Open Virtual Mobility

07.A3. Sustainability plan

O7.A3. 1. Definition of the sustainability strategy

O7.A3.2. Strategy validation and Green paper

07. A3. 3. Final sustainability plan

- Final draft -

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This paper is the final document of milestone 07.A3.1 produced as part of Outcome 07 "Quality Assurance, Dissemination and Sustainability" whose aims are the design of the sustainability plan by means of a group discussion and short questionnaire in the partnership and other agreements with external partners.

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A. Executive summary

This document presents the three milestones of the Output 07 on the sustainability plan. After a short introduction about the Open Virtual Mobility Erasmus+ project (OpenVM from now on), the first half of the document mainly presents a very brief review of some related concepts such as sustainable development and the different models for sustainability. After that, the Business model is argued as the basis for the OpenVM sustainability plan, which is followed by the general approach as a Green paper. The second half of the document presents partners' suggestions for key partners, key activities and key resources, the first three elements of the chosen model. Afterwards, the OpenVM suggests a courageous plan which includes the social pillar of sustainable development as an initial stage for its strategy and develops these first three elements regarding their internal or external scope. Afterwards, the final elements of the Business plan are developed including the value propositions, channels, customer segments and costs and revenue streams. In particular, the plan includes the creation of a Special Interest Group on Virtual Mobility which will lead the work for the next five years. The document presents the agreements among partners on their roles for the different tasks included. Also, the network of related projects, such as key external partner organisations and institutions, which can enrich the possibilities for sustainability after the lifetime of the project, is introduced.

B. What are the objectives covered in this paper?

The main objective of the three milestones in Output 7 of the OpenVM project is to design the sustainability strategy and present the design of all elements in the plan. .

C. Who is this paper for?

This paper is for anyone involved in E+ projects, MOOCs and in general, online learning in HE institutions and open education. Although sustainability might initially be understood as a competence of designers, leaders, policy makers or stakeholders, the distributed responsibility that it involves makes it interesting for a wide range of participants at diverse levels. Therefore, this paper may be of interest to a wide variety of target agents:

A. Higher Education Educators
B. Primary, Secondary and Tertiary student teachers
C. Higher Education Students (BA and MA)
D. International Offices, Teacher training units/centres
E. HE leaders
F. Career Service Units
G. Researchers and Research Units
H. Internship providers

I. Open Education Communities
J. Policy makers
K. e-learning designers
L. and other practitioners involved in Open Education, online learning and HE.

D.What topics are addressed in this paper?

There are some topics addressed in this document related to the diverse fields concerned with the OpenVM:

A. Sustainability as sustainable development
B. Sustainability models
C. Sustainability Business Model
D. Open Virtual Mobility sustainability

E. Contributors

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George Ubachs is the Managing Director of EADTU, the European Association of Distance Teaching Universities. He is responsible for the development and support of the EADTU network, policies and execution of its goals in online, open and flexible higher education. He is the coordinator of international academic cooperation networks on networked curricula, virtual mobility, QA in online education and on business models for lifelong learning. George Ubachs is the coordinator of the E-xcellence movement on quality assurance in online, open and flexible education and leading the ICDE-

UNESCO focal point for QA in online education in Europe. He further coordinates the EMPOWERing universities network of a 100 experts representing 12 specific fields of expertise related to online, open and flexible education. As coordinator of these two dedicated networks he works closely with the EUA, ENQA, ESU, ICDE and Unesco.

F. Acknowledgements

The plan has been designed based on two short questionnaires and helpful discussion by partners attending the Rome meeting in May 2018 and in November 2019, whose insights and help have been of immense importance in the project's first steps. Special thanks to Ilona Buchem, whose contribution has been most helpful in the design of the whole sustainability plan; and to Deborah Arnold, who showed her support for the workshop on value propositions. Also, the authors would like to thank all colleagues from other projects and institutions for their help and commitment to the design of the network, in particular to Sara Guth for her efforts and help in extending the network as much as possible.

1. Aims and Scope

The aim of this milestone in Output 07 is the design of a sustainability plan for the openVM E+ project. The sustainability plan is envisioned as being courageous and not only considers project outcomes to be sustainable in time but also includes the approach of social sustainability. In this sense, the document is aimed at planning all the elements that can support project sustainability after the lifetime of the project, such as, for example, the continuation of project research, the re-usage of the learning hub or the OER from Output 6 or other project outputs, adding the value of the social pillar of sustainability. To this end, the different priorities and needs for continuation and uptake after project lifetime are determined including key activities, key partners and key resources required. In particular, we should highlight the creation of a Special Interest Group to monitor the uptake of the products and outcomes of the OpenVM partnership for the next five years.

2. Background and rationale (State of the Art)

2.1. Introduction

The sustainability strategy is based on a double perspective: the sustainable development approach and the Business plan model, which has been successful in previous E+ projects by the project coordinator such as in the Open Badge Network (OBN). The OpenVM is committed to the social pillar of its mission and the sustainability literature review reflects this aspect. Also, regarding the Business model, an analysis of diverse models for sustainability is summarised from a previous OBN project, and a Business model with a combination of some of the affordances of each model was decided. Based on this work, a similar model was introduced to the OpenVM partnership and it was agreed to continue the work by adapting it to the needs of the current project.

2.2 The OpenVM E+ project

The OpenVM project challenges both the conceptual framework for Virtual Mobility and the current landscape for teaming up in educational experiences in HE across Europe. The concept of Virtual Mobility has been defined as “a set of ICT supported activities, organized at institutional level, that realize or facilitate international, collaborative experiences in a context of teaching and/or learning” (Ubachs & Henderikx, 2018). While early experiences may have been institutionally supported with formal learning agreements, the current project challenges what is known so far by opening up Virtual Mobility. In this regard, the new emergent concept of Open Virtual Mobility is understood as extending the potential of open digital environments for VM and at the same time, extending the contexts from more to less formalised agreements among HE institutions, teachers and students. The OpenVM project is aimed at achieving the six main objectives represented in figure 1:

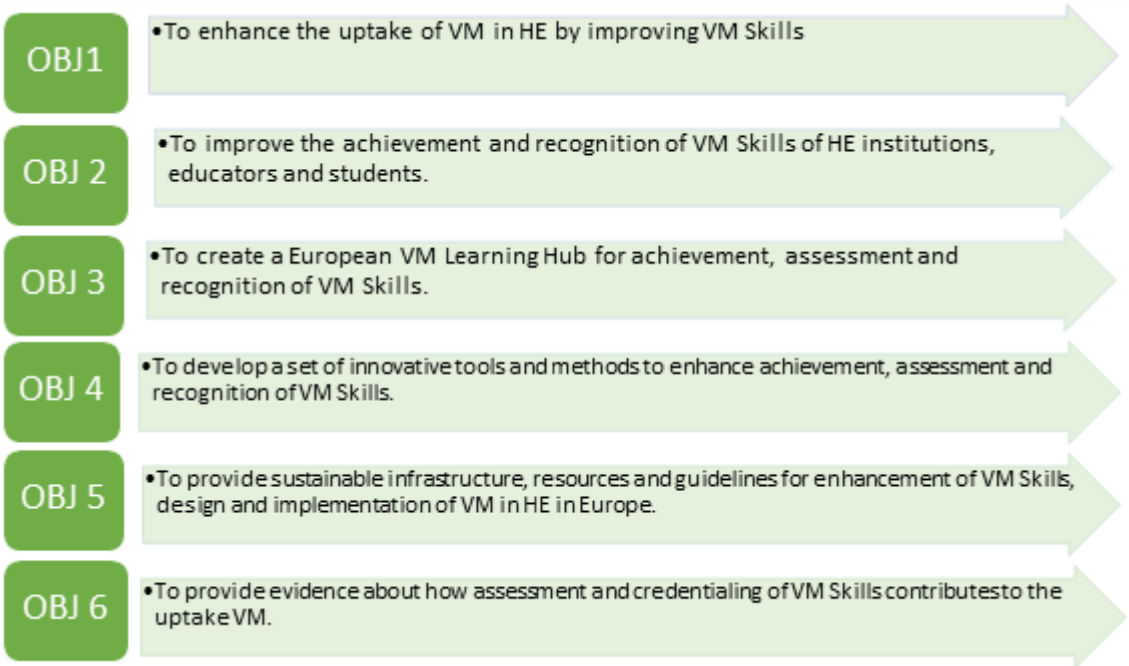

Figure 1. OpenVM objectives

Its development has been planned in seven outcomes, which are closely interrelated as the following figure shows:

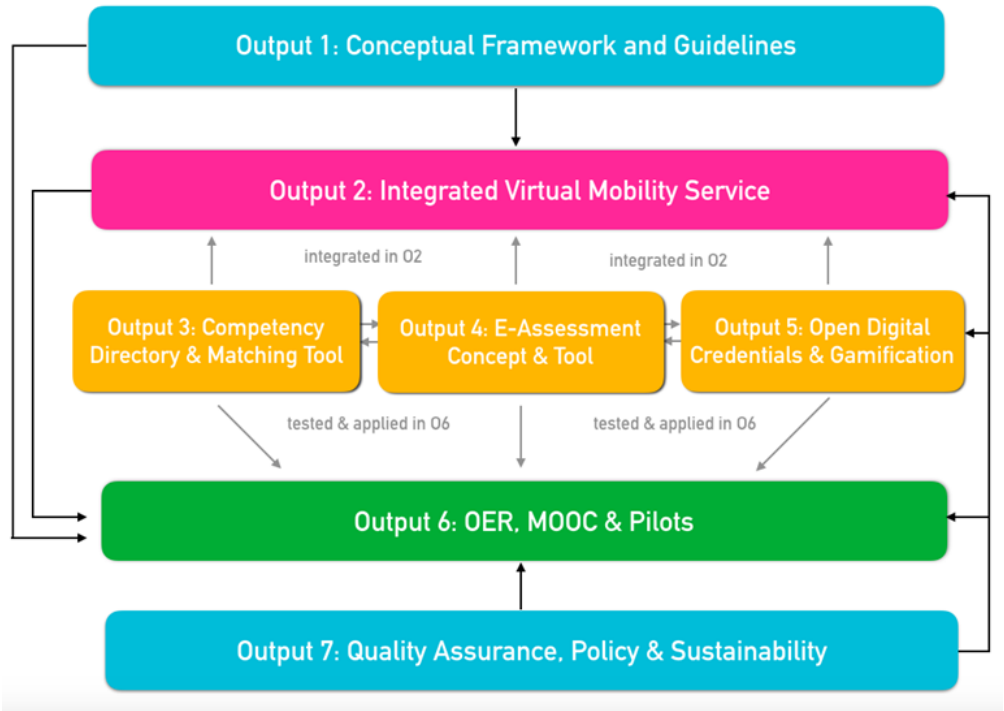

Figure 2. OpenVM Outputs

2.3 Vision for the future

The OpenVM is envisioned to:

