

MAS

Museum Affinity Spaces (MAS): Re-imagining Museum-School Partnerships for the 21st century through a Multiliteracies Lens



Report on the participatory engagement activities
Deliverable D29

Acknowledgements

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Executive summary

This deliverable describes the Participatory Engagement Activities (Task 6.2) that took place in the project. There are two groups of activities involved in Task 6.2, online participatory engagement activities, and physical (or online due to COVID-19) workshops, being visionary workshops and practice reflection workshops. This report will focus on the visionary workshops and practice reflection workshops, which are presented in two parts. Part 1 describes the Visionary Workshops (VWs) as the first type of decentralised activities, which took place in M1-M8 of the MAS project. These visionary workshops required specifications which are provided in [Deliverable 26](#), so as to be coherent and follow the same principles in every country.

Part 2 describes the methodology, the format, and the implementation of the Practice Reflection Workshops (PRWs) of the prototyping and implementation phase (M8-M20), the methodology of data collection and analysis, and the main outcomes of the PRWs. For the collection of educators' reflections, both quantitative and qualitative methods of data collection were used. The 49 educators involved in the long-term implementation, were asked to reflect on the impact of participation in MAS, as part of support measures aimed to promote equity and to mitigate disadvantage.

Despite the overall positive stance towards the potential for integration of MAS in compulsory education and the curriculum, some important issues are identified as crucial for the implementation of MAS, such as the compatibility with the curriculum, the limited didactic knowledge of teachers on using virtual museums, the requirement for intensive training for teachers so that they can use the MAS portal and the fact that school leaders should give teachers additional time to prepare their lessons based on the MAS framework.



Table of Contents

Overview of Community Building Activities	5
1. Part One Description of Visionary Workshops (VWs)	6
1.1 Visionary Workshop 1 (VW1)	6
Aims.....	6
Where and when	6
Format.....	6
Feedback.....	9
1.2 Visionary Workshop 2 (VW2)	9
Aims.....	9
Where and when	9
Format.....	9
Feedback.....	11
1.3 Findings from VWs	12
2. Part Two Description of Practice Reflection Workshops (PRWs).....	14
2.1 Practice Reflection Workshop 1 (PRW1).....	14
Aims.....	14
Where and when	15
Format.....	15
Findings.....	15
2.2 Practice Reflection Workshop 2 (PRW2).....	15
Aims.....	15
Where and when	16
Format.....	16
Findings.....	16
2.3 Practice Reflection Workshop 3 (PRW3).....	17
Aims.....	17
Where and when	17
Format.....	17
Findings.....	18
3. Conclusions	19
4. Appendices.....	20
Appendix A Visionary Workshop 1 (VW1)	20
APPENDIX B Visionary Workshop 2 (VW2)	22
APPENDIX THREE- Practice Reflection Workshops (PRW1, PRW2, PRW3)	25
APPENDIX FOUR Practice Reflection Workshop 2 (PRW2)	28
APPENDIX FIVE Practice Reflection Workshop 3 (PRW3)	30
References	32

Overview of Community Building Activities

The overarching framework of action in WP6 was to progressively build a community of users, policymakers, and stakeholders at large, who will nurture the project's objectives and facilitate its development into a sustainable virtual and physical group interacting in museum affinity spaces.

