Open Virtual Mobility
Output 6 - OER, MOOC and Pilots
Final Report

Output 6	
Partner information	
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1. What were the aims in the application?

The OpenVM OERs (O6.A1) and MOOCs (O6.A2) were aimed at helping Higher Education (HE) teachers and students to develop their VM skills and apply them to Virtual and Blended Mobility programs, actions and activities in various contexts. The OpenVM Pilot phase (O6.A3) was aimed at validating the MOOCs design and quality.

Output 6 (O6) was based on Open Learning and other Open Educational Practices as tool to enhance Virtual Mobility (VM) Skills in HE. Partners identified, assessed and collaboratively designed VM OERs and the VM MOOC, following innovative design method such as the MOOC Design Canvas (Alario-Hoyos, Pérez Sanagustín, Cormier, & Delgado Kloos, 2014).

In order to guarantee the quality of the OpenVM OERs and MOOCs, careful planning and continuous revision was required. In O6, different strategies to collect feedback from educators and learners who participated in the MOOCs were developed. O6 was accomplished in several steps: (a) designing the concept of VM MOOC with diverse activities to foster both self-directed and collaborative learning, (b) defining and designing the course content using existing and producing new OERs, (c) developing teaching and evaluation methods and tools, (c) testing the approach. Piloting was a key element for the validation, mainstreaming and ensuring the sustainability of the project outcomes. The OpenVM pilot phase allowed us to enhance user experience throughout the project based on the principles of the Design Based Research. Pilot also helped in assessing the feasibility and adequacy of the implementation plan and developing solutions to ensure the project sustainability. Lastly, the results of the pilot phase may convince higher education organisations, educators and stakeholders in general that the VM model is effective for opening up education and enhancing internalisation in higher education.

1. Identifying, designing and assessing OERs to be integrated in the OpenVM MOOCs (O6.A1);
2. Designing, assessing and validating an OpenVM MOOC aimed at developing HE educators and students VM skills (O6.A2);
3. Promoting the reliability and reputation of the OpenVM MOOC through the dissemination of the pilot phase results (O6.A3);

2. How did we achieve the aims?

Different approaches were combined to ensure: 1. the quality of the OpenVM MOOC and OpenVM OERs 2. the implementation of the OpenVM MOOC.

At a more general level, quality assurance of the OpenVM MOOC was addressed through an iterative cycle of design, creation, implementation, and assessment, following the Design Based Research model – DBR (Barab & Squire, 2004). Specific strategies to ensure OERs and MOOC quality have been developed.

O6-A1 Virtual Mobility OER

During the process of assessing OpenVM OERs's quality, elements of the traditional peer-review were combined with social rating (Camilleri, Ehlers, & Pawlowski, 2014). Three main macro-indicators were identified for OERs evaluation: 1 Quality 2. Appropriateness and 3. Technical aspects. By combining the answers on different sub-indicators, it was possible to provide a general overall evaluation of the OER (0 = not usable; 1 = limited; 2 = good; 3= superior). Project partners were required to provide OERs in different formats and partners' languages. OERs had to be connected to the 8 necessary skills to be engaged effectively in VM, as defined in the Output 1. OERs in English were eligible to be adopted as contents for the Open Virtual Mobility MOOC. OERs in partners' language were included in the Open Virtual Mobility OERs repository. Only OERs that obtained a "good" or "superior" overall assessment were included into the miniMOOCs.

O6-A2 Virtual Mobility MOOC

The 72 OERs for the OpenVM MOOC were integrated in the 8 miniMOOCs together with e-assessment (quizzes and e-portfolio), learning instructions and a gamified design. Each miniMOOC was organized in three levels: foundation (focused on knowledge acquisition), intermediate (focused on knowledge application in a collaborative learning environment) and advanced levels (focused on self-reflection and meta-reflection). The OpenVM MOOC was composed by a total of 24 subMOOCs. Each MOOC was co-designed by two partners institution and implemented by the Roma Tre Team on the Learning Hub. Two phases of peer-evaluation have been carried out, aimed at fixing technical programs within the MOOC and improve the MOOC quality.