- redefine what is known about Virtual Mobility, its characteristics and potential in open digital environments
- describe the skills developed in Virtual Mobility
- create a Learning Hub to unite all Virtual Mobility initiatives in European Higher Education institutions
- promote and recognise the development of VM skills by the development of a system a Open Badges
- create and promote Open Educational Resources on VM
- create and promote a MOOC on VM divided into eight mini-MOOCS for the development of the skills described in the theoretical and underpinning conceptual research

2.4. Sustainability as sustainable development

Sustainability has been incorporated at all levels from macro and global to micro and project stages (Agarwal & Kalmár, 2015). The most extended vision of sustainability is the one stated by Elkington (1997) who coined it as the "triple bottom line" or "Triple-P (People, Planet, Profit)" concept and described it as "the balance or harmony between economic sustainability, social sustainability and environmental sustainability". Likewise, at the same time, there is an important approach to sustainability, which is used in the same terms as "sustainable development", relating it to project management. Silvius and Schipper (2014) identified a set of 14 dimensions of sustainability, which in further work they describe as a summarised set of nine clusters of sustainability dimensions:

It is about...	Description
… balancing or harmonizing social, environmental and economical interests	A project should answer to the three pillars of sustainable development: social, environment and economic
….both short-term and long-term orientation	A project should focus not only on short-term aims but also on long-term consequences, extending the attention to full lifespan
… local and global orientation	The organisation is influenced by international stakeholders and its effects can have potential impact at both local and global levels
… values and ethics	It is a normative concept with value and ethic implications
… transparency and accountability	The organisation is open about policies, decisions and actions. Along with transparency, accountability has to be

	assumed.
… stakeholder participation	The potential interest of stakeholders is critical for sustainability, and "proactive stakeholder engagement" is advised. It is important to establish a dialogue and to as work together in order to "define the problems, design possible solutions, collaborate to implement them and monitor and evaluate the outcome" (p. 339)
… about risk reduction	In the environment system, it is better to prevent and avoid risk than to reduce bad consequences
… eliminating waste	It has been said that the waste elimination equals food
… consuming income, not capital	Sustainable projects should not lead to exhaustion

Table 1. Sustainable development (based on Silvius & Schipper, 2014)

Beyond the traditional criteria of project success, which has been reduced to time, budget and specification (the "iron triangle"), sustainability has emerged as another criterion whereby we can measure project success (Silvius & Schipper, 2014). Thus sustainability has been related to success since it informs about success after project delivery and project success "over time".

2.5 Sustainability models

The Open Badge Network (2015-2017) explored four sustainability models in a SWOT analysis. Thus, the Sponsorship, Membership or Merger, Marketplace and Advocacy models were assessed in terms of strengths, weaknesses, opportunities and threats. The following tables summarise those results (Lewis, van den Broek, & Mihalyi, 2016, pp. 17-24) which can be adapted to the OpenVM with little modification:

	Strengths
Sponsorship	● Simple solution which maintains non-profit ethos and requires no "legal status" ● Many resources that could be given are time-based or low cost to the organisation or individual

	● Contributions could come from many sources which makes it less risky ● Enables an open approach to developing partnerships with other providers which will add further value
Membership or Merger	● Proven funding model that could provide regular and consistent resources ● Simple to operate and could be based on a series of online & offline events and discussion groups ● Creates a sense of community and commitment within membership base ● Opportunity to plug into existing networks & platforms in order to reduce the resources needed to set up and maintain the network
Marketplace	● Helps to expand the OBN network through joint promotional activity with partners ● Potentially provides a source of regular income to the network
Advocacy	● This would provide enough resources to keep key stakeholders proactively engaged in order to expand and develop the European eco- system

Table 2. Strengths for the four sustainability models (Lewis, van den Broek, & Mihalyi, 2016, pp. 17-24)

	Weaknesses
Sponsorship	● Ongoing resources would be needed in order to obtain sponsorship ● Difficult to plan and grow the network without secured resources ● Significant momentum and value would need to be established by the end of the project in order to attract sponsors
Membership or Merger	● It would need to continually develop and ensure that it was delivering value to its members ● It would no longer be seen as a non-profit network which might make it

	difficult for certain organisations to play a role within the Steering Committee ● There would need to be a formal structure and governance in place to manage membership money and data ● A commercial model might make it difficult to develop partnerships with other open badge networks and service providers, fragmenting the community rather than connecting it ● Requires a large fee-paying user base to generate the sustainability revenue
Marketplace	● It might no longer be viewed as a trusted independent network which could mean some organisations choose not to be members ● A level of quality assurance and governance will need to be in place to select and manage the commercial partners and revenue generated
Advocacy	● Not many funders provide extension funding for existing activities ● Would need to identify partners able to commit to delivering a further grant funded project. ● Would still need to consider a sustainability plan for when the next funded program of work finished

Table 3. Weaknesses for the four sustainability models (Lewis, van den Broek, & Mihalyi, 2016, pp. 17-24)

	Opportunities
Sponsorship	● We create a network effect where many people contribute small amounts of time, money or materials to enable the network to flourish in a decentralised way
Membership or Merger	● The network could quickly raise funding allowing it to grow and develop further ● Options to expand the model in the future to include different levels of membership, within different territories

Marketplace	● Opportunity to drive revenue through commercial partnerships and develop OBN-owned products ● Create a 'one-stop shop' for open badge projects in Europe
Advocacy	● Partners may not see the value in promoting their services via OBN if the membership isn't sufficiently large or active.

Table 4. Opportunities for the sustainability model (Lewis, van den Broek, & Mihalyi, 2016, pp. 17-24)

	Threats
Sponsorship	● There are not sufficient resources to maintain the network and activity decreases
Membership or Merger	● We lose members to other similar networks that provide more value or access free.
Marketplace	● Merging with other networks could provide a way to quickly accelerate the growth of the network and the uptake of Open Badges across Europe ● Connecting more formally with the global Open Badge community would provide the opportunity to influence the development of the OB standard and raise the profile of the needs of the European network.
Advocacy	● The purpose and objective of the network may need to change in order to align with new funding requirements

Table 5. Threats for the four sustainability models (Lewis, van den Broek, & Mihalyi, 2016, pp. 17-24)

Following the recommendations from the OBN (Lewis, van den Broek, & Mihalyi, 2016) the sustainability plan for the OpenVM assumes a mixed approach inspired in the potential explored in the SWOT analysis. Mainly, the advocacy model could be the one which might be more adjusted to the needs of the OpenVM but there are also two main axes to inspire the whole plan: taking advantage of existing infrastructure to extend the network (based on both the Advocacy and the Membership models) and encouraging single partners to volunteer to extend and offer their support after the project life time (based on the Sponsorship model).

3. OpenVM Green Paper

The OpenVM Green Paper establishes the strategy for the sustainability of the OpenVM E+ project after its funded lifetime. It considers the elements of the Business plans but it is also based on some other principles ingrained in the ethical aspects of social and environmental sustainability criteria. Therefore, the Green Paper suggests the double approach to sustainability presented in the following sections.

3.1. The double approach to sustainability

The OpenVM designs its sustainability strategy not only as another neutral element of project management but also from the perspective of the sustainable development concept in its social pillar, for the implications it has for access to quality mobility opportunities for HE agents.

3.1.1. The sustainable development approach

Based on the literature review of the first section, it can be argued that the sustainability approach has been designed from an extended vision, in which the partnership is committed to the social pillar of an innovation-based project as is the OpenVM Erasmus+ project. Therefore, from the dimensions observed, the OpenVM project the following six:

Sustainability in the OpenVM E+ project is about...	Description
....both short-term and long-term orientation	The OpenVM strategy is committed to delivering project outcomes that can be useful over project lifetime.
… local and global orientation	The inherent international characteristic of the partnership and the intrinsic characteristics of MOOCs and the Learning HUB make them in particular committed to both local and global impact
… values and ethics	The OpenEDU underpinning framework guarantees the democratic values and ethics for the OpenVM project (Tur, Urbina & Ubachs, 2018a)
… transparency and accountability	Publication of all product outcomes as well as all working documents and the accountability towards supra institutions

… stakeholder participation	The OpenVM has always been committed to integrating stakeholders from the theoretical framework research to the design of the technological and pedagogical elements and the validation of the Quality Assurance Framework (QAF).
… consuming income, not capital	The learning design has to be aware of its implications for student effort and overwhelming feelings, about which the SRL model may be helpful (Tur, Urbina & Ubachs, 2018a)

Table 6. Sustainable development for the OpenVM

3.2 Sustainability Business model

Starting from the previous analysis, the Business model was finally suggested to the partnership and it was agreed to plan the sustainability of the OpeVM project based on its structure. Based on the model presented in the canvas[1], the elements of the business model canvas are the following:

1. Key activities
2. Key partners
3. Key resources
4. Value Proposition
5. Channels
6. Customer segments
7. Cost Structure
8. Revenue streams

The canvas is graphically designed as follows:

