified into two areas which are a. quizzes b. e-portfolio and peer-assessment;
2. Learning Instructions and contents: this area was further classified into three components: a. content b. accessibility c. guidance;
3. Platform: which refers to the technical features of the learning hub.

4.1 E-assessment

In the OpenVM MOOC, e-assessment is both composed by quizzes (especially for foundation and intermediate levels) and by e-portfolio and peer-assessment activities (only in the advanced level).

Regarding the quizzes, some teachers reported that they were too easy to complete (see the extracts 1 and 2).

E1: *“Quizzes are **quite intuitive**: one could answer them by their own experience without really haven’t checked the materials really deeply”* (UIB, internal partner institution);

E2: *“Quizzes are **too generous**, should be more specific to the learning resources topics (and content)”* (Beuth, internal partner institution);

On the other side, other teachers reported that quizzes supported students in deepening their knowledge and self-assess their skills (see the extracts 3 and 4)

E3: *“By solving the quizzes, students **deepened their knowledge**, got to know the characteristics and differences between collaborative and cooperative (modern form of learning) leadership and learning.”* (University of Maribor, external partner institution)

E4: *“With the quiz students **found and improved their skills**”* (University of Maribor, external partner institution)

Moving on the e-portfolio and peer-assessment activity, teachers reported both positive and negative aspects of this kind of e-assessment. More specifically, the time constraints are considered a weaknesses, as shown in the extract 5:

E5 *“Students told me they like the e-portfolio activity and sharing/discussing with other students in forum but they are annoyed by the **time constraints** caused by group formation activity. This limits the independent/autonomous learning of students as they cannot be flexible in their planning and they have to rely on other students which is hard in MOOC settings”*; (Beuth, internal partner institution)

4.2 Learning instructions and contents

OpenVM MOOC contents were generally positive assessed and teachers reported that students especially appreciated contents presented in forms of videos (see extracts 6 and 7)

E6: “*Contents are **interesting***” (UIB, internal partner institution);

E7: “*The topics are interestingly presented via **video** and it is easier to remember the things that are interesting for the students*” (University of Maribor, external partner institution)

Some teachers also reported the impact of the OpenVM MOOC contents’ on their students learning and skills, such as team-working skills (extract 8)

E8: “*This form of work is interesting because students deepen their general knowledge and learn a lot of information that will be of great use in **team-work***” (University of Maribor, external partner institution).

Regarding the instructions, both positive and negative comments have been reported.

Problems related to the instructions could be classified into two kinds:

- *accessibility*: instructions are presented into the MOOCs but students do not find them easily;
- *learning guidance*: instructions are too general and students would require more guidance;

Regarding *accessibility*, both positive and negative aspects were detected.

In the previous phase, a block above the badge with instructions regarding how to get previous and next level was inserted was introduced (for a detailed description, look at the document O6 - A2 MOOC Delivery & Integration into VM Learning HUB

<https://www.openvirtualmobility.eu/uncategorized/2870-mooc-delivery-integration-into-vm-learning-hub/>).

A teacher reported that this kind of information was easily identified by the students (Extract 9):

E9: “*Information **at the right side of the screen** is really useful*” (UIB, internal partner institution);

In the previous phase, also color tabs were introduced aimed at highlighting learning objectives.

According to one teacher, this implementation was not easily identified by his students (Extract 10):

E10: “*Learning Objectives haven't been recognized even though they are in a colored box. I could imagine that they are scrolled down, so a standalone page with only the objectives and an additional motivational text with an image of an imaginary teacher could help, or a video.*” (Beuth, internal partner institution)

Regarding the issue of the *learning guidance*, one teacher suggested some solutions that could be adopted to provide students with more guidance (Extracts 11 and 12):

E11: “*Students suggested someone to "hold on", e.g. a "Guiding teacher"/avatar*” (Beuth, internal partner institution)

E12: “*Instructions for some contents were not seen or not there, especially mentioned for the*

intermediate level. Something like "take notes from the website content" or "ask yourself what are the three essentials of the video" were missed and thus not done (only passive reading, watching)." (Beuth, internal partner institution)

Comments presented in the Extract 12 were taken into account to improve the instructions in the OpenVM MOOCs.

4.3 The platform

Some elements of the platform were not positively assessed, as it was shown in the Extracts 13 and 14.

Extract 13: *"Navigation in MOOC is unclear (arrows, next buttons are too small)"* (UIB, internal partner institution)

Extract 14: *"I liked the format of the work, except for the transparency of the site because I had a hard time finding myself."* (University of Maribor, external partner institution).

5. Conclusion

Like any successful course, the MOOC requires careful planning and continuous revision (Daradoumis, Bassi, Xhafa, & Caballé, 2013). In the first part of this project we defined the MOOC design, as summarised in figure 1 of this paper. After that, we organized the collaborative work around the MOOC building through four main phases: 1. Finding and assessing materials (OERs) to be included in the MOOC; 2. A design thinking workshop carried out in Heerlen; 3. Finalising the miniMOOCs, badges and e-assessment design 4. the MOOC improvement working group. From the last phase, 7 main problems were identified regarding the MOOC and the Roma Tre team implemented a solution for each of them. In addition, a tutorial was produced in order to support orientation within the MOOC. Further evaluation of the MOOC and its features were carried out during the pilot phase of the project.

Qualitative feedback have been collected from three partner institutions who introduced the MOOCs in their university courses: Beuth University (Germany), University of the Balearic Islands (Spain) and University of Maribor (Slovenia).

The results of peer-assessment are summarized in the table 1.

We did not retrieve any negative comments, but only suggestions (indicated in the table with the yellow color) to further improve the quality of the MOOCs.

The only external institution involved in the peer-assessment activity expressed generally positive comments, especially regarding the quizzes and the contents.

All the indications from partners were taken into account to further improve the quality of the MOOCs. More specifically, it was decided to eliminate the "time constraints" of the intermediate

and the advanced level by changing the way to access to the group-based activities. Therefore, we recommend integrating the intermediate and advanced levels into teaching activities, e. g. university courses, seminars, vocational training and so on.

The results presented in this paper should be read together with the results described in the paper “06.A3” final in which the perspective of the MOOC users is presented in details.

		UIB (internal)	Beuth (internal)	Maribor (external)
E-assessment	Quiz	✓	✓	✓
	E-portfolio and peer assessment		✓ ✓	
Learning content and instructions	Contents	✓		✓
	Accessibility	✓	✓	
	Guidance		✓	
Platform		✓		✓

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