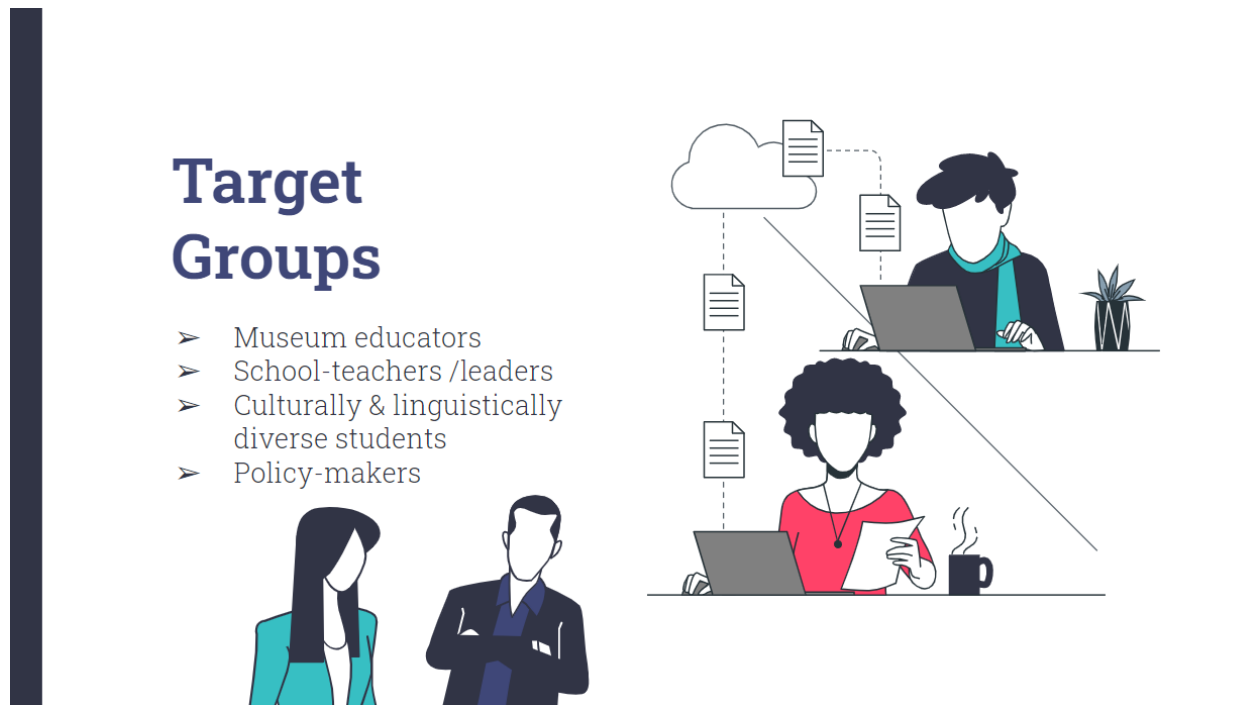


Figure 1. Target groups in MAS

In March 2020, due to the outbreak of the COVID-19 pandemic, most formal and informal learning institutions were forced to shut down. This prolonged period of emergency remote teaching (Hodges et al., 2020), led to the different community-building activities for MAS being almost exclusively digital, following a period of adjustment to the new circumstances.

The participatory engagement activities signify the full development of the MAS project, as part of the active, open and dialogue-centred orientation in WP6 and WP7. Stakeholders, whether they were involved in the project or not, were able to influence the project's activities and participate in other WPs, even taking advantage of the project results. This process was crucial for the MAS environment and community to continue to grow beyond the project life cycle.

There are two groups of activities involved in Task 6.2, as shown in Figure 2, online participatory engagement activities, and physical workshops, being visionary workshops and practice reflection workshops. Due to the COVID-19 restrictions, some of the physical events were done virtually (PRWs).

The following report describes how the participatory engagement activities unfolded, throughout M5-M24 of the MAS project.

1. Part One Description of Visionary Workshops (VWs)

1.1 Visionary Workshop 1 (VW1)

Aims

- ✚ To collect stakeholders' views on the future of museum-school partnerships and the specific role that could be played by virtual museum environments, towards interdisciplinary and inclusive learning in primary education;
- ✚ To collect feedback on the pedagogic, organisational and technological elements of the model initially proposed by the MAS Project and to use this feedback in the development work taking place in year 1, especially as far as the pedagogical framework is concerned;
- ✚ To inform national audiences on the MAS project proposal and to contribute to creating favourable institutional conditions for the Large-scale Piloting, thus contributing to Dissemination activities of WP9;
- ✚ To establish a productive dialogue with a set of national stakeholders who will accompany the development of the project in its different phases.

Where and when

The first Visionary Workshop (VW1) was organised in Barcelona, Spain. The visionary workshop took place at CosmoCaixa Barcelona, on March 11, 2019 (M5). The decision to host the visionary workshop on the specific dates was strategically placed to coincide with the "Technology, Knowledge and Society" conference, where the MAS postdoctoral researcher, Stefania Savva, was awarded a scholarship to chair and present the work on the MAS project.

Format

The first Visionary Workshop was organised locally following a three-step process. The Visionary Workshop provided direct input from the participating stakeholders. The format

followed drawing on the specifications of the participatory engagement activities ([Deliverable 26](#)), is a half-day workshop which unfolds in 3 phased sessions:

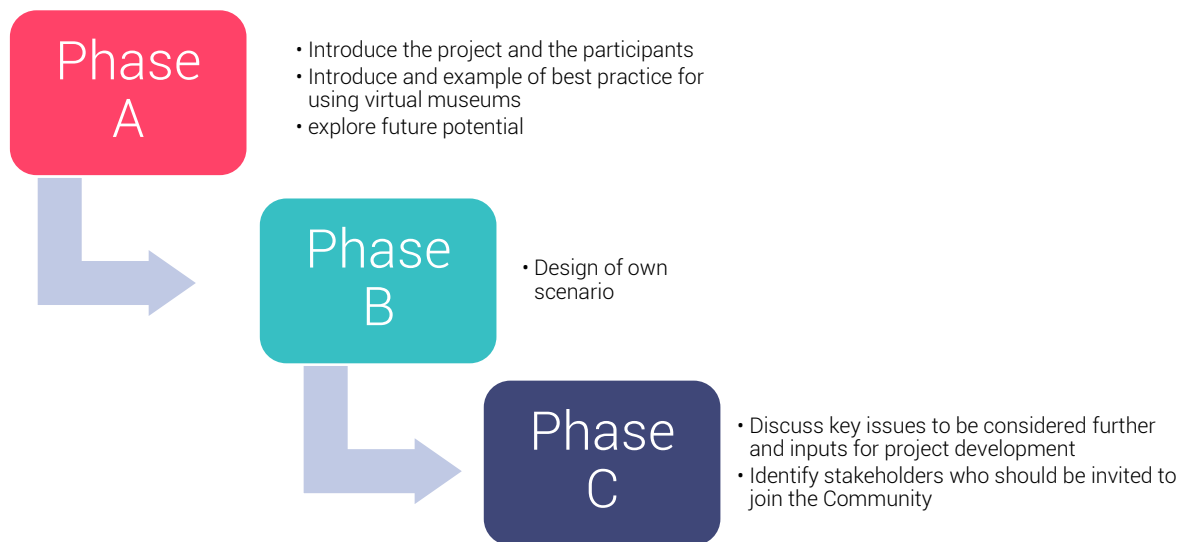


Figure 2. Format of Visionary Workshop 1 (VW1)

The VW1 workshop run with 16 participants, being museum educators, teachers, and school administrators. The participants were 7 males and 9 females. The structure of the workshop is presented in Figure 3.