[1] https://canvanizer.com/downloads/business_model_canvas_poster.pdf

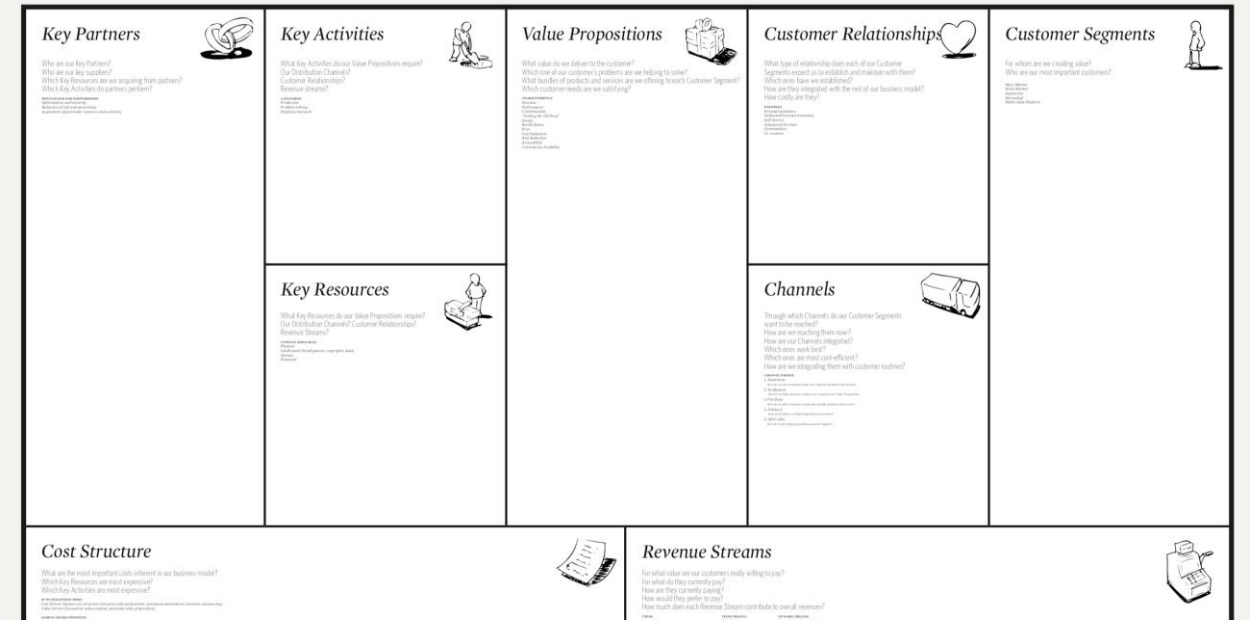

Figure 3. Business plan canvas

Therefore, the Business model works as the Green Paper for the sustainability of the OpenVM E+ project. In this sense, it is expected that the partnership will agree on the roles that each partner will play for the main activities in order to keep the project alive on a long term basis. At the same time, the resources required will have to be considered. The value of the project and each output will be assessed afterwards as well as the possible customers interested and the channels and relationships to be established, which may also be useful for the dissemination strategy and external network reinforcement. Finally, as the last step, it will be necessary for key decisions on budget to be taken, such as the costs and the revenue streams, which may have to be coherent with the open characteristic of the project. As a pre-stage of the development of the Business model, the sustainability plan of the OpenVM project will also consider the level of environmental and social commitment.

4. Methodology and instruments

To begin the development of the sustainability plan, a 0 phase has been added, which refers to the social aspects of OpenVM sustainability strategy. For the following phases, the eight elements have been included in a three-step process, in which the second phase is for the definition of the three first key elements of the Business model, the following phase is for value proposition, and the final one for the rest of the elements -represented in figure 4.

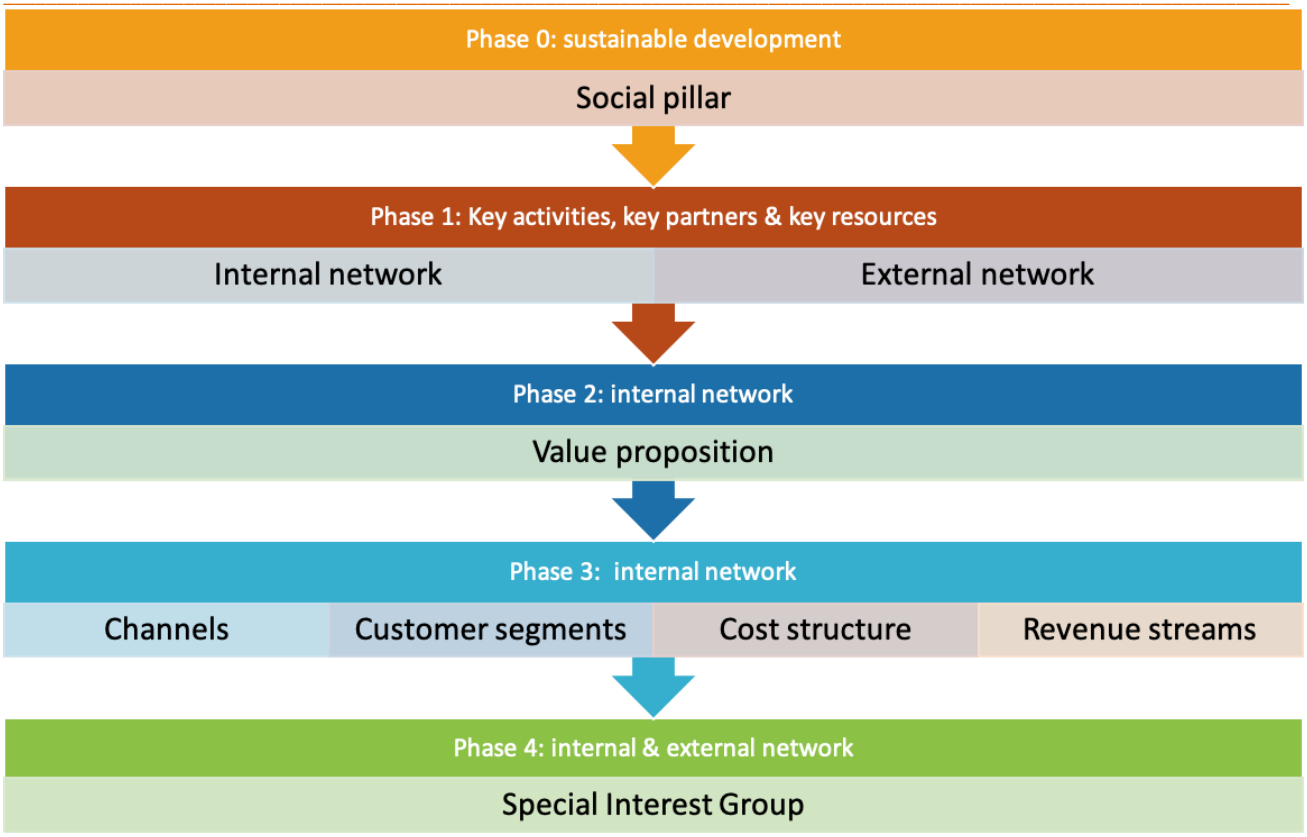

Figure 4. Phases for the OpenVM sustainability plan

Two instruments have been used in order to work out the sustainability plan within the partnership.

In order to determine the priorities including partners, activities and resources, a qualitative approach was used and a short instrument with three questions for the first elements of the Business model was presented. Project partners were asked about potential elements for the openVM sustainability through a short questionnaire and discussion. In a dynamic activity in the Roma partner meeting, in May 2018, partners were asked to answer the two following questions, regarding the whole project and their own Output:

- Is there a task in the output work plan focusing on sustainability?
- What are your ideas for sustainability in your Output?

Also, based on the sponsorship model, a third question was added:

- What can you do for the sustainability of the project?

Based on the Business sustainability model, partners had to answer these questions in relation to three elements: key partners, key activities and key resources. The activity was designed to be carried out in partner group, and in teams they had to write their ideas on colour-based clues:

- Key partners (blue paper)

- Key activities (pink paper)
- Key resources (yellow paper)

The second instrument is based on another canvas that helps in reflecting on the aspects that are related to value proposition. In this sense, the elements to consider are divided into two mains parts:

- the customer: wants, fears, and needs
- the product: experience, benefits, and features

5. Results

In this section, we present the results of the data collection with the two instruments developed and used in the workshops in PM in Rome (2018) and in Paris (2019).

5.1. First questionnaire

The result of the brainstorming activity in the Roma meeting in May/June 2018 is presented in the following table:

	BLUE- KEY PARTNERS	PINK - KEY ACTIVITIES	YELLOW- KEY RESOURCES
BEUTH	EADTU, EDEN, CINECA Timisoara University for hosting the platform (could be taken over by EDEN/EADTU) Advisory Board- establish in 2018: 3 meetings (2018-2019-2020) with Project Management Team CEO of EADTU, EDEN, ESCO (decision makers)	Technical infrastructure (server, MOOC,Bestr) Technical support (people) Contact person	Advisory board with 3 key partners (meet 1x year)- EADTU, EDEN, ESCO
ROMA3	Availability for follow up projects on virtual mobility Reuse open resources created in the project in our curricular courses	Promote VM within the university governance. Example: promote the VM experience as internal traineeship	Support VM development actively in my research work

OUNL	Collaboration in different initiatives	Dissemination Create good practice through our own VM activities	Our goodwill to continue research in this area Teach with the OpenVM outputs Teaching material create will be maintained and developed
UPT	VM Content Erasmus+ partner distributions on learning/ internships mobilities → Other national universities CC and OER communities. Banat ITT Club; Startup Hub (regional associations and actions the ICT?	ACTIVITIES Upgrade of new versions of Moodle, Mahara, Bestr, … Upgrade of in-house developments Maintenance of existing VM - LH Modelling (financial and technical) for future new institutions, partners, , for VM, OERs. → How We will keep all information, resources functional	Maintenance and upgrade of new versions of Moodle, Mahara, Bestr, etc. RESOURCES Moodle - New plug-ins, new extensions, new versions. Mahara - (the same) CINECA – Bestr open badges updates UPT supported hardware (storage for new data, new VM, new contact, OERs)
UNIT/AUNEGE		Sustainability must also be kept in mind for the design and implementation of the hub. Example 1: non-automated assessments require power that must be funded after the end of the project Example 2. As a learner, I have a portfolio at my university. I need to retrieve from the HUB the competences stored in the Mahara e-portfolio into my global portfolio.	
KU LEUVEN		Dissemination of project results	Use projects results further:

		Further research on topic Synergies with other virtual mobility/ exchange projects. E.g. LERU network is currently initiating virtual mobility with LERU partners	• in future projects • In our training/ support materials for teachers
EADTU	The partners could/ should help in sustainability Spread the word - students/ teachers	See what possibilities are for continuing the project (new project)	Will the learning hub be sustainable after the project? Who will make sure it is sustainable? What is needed for the hub to be sustainable? Who should play what role in making sure the hub and MOOC are sustainable (technical, licences, etc.)