O6-A3 Pilots in all participating Universities

The quality of the OpenVM MOOC was ensured and assessed through a process of peer-review with internal and external partners in combination with the pilot-phase organized in 3 iterations: 1. Pre-pilot phase (Dec.18 - Jan.19) 2. First pilot-phase cycle (Sept.19 - Jan.20) 3. Second-pilot phase cycle (Feb. 20 - Jun.20). In the pre-pilot only one of the 8 miniMOOC was tested named "Media and Digital Literacy" MOOC. The results of the pre-pilot phase were used to produce guidelines (Poce et al.,

2020) adopted to design the 7 remaining miniMOOCs: 1. Intercultural Skills; 2. Collaborative learning; 3. Autonomy-driven learning; 4. Networked Learning; 5. Active self-regulated learning; 6. Open-mindedness; 7. Virtual Mobility Knowledge.

All the 8 miniMOOCs were tested both for the first and second pilot phase cycles from the beginning of October 2019 to June 2020. To ensure a broader participation, partners were asked to test one or more miniMOOC within their university course.

> **Workflow and methodology**
> - Developing a rubric for ensuring OERs quality (O6.A1);
> - Integrating the best OERs in 8 miniMOOCs together with learning instructions, e-assessement in a gamified concept (O6.A2);
> - Peer-assess the MOOCs (O6.A2);
> - Piloting, improving and re-piloting the miniMOOCs (O6.A3)

3. What are the key outcomes?

O6-A1 Virtual Mobility OER

- We managed to develop two kinds of rubric for the OERs assessment: an extended rubric (described in Poce, Amenduni, Re & De Medio, 2019), and an Open Educational Resource toolkit https://hub.openvirtualmobility.eu/course/view.php?id=49;
- Ultimately, we managed to create, assess and/or select a total of 434 OERs for the OpenVM OERs repository (available at this link https://www.openvirtualmobility.eu/resource-subject-area/autonomy-driven-learning/) and 72 OERs for the MOOC (available in the 8 miniMOOCs https://hub.openvirtualmobility.eu/my/), with a total of 506 OERs. AUNEGE provided 36 OERs (60% French and 39% English and 1% in other language) Roma Tre provided 161 OERs (50% in Italian and 50% in English); LEUVEN provided 23 OERs (30% Dutch and 70% in English); OUNL provided 6 OERs (30% Dutch and 70% in English); Beuth provided 199 OERs (100% in German); UiB provided 9 OERs (10% Spanish and 90% in English).

O6-A2 Virtual Mobility MOOC

8 OpenVM miniMOOCs have been developed, tested and implemented from December 2018 until the end of the projects. OpenVM MOOC is composed by 24 subMOOC, 8 miniMOOCs for 3 levels. Each subMOOC requires approximately 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. 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). 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.

- Media and Digital Literacy https://hub.openvirtualmobility.eu/course/view.php?id=15
- Intercultural Skills https://hub.openvirtualmobility.eu/course/view.php?id=21
- Open-mindedness https://hub.openvirtualmobility.eu/course/view.php?id=41
- Autonomy-Driven Learning https://hub.openvirtualmobility.eu/course/view.php?id=29
- Collaborative Learning https://hub.openvirtualmobility.eu/course/view.php?id=25
- Active Self-Regulated Learning https://hub.openvirtualmobility.eu/course/view.php?id=37
- Networked Learning https://hub.openvirtualmobility.eu/course/view.php?id=33
- Open Education and Virtual Mobility https://hub.openvirtualmobility.eu/course/index.php?categoryid=18;

O6-A3 Pilots in all participating Universities

- We received a total of 1392 answers to the pilot assessment questionnaire (Roma Tre University = 282; Beuth = 121; Timișoara = 618; UIB = 100; AUNEGE = 16; OUNL = 16; External = 249);
- Research results have been disseminated through two peer-review journal publications (Poce, Amenduni, Re, De Medio, 2020; Poce, 2020); Participants expressed a positive evaluation of different MOOCs features: 1. Badges; 2. Technical features; 3. Gamification. Three out of eight MOOCs obtained the highest evaluation: 1. Intercultural skills; 2. Autonomy-driven learning; 3. Open-mindedness. Foundation level receive higher scores for all the variables taken into account, whilst average scores of the intermediate and advanced level are almost comparable.
- In all the levels, the most appreciated feature is "multimedia contents (e.g. pictures and videos);
- The topic most mentioned by OpenVM MOOC users in their open-ended answers was "helpful to improve study strategy";