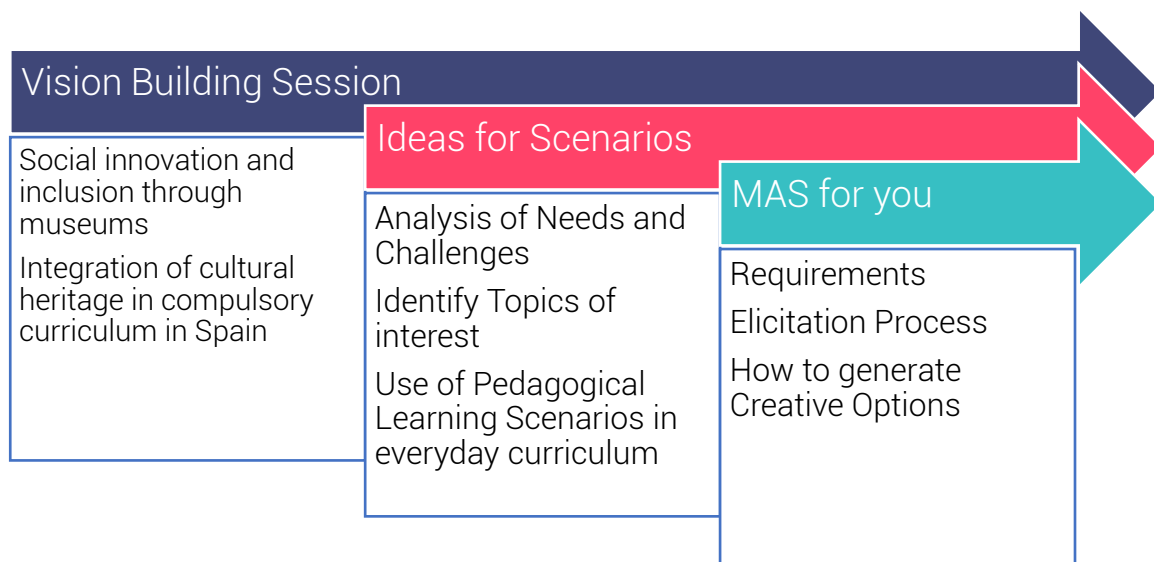


Figure 3. Structure of Visionary Workshop 1 (VW1)

The detailed guidelines on the three-step scheme for the organisation of VW1, are presented below, based on the specifications of the participatory engagement activities ([Deliverable 26](#)).

Table 1. Three-step scheme for VW1

Phase A - Vision building (1 hour)
<p>The workshop was organised with the support of the Local Teacher Educational Department in Barcelona. The Vision Building Session coincided with:</p> <ul style="list-style-type: none"> - An international conference and took place in the same venue. - A MAS team representative (Stefania Savva), introduced the project and its objectives. - The Vision building introductory session, invited an educator who was attending the conference, to share their success story. - Following this presentation, the MAS team representative coordinated a discussion on the story presented to: <ul style="list-style-type: none"> ✚ Highlight the potential of the use of virtual museums in school practice; ✚ Identify the pedagogies used in the scenarios; ✚ Develop the scenario/s into a workshop theme; ✚ Construct a Q&A about problems/challenges and solutions; ✚ Develop further themes emanating from the scenario that could be developed into other workshops. <p>The MAS team representative presented the Pedagogical Learning Scenarios developed for the project, and a couple of lesson plans, using the MAS Cabinet for the integration of cultural heritage in different subject domains. The MAS team representative then asked the participants to prepare for the design of their scenarios (based on their ideas and experiences).</p>
Phase B - Turn ideas to implementation scenarios (1.5 hour)
<p>After the Vision building session, participants were prompted to further develop their scenarios in teams, allowing for collaborative evaluation in the topic of their interest. They were encouraged to use the virtual museum environment introduced, as a success story, or another one they know.</p>
Phase C – MAS For You (30 minutes)
<p>Educators presented their scenarios with the use of the MAS Cabinet. MAS team representatives coordinated the discussion on specific requirements that must be met, for these scenarios to be implemented in a museum and school settings. The MAS team representative presented a series of possible services that could be offered to schools and museums. The visionary workshop concludes with a presentation of the overall plan for the project's digital infrastructure and its implementation. The VW1 plan, together with a more detailed indicative list of questions, is included in ANNEX 1.</p>

Feedback

The outcomes and findings of the first Visionary Workshop were analysed in M6-M7. The participants of the visionary workshop were asked to also complete a questionnaire online. Findings from VW1 are presented further below together with findings from VW2.

1.2 Visionary Workshop 2 (VW2)

Aims

- ✚ To collect stakeholders' views on the future of museum-school partnerships and the specific role that could be played by virtual museum environments, towards interdisciplinary and inclusive learning in primary education;
- ✚ To collect feedback on the pedagogic, organisational and technological elements of the model initially proposed by the MAS Project and to use this feedback in the development work taking place in year 1, especially as far as the pedagogical framework is concerned;
- ✚ To inform national audiences on the MAS project proposal and to contribute to creating favourable institutional conditions for the Large-scale Piloting, thus contributing to Dissemination activities of WP9;
- ✚ To establish a productive dialogue with a set of national stakeholders who will accompany the development of the project in its different phases.