Table 7. Data collection of partners' answers

Additional post-its were delivered among participants to write down about their own resources and tools that could be used for the sustainability plan. The results of this question are presented in the following table:

	YELLOW POST-ITS
BEUTH	Re-use 03- competency directory could be used by other projects 03- grouping can be used in Moodle 05- Badges re-use, issue somewhere else
ROMA3	Support VM development actively in my research work Single trainer role
OUNL	Maintenance of resources, output production… we'll share good practices and new knowledge experiences with OUNL Confirmation research + practical use of competence framework
UPT	Maintenance and upgrade of new versions of Moodle, Mahara, Bestr etc
EADTU	We use the Roma technique often, if I am correct, it is used for sustainability and to create impact, I should check.

Table 8. Data collection on partners' answers

5.2. Second questionnaire: value proposition

For the second phase of the development of the Business model, we used a new canvas about the Value proposition to carry out the workshop with partners in Paris (November 2019). The results are presented below.

Company: Product: Ideal customer	OpenVM (by CINECA) OpenVM+ Digital Credential+ MOOC+ Assessment Career Service Units	
Customer	Wants	Able to working international environment Do distance working effect
	Fears	Work overload related to non-technical skills
	Needs	Need evidence of competences of students for international context
Product	Experience	Possibility to carry out verification and assessment in a standard way
	Benefits	Can be used as learning suggestion: awareness of what competence include Testing competence level Digitalization of a part of the process competence identification
	Feature	Free Access Quality check of comments Verifiability Open Standard

Table 9. Value propositions in relation to Career Service Units

Company: Product: Ideal customer	OpenVM (by AUNEGE) Open Credentials + MOOCs Digital credentials EU Project ECCOE	
Customer	Wants	To foster the uptake of digital credentials in EHEA+ among employers
	Fears	The OpenVM Badges are sufficient in themselves That digital credentials will not be recognized That we don't get 200 modules
	Needs	Create a catalogue of 200 "modules" on soft skills to: a) To test credential descriptors b) For cross-institution recognition

Product	Experience	8 ready-made modules designed credentials in mind so easy to implement for ECCOE Working in synergy with another EU project- contribution to meeting needs of both ECCOE gives visibility and sustainability to OpenVM OpenVM contributes to ECCOE catalogue Embedding recognition of VM credentials in HE+ benefits learner
	Benefits	8 Mini Moocs 8 Modules in ECCOE terms
	Feature	Badges already described concretely in terms

Table 10. Value propositions in relation to ECCOE project

Company: Product: Ideal customer:	HE International Office Staff	
Customer	Wants	Prepare students before their departure to Erasmus mobility International at home Train staff of international offices to improve their performance (English, intercultural, mobility)
	Fears	Difficulty to use one line tool such as Moodle Fear to not be able to use MOODLE
	Needs	Contents, tools, to prepare students (intercultural) knowledge about overseas service autonomy Courses available in the University platform to support the training
Product	Experience	List of competences Online courses about intercultural, autonomy… Courses downloadable
	Benefits	Definition of competences required by students for Erasmus mobility Not necessary to create content, possibility to use existing content about mobility
	Feature	Available in university Possibility for students to learn in autonomy (distance learning) Content adapted to the need of training

Table 11. Value propositions in relation to HE International Office staff

Company: Product: Ideal customer:	OpenVM (by UPT) The process (Hub+ implementation in university students) HE leaders	
Customer	Wants	Proofs of policies for future implementation. Estimates of impact such as marketing, number of students, number of collaborations are concerned. Exact costs
	Fears	Costs. Losing F2F students Dealing with teachers who need to work more. Dependence on local, national and European legislation
	Needs	Proofs of sustainability. Realistic estimated costs in money and resources (main hours, equipment) Clear benefits for institution, teachers, students. Clear guidelines for implementation and use.
Product	Experience	International, intercultural Hard at first, easy in the middle and wonderful at the end. Creativity Innovation Collaboration
	Benefits	Already created hub, courses, guidelines Increase of visibility, Opportunity of collaboration Opportunity of funding from projects Innovate
	Feature	Hub, courses, guidelines, support Market for collaborations Content, knowledge, network

Table 12. Value propositions in relation to HE leaders

Company: Product: Ideal customer:	OpenVM (by UIB) MOOC/OER Student teachers	
Customer	Wants	Materials Projects Innovation in education
	Fears	The digital environment

		Too abstract content
	Needs	
Product	Experience	New lines of collaboration
	Benefits	Materials International context
	Feature	Systematized

Table 13. Value propositions in relation to student teachers

Company: Product: Ideal customer:	OpenVM (by KULeuven) Output '1 (skills + design guidelines) Teacher training units	
Customer	Wants	Support for university Policy makers
	Fears	Fright Prejudices Another thing to convince teachers of Workload
	Needs	Practical examples of OpenVM/case studies Materials to create awareness
Product	Experience	Starting point for: Institutional discussions Integration with existing modules
	Benefits	Practical instrument used by teacher trainers and teachers Case studies in short form (video?)
	Feature	Modular instrument Background material (OER)

Table 14. Value propositions in relation to teacher training units

Company: Product: Ideal customer:	OpenVM (by Beuth) Hub Students interested in visibility	
Customer	Wants	Time/place flexibility Overview of countries, uni, course credits Cultural info Networking with peers

		Contra
	Fears	Language and culture Academic level Technical barrier: tools and infrastructure Less good examples
	Needs	About requirements (skills, language, intercultural, self-organization)
Product	Experience	Informed, guided, prepared, connected, Relevant, accepted Well-established
	Benefits	Confidence about competencies and tools Contact to other students (marketplace) Courses in form of OER
	Feature	MOOC Badges Marketplace (search by country) FB for exchange of experience

Table 15. Value propositions in relation to students

Company: Product: Ideal customer:	OpenVM (by OU) International courses HE educators	
Customer	Wants	Students are open to new learning approaches Institutional support Enriching education
	Fears	If the level will not fit Teaching barriers Language barriers Opening up own system
	Needs	Insights in what it means to teach an international group/different backgrounds Students need to have intercultural, collaborative, digital, language skills
Product	Experience	Enriching own education Getting new experiences Offering students a rich international experience Inclusive education
	Benefits	

	Feature	More than one language Active learning Collaborative learning (group work) Online/rise of digital media Affordances for working in international teams Open enrolment from more than one university In conformity with accreditators

Table 16. Value propositions in relation to HE educators

Company: Product: Ideal customer:	OpenVM (by RomaTre) VM Hub e-learning designers	
Customer	Wants	The ease of use for both trainer and trainee with a range of additional feature Best user experience with easy-to-manage functions Individualization (personalization of the learning path) Scalability for supports
	Fears	Users who are terrified of technology Usage does not offer a significant problem Course materials are not supporting the intended learning
	Needs	Ensure the best user experience using any device (e.g. table, plane) Responsive vs. adaptative Clear communication: make things fit into place by simplifying Complicated things Avoid loose ends Ensuring that course material is instructionally secure and supports the intentded objectives
Product	Experience	Platform based on “studies by expert” User experience Design created to optimise the fruition of the MOOC by students
	Benefits	iOS-App Android App Already configured platform easy to manage
	Feature	Ad-hoc implemented plug-in Set of gamification tools to enhance engagement (badge-matching)

Table 17. Value propositions in relation to e-learning units

	Concrete actions by AUNEGE
ECCOE both OpenVM	Bilateral endorsement statement ECCOE_ OpenVM
	Discussions on how best to promote/publish/integrate information about OpenVM mini Moocs and the associated badges for mutual benefit
OpenVM to ECCOE	Provide badge descriptions+ criteria for delivery for each OpenVM badge+ additional information if necessary
ECCOE to OpenVM	Feedback on "elegibility" of OpenVM badges for inclusion
	Data about how many learners (teachers/students) get their credentials recognized through the ECCOE-system

Table 18. Acctions to carry out for value propositions in relation to ECCOE project

6. The OpenVM sustainability plan: first iteration

After the general overview of the sustainability plan and the results of data collection on the specific business model, in the following sections a more detailed plan is presented. Again, first of all, there is an analysis for key activities, partners, resources and value propositions. After that, the external network is presented, for which there is also a plan for the key activities to work collaboratively. Finally, the Special Interest Group on OpenVM is presented.

6.1. Key activities

Key activities are suggested for each partner in relation to the outputs in which they are leaders or reviewers and also regarding the project.