KPI1 Number of VM OERs created in the project = 506 (planned in the application: 450)
KPI7 Number of respondents in data collection activities = 1392 (planned in the application: 300, 4 x more than planned in the application!)

4. Where are the results documented?

O6-A1 Virtual Mobility OER

Output published on the website

Guidelines for designing OERs in Virtual Mobility. The document describes the results of a literature review about Open Educational Resources (OERs) and how OERs are used and conceptualized in the frame of OpenVM Erasmus + Project. https://www.openvirtualmobility.eu/outputs/1726-o6-virtual-mobility-oers-mooc/

OER production and quality assurance. In the document, the case-study focusing on quality assurance in the OpenVM project is presented. Results of the OERs peer-review activity and future directions to ensure OpenVM OERs and MOOC quality are presented. https://www.openvirtualmobility.eu/outputs/2863-oers-production-and-quality-assurance/

Article published in peer-review journals

Poce, A., Amenduni, F., Re, M. R., & De Medio, C. (2019). Establishing a MOOC Quality Assurance Framework--A Case Study. *Open Praxis*, *11*(4), 451-460.

O6-A2 Virtual Mobility MOOC

Output published on the website

MOOC Delivery & Integration into VM Learning HUB. The main aims of this document are: 1. describing the process through which the OpenVM MOOC was designed, realised and implemented into the OpenVM MOOC; 2. sharing good practices related to the implementation of Virtual Mobility (VM) that partners have been developing throughout the project. Guidelines for designing and choosing OERs for our VM MOOC, whose design principles we followed for the MOOC design and delivery. The guidelines are based on previous experiences of VM and literature analysis and they can be useful for designing future VM experiences.

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

O6-A3 Pilots in all participating Universities

Output published on the website

Preparation and implementation of the pilot-phase. The goal of the this paper is twofold: firstly, we describe the way we assess and ensure quality for OERs and MOOCs, during the pilot phase of the Erasmus + project Open Virtual Mobility; secondly, we will present the design of our pilot-phase project organized in 3 iterations: 1. Pre-pilot phase 2. First pilot-phase cycle 3. Second-pilot phase cycle. Preliminary results of the first two iterations are presented. We eventually describe how to use the collected data to implement the MOOCs quality and effectiveness.

https://www.openvirtualmobility.eu/outputs/2876-preparation-and-implementation-of-the-pilot-phase/

Article published in peer-review journals

Poce, A., Amenduni, F., Re, M., & De Medio, C. (2020). Assessing a MOOC users experience in a virtual mobility project: preliminary results for quality enhancement. *Italian Journal of Educational Technology*, *28*(1), 62-76.

Poce, A. (2020). A Massive Open Online Course Designed to Support the Development of Virtual Mobility Transversal Skills: Preliminary Evaluation Results from European Participants. *Journal of Educational, Cultural and Psychological Studies (ECPS Journal)*, (21), 255-273.

Other sources

Supporting Virtual Mobility in a MOOC - preliminary results - https://conference.upt.ro/papers/42

5. What were the challenges and how did we overcome them?

One of the main challenges was to turn the MOOC general concept into a concrete MOOC design and implementation through a collaborative processes in which all the partners had to be involved. To face this challenge, a design thinking workshop was carried out in Heerlen in February 2019. During the workshop, partners worked in small groups of two or three people from different institution. Each group was invited to organize the OERs selected and assessed, into a template for a miniMOOC design provided by the Roma Tre team, available in the appendix of this documnt https://www.openvirtualmobility.eu/uncategorized/2870-mooc-delivery-integration-into-vm-learning-hub/

The template requires partners to indicate:

1. Learning objectives: which kind of knowledge, skills, ability the course should develop in MOOC's participants at the three levels):

2. Learning outcomes assessment methods: which way participants can prove their knowledge, awareness and reflection ability, for example quizzes, e-portfolios posts, self reflections at the three levels
3. Selected OERs titles, kinds of OERs (text, video, presentation), text of the learning instruction, url and target (teacher or students).