Where and when

The second Visionary Workshop (VW2) was organised in June 2019, in Limassol, Cyprus. This was hosted at a local primary school with a member of the MAS team, as the facilitator.

Format

The second Visionary Workshop was organised locally, following a three-step process. The Visionary Workshop provided direct input from the participating stakeholders. The format followed drawing on the specifications of the participatory engagement activities ([Deliverable 26](#)), is a half-day workshop which unfolds in 3 phased sessions:

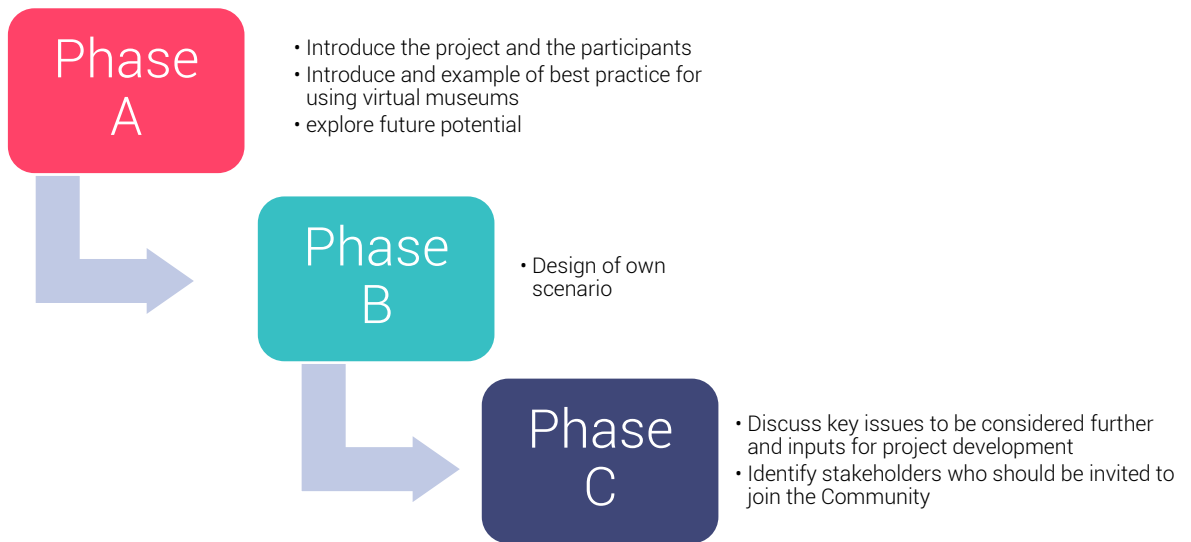


Figure 4. Format of Visionary Workshop 2 (VW2)

The VW2 workshop run with 34 participants, being museum educators, teachers, and school administrators. The participants were 12 males and 22 females. The structure of the workshop is presented in Figure 5.

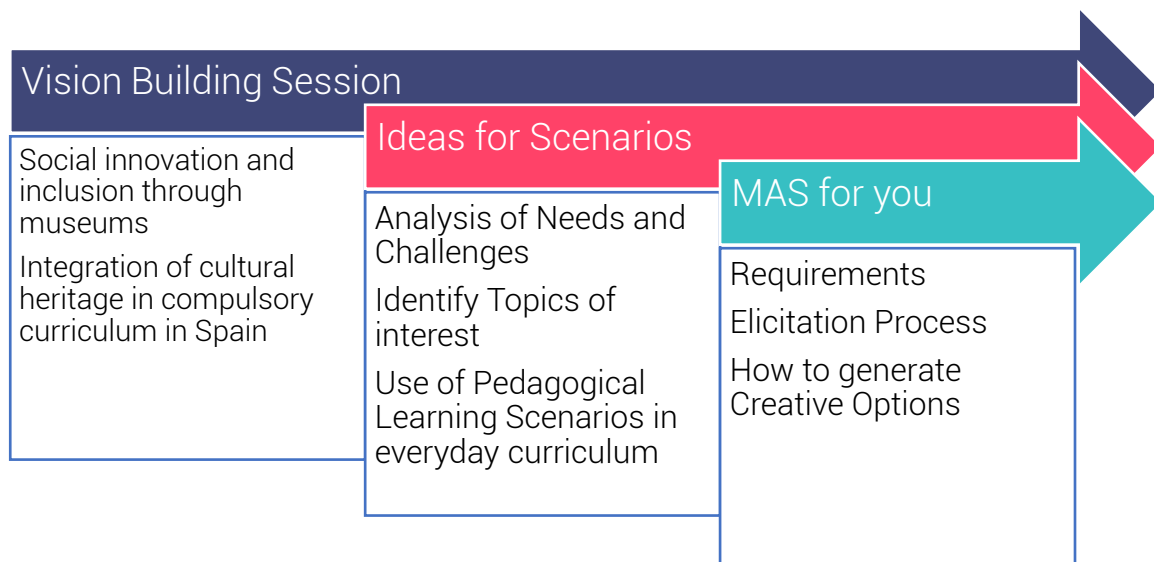







Figure 5. Structure of Visionary Workshop 2 (VW2)

The detailed guidelines on the three-step scheme for the organisation of VW2, are presented below, based on the specifications of the participatory engagement activities ([Deliverable 26](#)).