	As Output leader	As Output reviewer	Regarding the project
OU	Further research on the 8 sets of skills		Dissemination Advisory board
UPT	Maintenance and upgrade of new versions Moodle, Mahara, Bestr, etc & Learning Hub Moodle - New plugins, new extensions, new versions.		Dissemination Further implementation Advisory board
BEUTH	Re-use 03- competency directory could be used by other projects	Technical support (people) Contact person	Advisory board with 3 key partners (meet 1x year)- EADTU, EDEN, ESCO

	03- grouping can be used in Moodle 05- Badges reuse, issue somewhere else		
AUNEGE	Further research Automated assessment for MOOC and mini-MOOC to guarantee usage		Dissemination Further implementation
ROMA3	Re-use open resources created in the project in curricular courses OER monitoring		Dissemination Further implementation Advisory board
UIB	Further research and quality monitoring	OER re-usage OER monitoring	Dissemination Advisory board
KU LEUVEN		Further research	Dissemination of project results Further research Advisory board
EADTU		Further research	Dissemination Continue research Advisory board
CINECA		Re-usage of Open Badges	Dissemination Continue research and implementation Advisory board

Table 19. Internal network: key activities

6.2 Key partners

As for the internal network, all partners are key partners for specific Output sustainability, in particular for those of which they are the leaders. Also, partners who are reviewers of an output, become fundamental actors who can support its sustainability. Therefore, regarding the agreement on Output teams made by leaders and reviewers (Tur, Urbina & Ubachs, 2018) the key partners are the following:

	O1	O2	O3	O4	O5	O6	O7
OU	X						
UPT		X	X				
BEUTH		X	X		X		
AUNEGE				X			
ROMA3						X	
UIB						X	X
KU LEUVEN	X						
EADTU	X						X
CINECA		X			X		

Table 20. Internal network: key partners

6.3 Key resources

As with key activities, key resources for which can be responsible partners regarding outputs and the whole project are presented in the following table:

	As Output leader	As Output reviewer	Regarding the project
OU	Research instruments		
UPT	New versions of Moodle, Mahara, Bestr, etc. RESOURCES Moodle - New plugins, nwe extensions, new versions.		
BEUTH	Competency directory Matching tool		
AUNEGE	Assessment platform		
ROMA3	OER structure		
UIB			Personal resources
KU LEUVEN			Personal resources

EADTU			Personal resources
CINECA	Open Badge infrastructure		Personal and infrastructure resources

Table 21. Internal network: key resources

6.4. Output sustainability

Once having analysed the three first elements in relation to partnership, the following table summarises these elements in relation to each Output.

	KEY ACTIVITIES	KEY PARTNERS	KEY RESOURCES
O1	Research	OU Leuven EADTU	Research instruments
O2	Maintenance	UPT Beuth CINECA	Learning Hub Moodle platform
O3	Maintenance	Beuth UPT	Technical infrastructure
O4	Automated design	UPT Aunege	Technical platform
O5	Maintenance Re-use	Beuth CINECA UPT	Bestr platform
O6	MOOC monitoring OER monitoring	RomaTre UIB	
O7	Monitoring feedback from Learning Hub & MOOC	UIB EADTU	DBR model Quality instruments European networks
OpenVM	Follow-up	All	Special Interest Group on OpenVM

Table 23. Analysis per Output

6.4.1. Open licenses

Final documents of Intellectual Outputs are all shared with the following license: documents:

Copyright licence: This work is licensed under a Free Culture Licence Creative Commons Attribution-ShareAlike 4.0 International License.

Due to singular characteristics of other outcomes in each Output, the following licenses have been chosen:

	Outcome	Creative Commons Licence
O1		CC BY-NC-SA 4.0
O2	Hub & App	CC BY-NC-SA 4.0
O3	Code GPL3 Code MIT	CC BY-NC-SA 4.0
O5		CC BY-NC-SA 4.0
O6		CC BY-NC-SA 4.0
O7	Research instruments	CC BY-SA 4.0

6.5 Value propositions

Based on the documents submitted as intellectual outcomes for each Output, the following value propositions can be highlighted:

Output	Product	Description of value – based on the executive summary of each output document
Output 1	Theoretical Framework	Using a Group Concept Mapping (GCM) methodology (Kane & Trochim, 2007), Open VM project has defined a learner competence framework comprising 8 competences that are relevant for and developed in OpenVM activities. These competences are: • Intercultural skills & attitudes • Networked learning • Active self-regulated learner skills • Media and digital literacy • Autonomy-driven learning

		• Interactive and collaborative learning in an authentic international environment • Open-mindedness • Gaining Knowledge of Virtual Mobility and Open Education
Output 2	Virtual Moblility Learning Hub	The design of the VMLH starts with the desired functionalities previously discussed in partner meetings and conferences, as well as with the existing IT and e-learning infrastructures of the partners, and their desired connections with the Hub. Several solutions were investigated, most of them in the area of open-source Personal Learning Environments (PLE). Based on the adopted concept, we propose to use the open-source learning management system Moodle as the basis for the **VM Learning** component, as well as, to some degree, for most of the other components. The Open VM LH Structure comprises: VM Skills, VM e-Assessment, VM Open Credentials, VM Content, VM Activities, VM Market / Connections and VM Data.
Output 3	Competency directory	Definition of competencies in a structured machine-readable and human-readable way helps in connecting systems. Semantic data formats define a specific vocabulary to express competencies without ambiguities and allow cross-referencing competencies within one competency framework as well as across different frameworks. To address one such defined competency a unique address (IRI) is provided by digital competency directories. These IRIs can then be used to reference one or more competencies from competency-related applications, e.g. Open Badges. To find existing competency definitions a directory provides search interfaces (web-frontend or API). After providing an overview over the existing solutions to express competencies in a semantic way, the technical solutions are discussed. Finally, the specific needs for the provision of a competency directory for open virtual mobility skills are discussed. A survey is developed and presented to collect answers from the experts of project-involved partner organizations. The answers are meant to clarify the prioritization of the needed functionality of the competency directory and the needed data attributes of competencies.
	Matching tool	The achievement of virtual mobility skills is related to inter-personal, inter-cultural and inter-disciplinary teamwork competence. Thus with certain tasks of the online learning resources provides by the open virtual mobility project (openVM), learners (teachers, students) are expected to work collaboratively. Usually, group formation for

		collaborative course work is based on random selection or self-selection. Based on existing research in the field of algorithmic learning group formation, this text will define what is meant by successful group learning activity (the optimization goal). Before focusing on the openVM needs, the document will highlight the general scientific findings about important criteria for successful group work. It will become clear that several criteria, e.g. prior knowledge or motivation, are found to play important roles for the success of learning groups. In brief, criteria can be optimized to be heterogeneously spread among group members (to amend each other) of homogeneously (similar). Further the document will explain the modelling of such criteria as input vectors for the optimization algorithm. This includes nominal, ordinal and interval scale values. Afterwards, functionality of the existing Moodle plug-in mod_group-formation is presented and specific requirements for the openVM learning hub will be discussed. Specifically, for the process of defining the matching criteria to be used in the project, the draft will propose the following steps such as like opinion collection after tasks are known/defined by output O6 as well as the technical aspects of adapting and integrating the plug-in to the VMLH.
Output 4	e-Asssment: concept and tool	Evaluation activities can be of different types (formative, diagnostic, summative ...) and also take different forms (tests, online homework, self-evaluation by peers, evaluation based on evidence ...) These activities must be defined in accordance with the needs and constraints of the project. The purpose of the Output is to define, what to evaluate, how to evaluate it and what tools to use, and finally, design and implement.
Output 5	Meaningful gamification	Meaningful gamification concept in the OpenVM project focuses on enhancing *self-regulated learning* through transparent criteria for attainment, assessment and recognition of OpenVM skills, meaningful feedback and opportunities for self-assessment, allowing learners to take decisions and make choices (e. g. choosing appropriate learning tools a to support one's own learning, co-creation of learning content) in a *personal learning environment*. Meaningful gamification design aims to support learners in making meaningful choices affected by decisions of learners (e. g. deciding which learning activity to engage with) and engaging in an enjoyable learning experience (e. g. fun, interesting, relevant). The results from the first wave of pilots in 2019 have provided very valuable insight into the learning experience in this initial piloting phase in the OpenVM Learning Hub. The results have shown an overall positive evaluation of the different elements of meaningful gamification

		design which can be interpreted as a meaningful learning experience for the sample of 359 learners as described in this report. The results related to the impact of meaningful gamification on self-regulated learning show that hints such as additional information such as the one about learning objectives, course materials and time to finish the course as well as hints related to progress were positively evaluated by MOOC participants across all 24 mini-MOOCs. High scores were specifically reached in relation to self-motivation, self-control, self-observation and self-reaction.
Output 6	Guidelines for OER and MOOC	OERs are "digital learning resources offered online freely (without cost) and openly (without licensing barriers) to teachers, educators, students, and independent learners in order to be used, shared, combined, adapted, and expanded in teaching, learning and research". OERs are interconnected with other concepts such as Open Education, Open Practices and Open Source. Some OERs repositories are described together with the criteria followed by OpenVM Erasmus + Project for the quality assessment of OERs. The present paper describes which design principles we have been following for the MOOC design and delivery. The guidelines are inspired by previous experiences of VM and literature analysis and they can be useful to design future VM experiences.
Output 7	Quality Assessment Framework and Sustainability plan	The Quality Assurance Framework document presents the theoretical background for the methodological strategy to carry out the design, implementation and assessment of all single elements in the project: the Learning Hub, MOOC, OER, Open Badges, e-assessment, directory skills and matching tool, which is based on the Design-Based Research model. The QAF also includes the perspective of the team, their leadership, work processes and their interdependencies. Teamwork is introduced in the context of distributed leadership, and the qualitative and quantitative indicators that need to be addressed in a survey aimed at monitoring the work process in a European project are presented. The Business model is argued as the basis for the OpenVM sustainability plan. The OpenVM suggests a courageous plan which includes the social pillar of sustainable development as an initial stage for its strategy and currently the first three elements regarding their internal or external scope (key partners, key activities and key resources) have been developed.

Table 22. Output value propositions.

6.6. Channels, customer segments, cost and revenue streams

As the final elements to be addressed in the Sustainability plan, in the PM of May 2020 the following aspects were agreed:

	Description
Channels	The channels for disseminating and contacting customer segments: Website Social media (Twitter account) EDEN and EADTU networks External network communication Further publications Call for papers: EDUTEC (March, 2021)
Customer segments	The customer segments involve the diverse different groups at different stages: Higher Education Educators International Offices, Teacher training units/centres HE leaders Career Service Units Researchers and Research Units Internship providers Open Education Communities Policy makers e-learning designers In order to re-use the OpenVM MOOC with target users: Primary, Secondary and Tertiary student teachers Higher Education Students (BA and MA) Higher Education educators interested in developing Open Virtual Mobility skills
Cost structure	As stated by the Erasmus guidelines, and since there are no revenue streams, the sustainability actions can be carried out due to partners' commitment and as part of their core business.
Revenue stream	None

6.7. Special Interest Group on Open VM

As a strategic partnership the OpenVM partnership has to plan a follow-up task in order to monitor the uptake of the project products. So, the partnership agrees to take care of and sustain all the project outcomes and products for the following 5 years beyond the lifetime of the project and monitor their uptake through the creation of a Special Interest Group. Although it had been given the name of Advisory Board from the very beginning of the sustainability work, in the Paris Meeting in November 2019 it is decided that this group will be called Special Interest Group on OpenVM.