The second challenge concerned the ongoing improvement of the MOOC quality. We faced this challenge with the supervision of the project coordinator (Beuth University) who organized internal assessment for the MOOC implementation (June 2019 - September 2019). The project coordinator created a shared spreadsheet to collect all the feedback necessary to improve the MOOC. The template included the following indicators:
1. WHAT HAS TO BE IMPROVED?
2. REQUEST AUTHOR?
3. WHO IS RESPONSIBLE?
4. IMPLEMENTATION TIME
5. CURRENT STATUS
6. PROBLEMS

In this template 50 improvements requests were collected by all the partners. From June to July 2019 the MOOC improvement working group organized online meetings to discuss about the state of the art of problem resolutions.
For some specific problems partners showed different perspectives regarding the best way to solve them. To solve these cases, a questionnaire for external users was created by the Roma Tre Team https://forms.gle/SVAg7b6YzRSHMJgU7. We collected answers from 7 external users (5 students, 1 teacher and 1 researcher). All the issues were solved by Roma Tre Team before the end of September 2019, applying the solutions defined collaboratively during the MOOC improvement group partner meetings.

6. What is the value added of our outcomes for VM/HE in Europe?

Many institutional mission statements and national higher education strategies aim to prepare students to live in a globalized world in which they are being challenged to become global citizens (Teichler, 2004). The strategies to achieve the internationalization goal in higher education have been changed their nature in recent years. Among these, virtual mobility experience and projects have been developed to complement or substitute for physical mobility (de Wit & Hunter, 2016). Virtual mobility initiatives were indicated as one of the cost-effective ways to increase the access to educational mobility by Maastricht message in 2009 (ICDE Executive Committee, EADTU Executive Committee, 2009). According to the European Commission, youth mobility and academic mobility can foster a genuine European area of knowledge and contribute to the competitiveness of the European economy. Despite the growing acknowledged of Virtual Mobility, only a few researches have investigated the impact of Virtual Mobility initiatives on participants, and most of them includes small scale studies (Hilliard, 2004; Frydenberg, & Andone, 2010; Costa, & Balula, 2014; Poce, Amenduni, Re & De Medio, 2020).

MOOCs are now being considered and applied by many institutions around the world as a valid internationalization instrument (Knight, 2014). However, Amirault and Visser (2010) show that virtual program offerings do not automatically cross borders, nor result in the same effects everywhere. The context of the partnership of the European Project allowed us to involve students from 6 European countries and institutions: Roma Tre University (Italy); Beuth University (Germany); Universitatea Politehnica Timisoara (Romania); Universitat de les Illes Balears (UIB), AUNEGE, Open Universiteit – Welten Instituut (Netherlands).

In the context of the Erasmus + Open Virtual Mobility, a Massive Open Online Course (MOOC) aimed at developing the eight transversal skills identified by Firssova and Rajagopal (2018) has been developed. The OpenVM Project a MOOC was designed and developed based on the idea that VM could be enhanced by adopting the principles of open education (Buchem et al., 2018; Buchem, Tur, & Urbina, 2018). We collected assessment results from 1392 participants who participated in a pilot phase from October 2019 to June 2020. Participants expressed a positive evaluation of the different MOOCs features: 1. Badges; 2. Technical features; 3. Gamification. Three out of eight MOOCs obtained the highest evaluation: 1. Intercultural skills; 2. Autonomy-driven learning; 3. Open-mindedness. Generally, foundation level received higher evaluation compared to the intermediate and the advanced levels. The self-paced participation has proven to be effective and thus we have decided to generalize them to all the three levels, in order to guarantee the project sustainability. The validation results could be adopted by higher education organisations, educators and stakeholders to motivate the integration of the OpenVM MOOCs in specific HE in Europe contexts.

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