Table 2. Three-step scheme for VW1

Phase A - Vision building (1 hour)
<p>The workshop was organised with the support of the Local Teacher Educational Department in Limassol. The Vision Building Session was designed ad-hoc, as an independent event.</p> <p>A MAS team representative (Stefania Savva), introduced the project and its objectives.</p> <ul style="list-style-type: none"> - The Vision building introductory session, invited an educator who was attending the conference, to share their success story. - Following this presentation, the MAS team representative coordinated a discussion on the story presented to: <ul style="list-style-type: none">  Highlight the potential of the use of virtual museums in school practice;  Identify the pedagogies used in the scenarios;  Develop the scenario/s into a workshop theme;  Construct a Q&A about problems/challenges and solutions;  Develop further themes emanating from the scenario that could be developed into other workshops. <p>The MAS team representative presented the Pedagogical Learning Scenarios developed for the project, and a couple of lesson plans, using the MAS Cabinet for the integration of cultural heritage in different subject domains. The MAS team representative then asked the participants to prepare for the design of their scenarios (based on their ideas and experiences).</p>
Phase B - Turn ideas to implementation scenarios (1.5 hour)
<p>After the Vision building session, participants were prompted to further develop their scenarios in teams, allowing for collaborative evaluation in the topic of their interest. They were encouraged to use the virtual museum environment introduced, as a success story, or another one they know.</p>
Phase C – MAS For You (30 minutes)
<p>Educators presented their scenarios with the use of the MAS Cabinet. The MAS team representatives coordinated the discussion on specific requirements that must be met, for these scenarios to be implemented in a museum and school settings. The MAS team representative presented a series of possible services that could be offered to schools and museums. The visionary workshop concludes with a presentation of the overall plan for the project’s digital infrastructure and its implementation. The VW2 plan, together with a more detailed indicative list of questions, is included in ANNEX 2.</p>

Feedback

The outcomes and findings of the second Visionary Workshop were analysed in M9. The participants of the visionary workshop were asked to also complete a questionnaire

online and the MAS team produced a comparative synthesis report with findings from VW1 and VW2, which are presented in the following section.

1.3 Findings from VWs

The comparative report from implementation of the VWs in MAS provided a common place for the consideration of the needs and challenges for the different stakeholders involved in the project. The findings from the visionary workshops are interpreted in the context of the preliminary analysis phase of the research.

Both the school teachers and museum educators appreciated the idea of using virtual museums for teaching, as well as expressed the view that potentially such interactive learning is meaningful and appealing to students. A perceived understanding is that virtual museums could enhance learning opportunities for culturally and linguistically diverse students.

There was some level of uncertainty on how to use the technology, and if it is viable to implement it in actual classrooms, with the limited time available. This opinion was prevalent among teachers, especially those who are not familiar with virtual museums or museum pedagogies at large. It was also mentioned that perhaps it is difficult to match the content of the virtual museums with all subjects. The more experienced teachers and museum educators seemed eager to know more about the MAS Platform. The following paragraphs address some of the emerging themes among educators and students.

Findings from the field

For the participants, a virtual museum environment, when designed with specific Pedagogical Framework in mind (such as the MDAF), can be a motivating tool for engaging students to cultural heritage and participation, as well as interdisciplinary learning.

They recognised the potential of the virtual museums to enable students to discover phenomena and knowledge about topics in different ways, promoting critical thinking, more profound understanding and multimodal meaning-making and awareness, while also encourage the acquisition of key ICT skills.

Most of the participants expressed willingness to try out the MAS Cabinet (Virtual Museum environment) and other features of the MAS Platform. Some participants even

spoke about the potential to teach using the Infrastructure provided, via videoconferencing, when students work remotely at home.

Training and pedagogical scenarios requirements

It was unanimously considered good practice to have some form of training before using the MAS Platform for the first time. This could be a workshop or webinar, even a test drive in a way of the tools to familiarise with the interface. Other useful prompts would be small helpful tips, short screencasts and online user guides on performing various tasks in the environment. Some sort of forum for communication of ideas and sharing of learning plans and successful scenarios were thought to be imperative.

Organisational and Technical Barriers to Museum-School Partnerships and Virtual Museum Use

Individual barriers and their possible solutions proposed by the participants are presented in Figure 6 and discussed subsequently.