	Who?	When?	Where	For what?
Special Interest Group on OpenVM	A member of each partner And the Project Management Team Chairing by EADTU	Twice annually for the first year after the end of the funding period Annually from December 2021 to December 2025	Digital environment	Monitoring OpenVM uptake

Table 24. General design of the Special Interest Group on OpenVM

Partners have been requested to suggest the members of the Special Interest Group so after last PM (Ibiza 2020) it will be decided. The other aspects can be further developed further as follows:

	Special Interest Group on OpenVM
When?	December 2020 (six months after the project funding lifetime) June and December 2021 (twice for the first year) December 2022 December 2023 December 2024 December 2025
Who?	A member of each partner: Beuth University, RomaTre, Polytechnic University of Timisoara, Open University, KU Leuven, University of the Balearic Islands, EDEN Invited participants: Chaired by EADTU
Where?	Meetings will be carried out in online platforms, supported by Beuth

	University
For what?	Monitoring KPI: KPI 1: number of OER items KPI 2: number of MOOC participants from partner organisation KPI 3: number of external participants KPI 4: number of e-assessments KPI 5: number of Open Credentials KPI 6: number of countries represented KPI 7: number of respondents in data collection-activities KPI 8: number of visitors of Learning Hub KPI 9: number of contributions to conferences and journals KPI 10: number of initiatives as spin-off Following re-usage and dissemination among networks by: - Re-usage of Learning Hub, MOOC and OER - Frequency of dissemination in channels (website, social media, EDEN and EADTU networks, communication with external networks and publications) - Contact with new customer segments Agreements for further meetings Special focus on difficulties: - Technical problems - Lack of communication - Low level of implication in assigned tasks - Disagreements - Fail of support by partners' institutions
How?	PMT will communicate with partners to establish a date. First communication will have to be a month before the meeting. Communication, schedule for meetings and follow-up of participants' attendance will be carried out by the UIB member. Alternatively, other spaces will be suggested at the beginning of the SIG work. Communication has to be formally carried out through Freedcamp, the digital environment during the official lifespan of the project. Communication via email is also possible if members of the OpenVM SIG wish to receive email information. Google Drive is the environment to be used to share documents and work processes Minutes will also be taken in Google Drive collaboratively by members of the OpenVM SIG. Main information about KPI will have to be prepared and collected for the

	meeting UPT member will inform about the information collected from the Learning Hub and MOOC platforms CINECA will report about the Open Badges issued PMT and EADTU will report on the initiative to extend the OpenVM work in further funding projects RomaTre/UIB will report on quality assessments It will be possible to invite other external members to the partnership to take part in meetings and become members of the SIG on OpenVM
How much?	No revenue streams As stated by the Erasmus guidelines, and since there are no revenue streams, the sustainability actions can be carried out due to partners' commitment and as part of their core business.

Table 25. Special Interest Group on OpenVM

6.7.1. Partners in the SIG on OpenVM

Partners agreed on their roles in the SIG after they were introduced to a proposal in the online transnational meeting (18 adn 19th May) and finally agreed at the last online meeting in 13th July. The following tables present partners' role in the SIG for the next 5 years.

Beuth University:

	Beuth University
Period	2020-2025
Key participants	Ilona Buchem
Key activities	Re-usage of Learning Hub, MOOC and OER Dissemination through channels and among customer segments Participation in the SIG: Member of SIG PMT Also monitoring: KPI 9: number of contributions to conferences and journals KPI 10: number of initiatives as spin-off
SIG	Attending online SIG meetings. Frequency of SIG meetings:

	December 2020 (six months after the project funding lifetime) June and December 2021 (twice for the first year) December 2022 December 2023 December 2024 December 2025 Task in SIG meetings: reporting about the KPI monitoring

Table 26. Beuth role in the OpenVM SIG

Open University NL

	Open University
Period	2020-2025
Key participants	Olga Firssova
Key activities	Dissemination through channels and among customer segments Participation in the SIG Monitoring: Research: citations and references in research.
SIG	Attending online SIG meetings. Frequency of SIG meetings: December 2020 (six months after the project funding lifetime) June and December 2021 (twice for the first year) December 2022 December 2023 December 2024 December 2025 Task in SIG meetings: reporting about research monitoring

Table 27. OU role in the OpenVM SIG

Polytechnic University of Timisoara:

	Polytechnic University of Timisoara
Period	2020-2025

Key participants	Diana Andone
Key resources	Maintenance and technical support: Learning Hub and MOOC infrastructure
Key activities	Re-usage of Learning Hub, MOOC and OER Dissemination through channels and among customer segments Participation in the SIG Monitoring: KPI 2: number of MOOC participants from partner organisation KPI 3: number of external participants KPI 4: number of e-assessments KPI 6: number of countries represented KPI 7: number of respondents in data collection-activities KPI 8: number of visitors of Learning Hub
SIG	Attending online SIG meetings. Frequency of SIG meetings: December 2020 (six months after the project funding lifetime) June and December 2021 (twice for the first year) December 2022 December 2023 December 2024 December 2025 Task in SIG meetings: reporting about the KPI monitoring

Table 28. UPT role in the OpenVM SIG

Roma Tre University:

	Roma Tre University
Period	2020-2025
Key participants	Antonella Poce
Key resources	OpenVM design and infrastructure OER repository
Key activities	Deisgn maintenance of the MOOC structure? Re-usage of Learning Hub, MOOC and OER

	Dissemination through channels and among customer segments Participation in the SIG Monitoring: KPI 1: number of OER items Participation in the SIG
SIG	Attending online SIG meetings. Frequency of SIG meetings: December 2020 (six months after the project funding lifetime) June and December 2021 (twice for the first year) December 2022 December 2023 December 2024 December 2025 Task in SIG meetings: reporting about the KPI monitoring

Table 29. RomaTre role in the OpenVM SIG

Aunege

	Aunege
Period	2020-2025
Key participants	Deborah Arnold
Key activities	Maintenance of self-assessment tool Updating/deleting e-assessment questions if needed (eg. OERs referred to are no longer available) Re-usage of Learning Hub, MOOC and OER Dissemination through channels and among customer segments Developing synergies in particular with ECCOE, eLene4Life and future related projects Participation in the SIG Monitoring: Participation in the SIG
SIG	Attending online SIG meetings. Frequency of SIG meetings: December 2020 (six months after the project funding lifetime) June and December 2021 (twice for the first year) December 2022

	December 2023 December 2024 December 2025 Task in SIG meetings: reporting about the KPI monitoring

Table 30. AUNEGE role in the OpenVM SIG

KU Leuven

	KU Leuven
Period	2020-2025
Key participants	Kamakshi Rajagopal
Key activities	Dissemination through channels and among customer segments Dissemination through channels and among customer segments Participation in the SIG Monitoring: Research: citations and references in research Creation and monitoring of a ResearchGate group
SIG	Attending online SIG meetings. Frequency of SIG meetings: December 2020 (six months after the project funding lifetime) June and December 2021 (twice for the first year) December 2022 December 2023 December 2024 December 2025 Task in SIG meetings: reporting about research monitoring

Table 31. KU Leuven role in the OpenVM SIG

University of the Balearic Islands

	University of the Balearic Islands
Period	2020-2025

Key participants	Gemma Tur
Key activities	Dissemination through channels and among customer segments Re-usage of Learning Hub, MOOC and OER Dissemination through channels and among customer segments Participation in the SIG
SIG	Attending online SIG meetings. Frequency of SIG meetings: December 2020 (six months after the project funding lifetime) June and December 2021 (twice for the first year) December 2022 December 2023 December 2024 December 2025 Task in SIG meetings: Contact and communication among SIG members

Table 32. UIB role in the OpenVM SIG

EADTU

	EADTU
Period	2020-2025
Key participants	George Ubachs
Key resources	EADTU network and channels
Key activities	Dissemination through channels and among customer segments Participation in the SIG: chairing
SIG	Attending online SIG meetings. Frequency of SIG meetings: December 2020 (six months after the project funding lifetime) June and December 2021 (twice for the first year) December 2022

	December 2023 December 2024 December 2025 Task in SIG meetings: Chairing Agenda for SIG meetings Informing new channel and network opportunities

Table 33. EADTU role in the OpenVM SIG

EDEN

	EDEN
Period	2020-2025
Key participants	Sandra Kucina, President of EDEN
Key resources	EDEN channels and networks
Key activities	Dissemination through channels and among customer segments Participation in the SIG
SIG	Attending online SIG meetings. Frequency of SIG meetings: December 2020 (six months after the project funding lifetime) June and December 2021 (twice for the first year) December 2022 December 2023 December 2024 December 2025 Task in SIG meetings: informing new channel and network opportunities

Table 34. EDEN role in the OpenVM SIG

Cineca:

	Cineca
Period	2020-2025

Key participants	Chiara Carlino
Key activities	Maintenance of the Open Credentials infrastructure Monitoring KPI 5: number of Open Credentials Dissemination through channels and among customer segments Participation in the SIG
SIG	Attending online SIG meetings. Frequency of SIG meetings: December 2020 (six months after the project funding lifetime) June and December 2021 (twice for the first year) December 2022 December 2023 December 2024 December 2025 Task in SIG meetings: reporting about the KPI 5 monitoring

Table 35. BEUTH role in the OpenVM SIG

Fulda University

	FuldaUniversity
Period	2020-2025
Key participants	Johannes Konnert
Key activities	Re-usage of Learning Hub, MOOC and OER Dissemination through channels and among customer segments Participation in the SIG: Member of SIG PMT
SIG	Attending online SIG meetings. Frequency of SIG meetings: December 2020 (six months after the project funding lifetime) June and December 2021 (twice for the first year) December 2022 December 2023 December 2024 December 2025 Task in SIG meetings: reporting about the KPI monitoring

Table 36. FULDA role in the OpenVM SIG

6.7.2 Call for papers

As the first main strategy in order to promote and enhance both OpenVM and VM there is a call for papers in the EDUTEC journal. The EDUTEC journal is one of the most relevant journals in educational technology in Spanish and has had a great impact in the context of Spain and South America. The call is lead by Gemma Tur and Ilona Buchem and can be retrieved from here: https://www.edutec.es/revista/index.php/edutec-e/announcement/view/17

6.8 External network

6.8.1 Key partners

Among key partners for sustainability there are coetaneous projects on Virtual Mobility. Contact has been made with project leaders, and agreements to joint work have been reached.

The current running projects from which the OpenVM project has joint efforts for meaningful collaboration that can promote future sustainability are:

Program	Program	Website
Evaluate	EVALUATE	http://www.evaluateproject.eu
UNIcollaboration	UNICollaboration	https://www.unicollaboration.org
Virtual exchange coalition	Erasmus+ Virtual Exchange INTERCULTURAL LEARNING EXPERIENCES	http://virtualexchangecoalition.org

Navigate		https://www.navigateproject.eu
MicroHE		https://microcredentials.eu
eLene4work		http://elene4work.eu
eLene4life		http://elene4life.eu
Erasmus Virtual (youth section)		online meeting- willing to collaborate no answer yet to add logo in our website https://europa.eu/youth/erasmusvirtual_en
Fied (French National network on distance education) memeber of EADTU		https://www.fied.fr/fr/index.html
Intercultarl Education Resources for Erasmus Students (IEREST)		http://www.ierest-project.eu

MILETUS		https://miletus.mnau.edu.ua/external-cooperation/

Table 37. External network: key partners

6.8.2. Key activities & key resources

In this case, as the external network is key to knowing how to develop activities and use resources, first, key partners are presented and later, both activities and resources are explored jointly.

	Key activities	key resources
Evaluate Virtual Exchange Navigate MicroHE Elene4work Elene4life FIED Miletus	Theoretical interrelationship Reusage Common research Participation in the Advisory board	Set of skills Learning Hub MOOC and mini-MOOCs OER Competency directory Matching tool Open Badge infrastructure eAssessment QAF

Table 38. External network: key activities and key resources

6.8.3. Instrument for first contact

		OpenVM proposal
1	**What can OpenVM offer?**	- Theoretical background for the development of 8 skills for Teacher Education programmes and those involved in VM - OER for 8 skills involved in Virtual Mobility learning activities - 8 mini MOOCs for these skills - A complete MOOC on VM - Validated instruments for QAF

2	**What can OpenVM ask for?**	Reuse: - Learning Hub/Mini Moocs/ Mooc in your project - Promote blending Mini Moocs/Mooc Promote further educational implementation: - invite educators/students to participate in the MOOC on Virtual Mobility - invite your educators/students to co-design and/or adapt OER on Virtual Mobility to own context (e.g. in terms of content, language), - design your own online course on Virtual Mobility for your educators/students in the Learning Hub? - report on your educational implementation
3	**Research synergies**	- Definitions and conceptual landscape - Skills development - Learning design: badges, assessment, learning path (our MOOC and mini-moocs) - Joint research
4	**Special Interest Group on OpenVM**	- Possible participation in the Special Interest Group on OpenVM

Table 39. Instrument for first contact with external network

6.8.4. Educational implementation by external network

During the Quality and Sustainability ME event in 19th June 2020, we hosted a brief online workshop to see how external participants could envision their educational implementations of the OpenVM MOOC. We also used it in the context of an online course for researchers from the Spanish and South American context. A total of 24 participants kindly answered our short survey. We wanted to know their cultural background, country, program modality and fields, and how they would ask students to take the miniMOOCs. Main results are presented below:

Participants were asked about their background (figure 5 and 6).

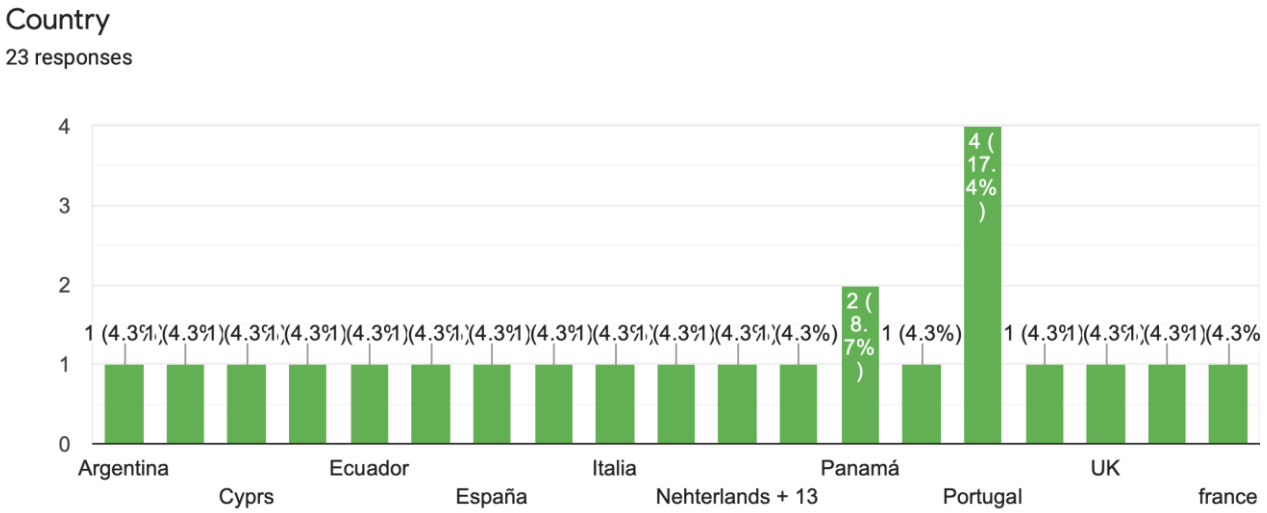

Figure 5. Countries from participants in sustainability activities

As shown in figure 5, there were participants from countries across Europe and South America.

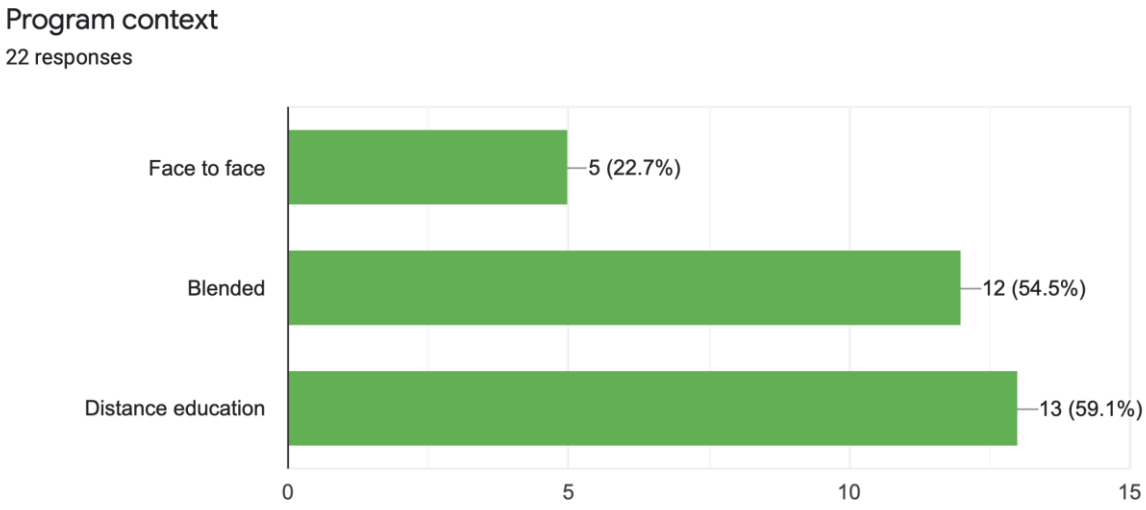

Figure 6. Program context from participants

Participants were mostly developing their educational tasks in blended and distance education programs (figure 6).

Participants were asked about which miniMOOC they would mostly promote among their students and how they would address their process of selection (figures 7 to 9).

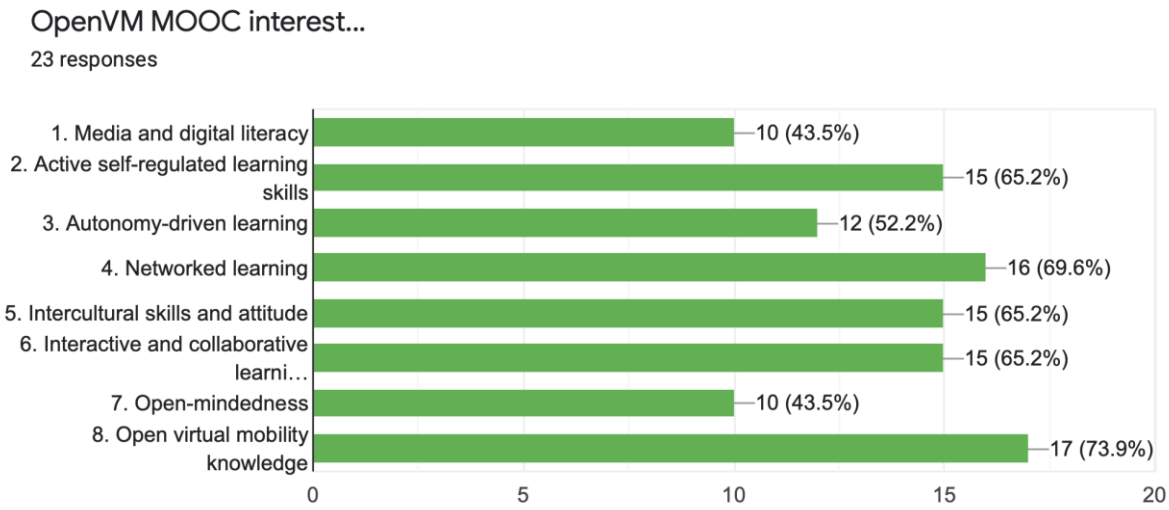

Figure 7. OpenVM MOOC interest

Figure 7 shows quite balanced results and the miniMOOC on the knowledge about Open Virtual Mobility is the one which receives higher interests from participants followed by Networked learning and Active Self-Regulated Learning, Intercultural skills and Collaborative knowledge.