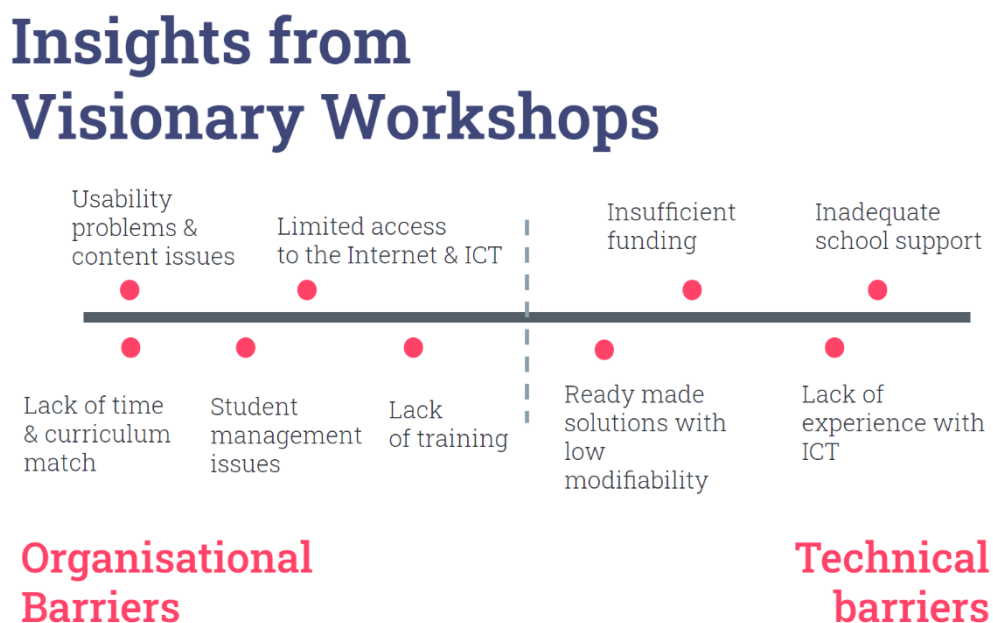


Figure 6. Insights from Visionary Workshops

In discussing potential barriers to develop museum-school partnerships and use the MAS Cabinet (virtual museum environment) created, certain challenges were identified, categorised and grouped in terms of frequency. The findings from the interviews

conducted with museum educators and school-teachers suggest that there was a generally positive stance toward the implementation of virtual museums in their everyday professional routine. However, participants raised several important requirements, and expressed concerns over identified obstacles to meaningful implementation.

Participants were given opportunities to reflect on their current teaching approaches and propose improvements or recommendations for the development of the MAS Infrastructure. These interviews complemented the findings from the surveys with a larger number of museum educators and school-teachers from across Europe. Significantly, these findings laid the important groundwork for the participants to build the community that could support the continuous professional development of the teachers and the sustainability of the work of the MAS project.

There is still a range of personal, social, technical and organisational issues to be addressed for the mass uptake of virtual museums and establishment of sustainable museum-school partnerships. To gain more insights into the facilitating and hindering factors for the integration of virtual museums into the existing curricula and real practices, museum educators and teachers were invited to develop scenarios on deploying virtual museums in their everyday teaching. This objective is realised during the Prototyping Phase 2 of the MAS project, lasting from May 2019 until May 2020.

2. Part Two Description of Practice Reflection Workshops (PRWs)

2.1 Practice Reflection Workshop 1 (PRW1)

Aims

- To stimulate reflection and formative evaluation on pilot activities among participants and between participants and stakeholders representatives.
- To identify positive and transferable results and difficulties in the implementation of the MAS approach.
- To propose improvements in the subsequent phase of development, and to identify criteria for new schools to join the piloting and new stakeholders to join the community.
- To contribute to Project Evaluation activities.

Where and when

The first PRW was hosted in M13 of the project, in Lisbon, Portugal. PW1 took place at the National Library of Portugal, on November 29, 2019. The decision to host the practice reflection workshop on the specific dates resulted from the postdoctoral researcher of MAS, Stefania Savva, been in Lisbon, to present the work on MAS at the Europeana 2019: Connect Communities Conference.

Format

The format followed for PRW1 was a full day workshop articulated in four sessions:

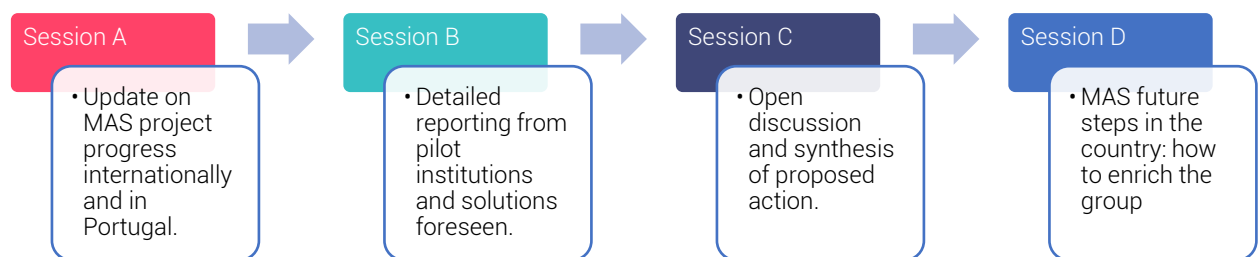


Figure 7. Format of PRW1.

The event hosted 28 participants, who had previously been involved in the first year

Findings

A short report was produced for each PRW. Local MAS Mentors were asked to collaborate when language barriers exist. Reports will be produced within two weeks from the data of the PRW.

2.2 Practice Reflection Workshop 2 (PRW2)

Aims

- To stimulate reflection and formative evaluation on pilot activities among participants and between participants and stakeholders representatives.
- To identify positive and transferable results and difficulties in the implementation of the MAS approach.

- To propose improvements in the subsequent phase of development, and to identify criteria for new schools to join the piloting and new stakeholders to join the community.
- To contribute to Project Evaluation activities.