Then, participants were asked about the levels they would be more interested in.

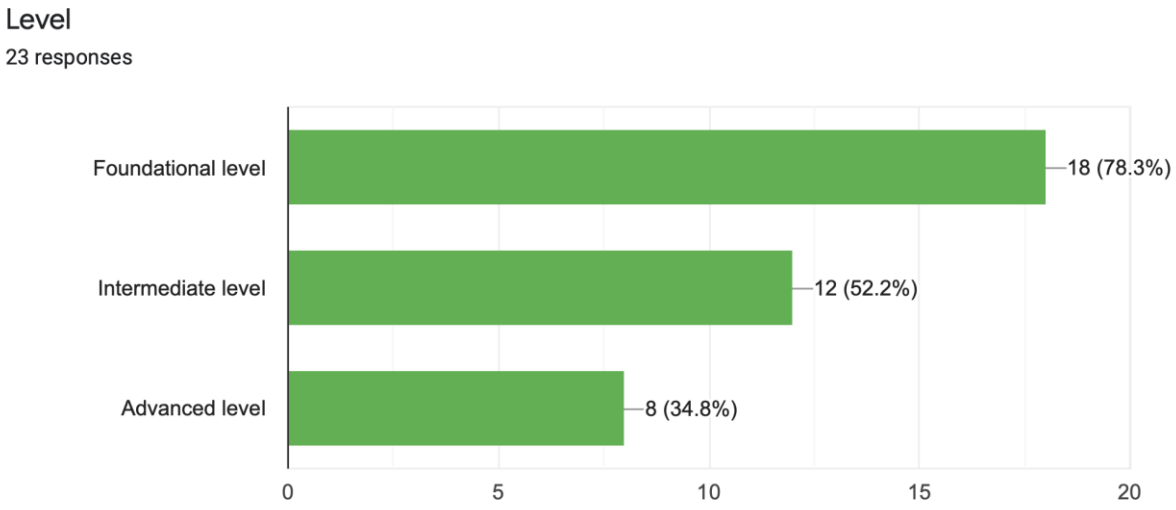

Figure 8. Levels of the miniMOOC in which participants were more interested

Results show that participants were more interested in foundational levels (figure 8).

Finally, participants were asked about how they would address the selection of miniMOOCs.

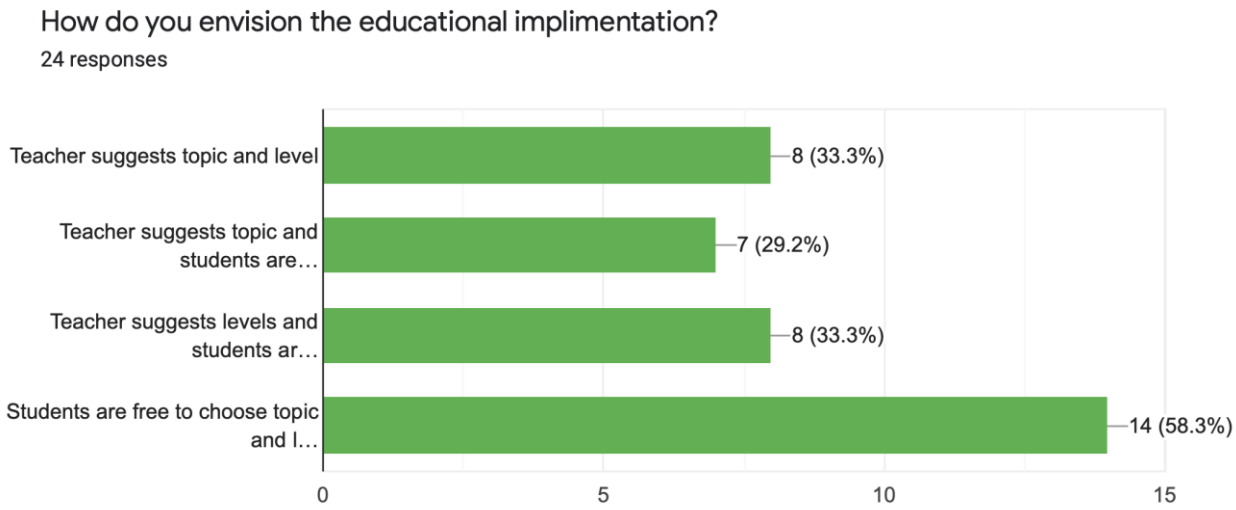

Figure 9. Teachers and students' agency in the selection of miniMOOCs

It is very interesting to see that the high flexibility of the design can enhance students' agency since most participants would allow their students to choose both levels and topics (figure 9)..

Open comments by participants were very positive:

- I think it is important to design the courses with a certain level of flexibility and promote the self regulated learning
- Very interesting
- Muy interesante la propuesta
- Los Moocs me han parecido muy interesantes a la vez que han aportado a mi investigación.
- I attended the different mooc as part of the course but I would like my students to know about them because they are citizens of the 21st century.
- Lo pienso utilizar como complemento para que los estudiantes realicen una experiencia formativa abierta impulsando la perspectiva de la movilidad virtual universitaria (trabajo en una universidad en el contexto del sur de argentina)
- Congratulations

7. Conclusions

Derived from the literature review and data collection from partners, some main guiding indicators can be deduced for the sustainability of the project. Conceptually, partners refer in general to: close interrelationship on what is known and what is currently being done, future work for educational implementation and research, maintaining infrastructure and monitoring, and, quality and success. The following figure summarises these main aspects:

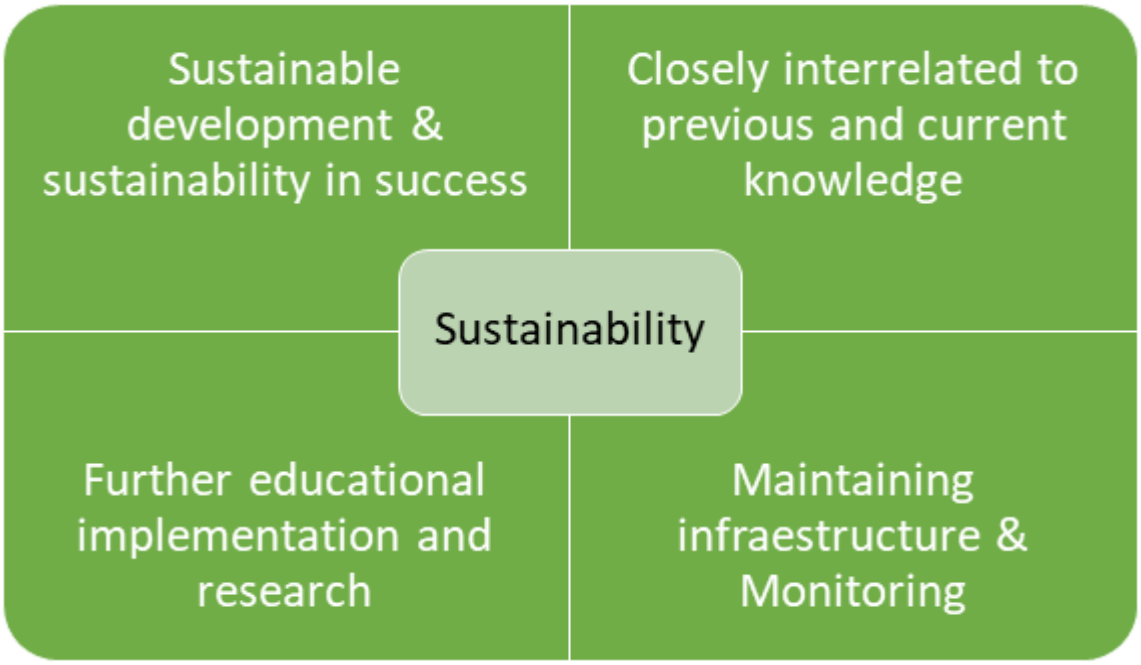

Figure 5. Main guidelines for the OpenVM sustainability plan

The OpenVM with its sustainability plan challenges project management including the social pillar of sustainable development. A project with such a social implication could not forget this perspective for the sustainability strategy as well. Moreover, the link of sustainability with project success has introduced new criteria to review when re-addressing the work carried out in O7.A1.2, in particular in the work for the assessment of the quality of the project (Tur, Urbina & Ubach, 2018b).

Furthermore, the sustainability of the OpenVM Erasmus+ is based on its intrinsic characteristics. The future of the work carried out in the partnership is envisioned to be alive after its official end because of the following three main characteristics:

- Relevant. The OpenVM E+ project is relevant to current research and implementation of Virtual Mobility. It has been developed on what is known so far and has made a special effort to connect with current similar initiatives. The Learning Hub is envisioned to unite all this current work and can be useful for all those interested in Virtual Mobility implementation or further research.
- Accurate. The work developed is extremely rigorous: output 1 has developed the theoretical framework based on strict research methodologies and the set of clusters of skills is a useful background for educational and research implementation. All the learning resources in Outputs from 2 to 6 have been designed regarding this set of skills. The Open Badges become a structure for the assessment of these skills and are perfectly integrated into the MOOC design. The selection of OER has been carried out based on a previously validate rubric for OER quality assessment.

- Grounded and interrelated. The competency directory relates the set of skills with current recognised set of skills such as ESCO, which are important for current European labour force. The underpinning structure of key associations from Higher Education context makes it feasible and visible for a wide range of stakeholders in Europe.
- Flexible. The high number of topics and the three-level structure allows a lot of flexibility for teachers and students to choose the learning itineraries that best meet their motivations, needs and program or personal characteristics. Furthermore, this structure is very relevant to current trends in education technology as it fosters students' agency in open digital environments.

Partners have engaged in the agreement of a SIG that will lead the OpenVM work for the next five years. Partners have discussed and agreed on their responsibility and roles for the successful work of the SIG.

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