Where and when

The second Practice Reflection Workshop (PRW2) was organised in February 2020, in Nicosia, Cyprus. This was hosted at the Hub Nicosia, a coworking space in Ayios Dometios, with two members of the MAS team, as facilitators.

Format

The format followed for PRW2 was a full day workshop articulated in four sessions:

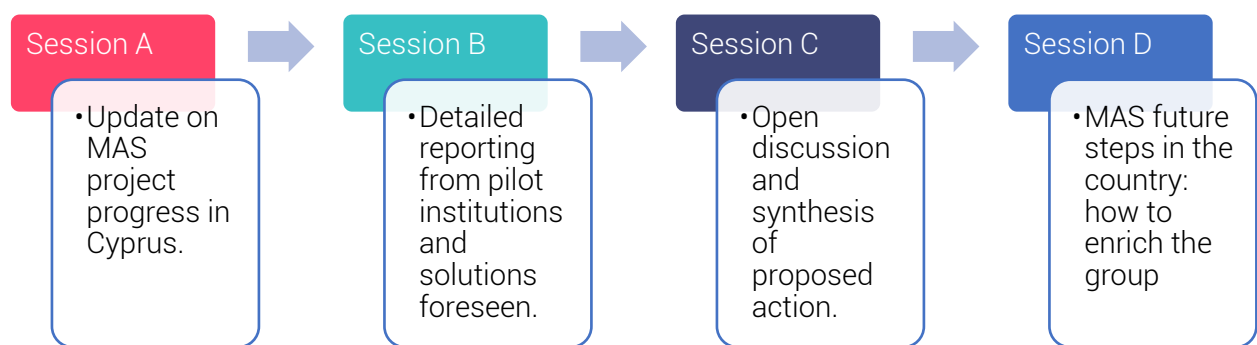


Figure 8. Format of PRW2.

The blueprint for PRW2 was produced in December 2019, following the specifications for participatory engagement activities, noted in Deliverable 26. The workshop hosted 27 participants, being different stakeholders from cultural institutions and schools.

Findings

A short report was produced for each PRW. Local MAS Mentors were asked to collaborate when language barriers exist. Reports were produced within two weeks from the data of the PRW.

2.3 Practice Reflection Workshop 3 (PRW3)

Aims

- To stimulate reflection and formative evaluation on pilot activities among participants and between participants and stakeholders representatives.
- To identify positive and transferable results and difficulties in the implementation of the MAS approach.
- To propose improvements and design principles for future practice.
- To contribute to Project Evaluation activities.

Where and when

The third Practice Reflection Workshop (PRW3) was organised in May 2020, and was an online event (due to the COVID-19 pandemic), with two members of the MAS team, as facilitators.

Format

The format followed for PRW3 was a full day workshop articulated in four sessions:

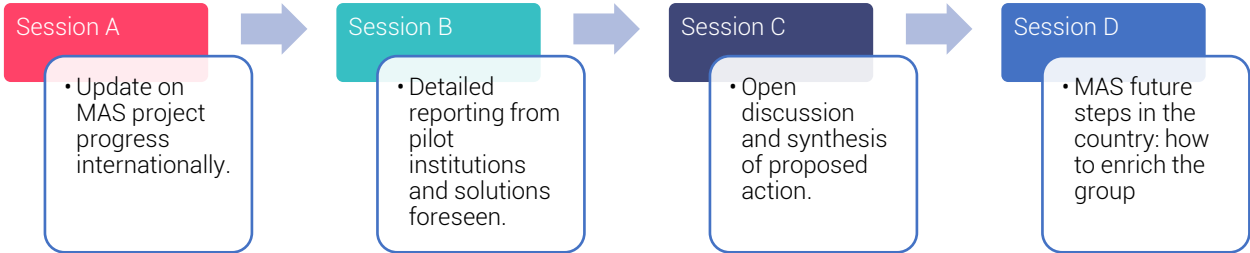


Figure 9. Format of PRW3.

A record number of 49 participants joined this online event (all involved in the final implementation). These included different stakeholders who had participated in the prototyping and implementation phase of the project.

Findings

A short report was produced for each PRW. Local MAS Mentors were asked to collaborate when language barriers exist. Reports were produced within two weeks from the data of the PRW.

Insights from Practice-Reflections Workshops

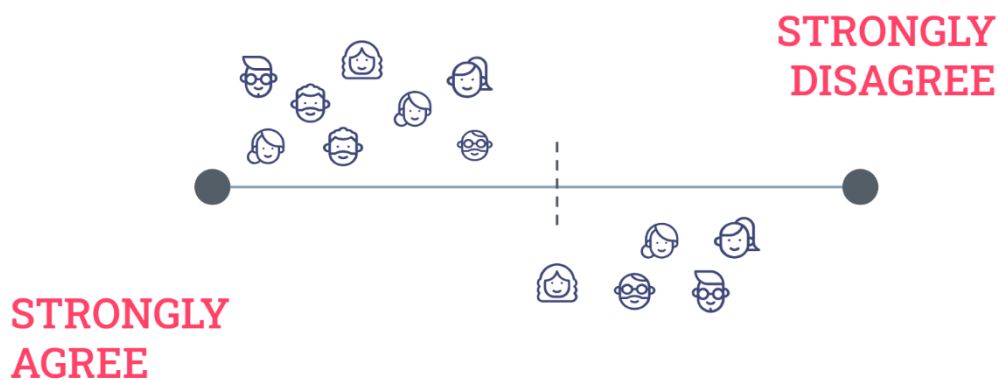


Figure 10. Insights from Practice-Reflections Workshops

The practice reflections workshops were conducted during the prototyping phase and the implementation and evaluation phase of the project.

The 49 educators involved in the long-term implementation, were asked to reflect on the impact of participation in MAS, as part of support measures aimed to promote equity and to mitigate disadvantage. The insights are analysed in relation to Eurydice' framework and include for instance the perception of educators on opportunities to learn, support for disadvantaged schools, and support for low achievers. According to the latest October Eurydice report on Equity in school education (European Commission/EACEA/Eurydice, 2020), the socio-economic background of students continues to influence achievement. For disadvantaged students, the risk of underperformance and leaving education early can be significant. At the school level, inclusion means to ensure that all children 'partake in education sufficiently and effectively' (Ballarino et al., 2014). In other words, all students should be able to reap the

benefits of education.

Concerning equity and the impact of the MAS approach, it was found that most teachers considered their informed teaching practices, were beneficial for student outcomes, as these were evident from both summative and formative assessment. Importantly, it was perceived that teaching practices were positively related to students' self-efficacy or the extent to which students feel confident to take up tasks they are assigned to. Students' self-efficacy was affected by academic and socio-emotional outcomes, but also with anxiety and depression. This is in line with findings from research like Bandura's, the OECD in 2019 and 2020, Rhew et al. in 2018, where it is thought that both as a scaffold and for future learning, and student self-efficacy is valuable for stakeholders to consider how to best support teaching.

To approach this finding, a pre-score measure of students' perceived self-efficacy and post-score perceived self-efficacy, can be used to gain more conclusive insights. Despite the overall positive stance towards the potential for integration of MAS in compulsory education and the curriculum, some important issues are identified as crucial for the implementation of MAS, such as the compatibility with the curriculum, the limited didactic knowledge of teachers on using virtual museums, the requirement for intensive training for teachers so that they can use the MAS portal and the fact that school leaders should give teachers additional time to prepare their lessons based on the MAS framework.

3. Conclusions

The insights from the visionary workshops and practice-reflection activities facilitated the revision of resources and tools in MAS. Especially in the case of the practice-reflection workshops, substantially informed the final implementation phase of the research and the validation and evaluation of the impact of the project for the different target groups and stakeholders involved.

4. Appendices

Appendix A Visionary Workshop 1 (VW1)

1st Introductory Workshop on MAS. Using virtual museum environments for teaching diverse students. CosmoCaixa, Barcelona, March 11, 2019

The workshop titled "Using virtual museum environments for teaching diverse students" will take place in Barcelona, Spain, on the same dates as the "Technology, Society and Knowledge" Conference. The main objective of the workshop is to introduce the participants to technology-enhanced museum learning for teaching diverse students, involving the direct use of a desktop application in the form of a virtual museum environment. This workshop is organised as part of the MAS project, a project funded by the Research and Innovation Foundation in Cyprus. MAS aims to develop digital infrastructure to make these tools more accessible, usable and exploitable by the interested user groups.

Background information and objectives

Numerous digital resources, tools and applications are currently available for teaching diverse learners. Although such resources are of high quality, there are significant barriers in finding them, retrieving them and using/ reusing them efficiently. Therefore, a two-fold effort is in progress, both within the MAS initiative and within similar projects: on the one hand, digital services must be built that will make the content more accessible, usable and exploitable and on the other hand, the major user groups must be educated concerning these emerging services. This workshop's objective is to introduce the participants to the notion of digital social innovation and inform on online learning and inclusion, focussing on the affordances and potential of virtual museum environments and online learning platforms, and how these can be used in a daily classroom.

To that end, the main axes of the presentation are a) Introduction to the MAS project, scope and objectives b) introduction of tools and resources and c) instructional design principles to employ the MAS approach. The intended outcome is to introduce the participants on the project, its purpose and services in a way that it will inspire them to incorporate it in their everyday practice. At the same time, the MAS invites interested educators to provide their perceptions on the needs and challenges, concerning digital tools and inclusive teaching and learning.

Outline of the workshop

The workshop is structured in three parts. During the first part, one museum educator-mentor presents innovative scenarios that she/he has implemented in their classrooms by using the specific virtual museum environment. A description of the virtual museum environment is given by the educator. During the second part, participants are asked to design their scenarios using the same tool. The mentor-educator and the MAS representative are supporting their colleagues in the process. Finally, a brainstorming session in groups aims to answer specific questions related to the user requirements for the MAS portal. This activity facilitates the process of organising these resources and at the same time to create affinity spaces that support the development of learning scenarios with the use of virtual museums. More specifically, the structure of the workshop is:

Part A: Introduction to inclusive teaching for diverse learners using virtual learning environments (1 hour)

1. Cultural inspirations through dance (Presentation by Chiara Santos)

Part B: Participants are developing their scenarios using the proposed virtual museum environment (1.5 hours).

Part C: Designing the MAS Portal (0.5 hours)

This part of the workshop will take place in small teams of 5-6 people. At the end of the session, the teams will present their collaborative answers to the following questions:

- Are you currently using virtual museums in your school? If yes which virtual museums are you using? And how often?
- Are you collaborating with other teachers in the framework of these activities or are you working on your own?
- Would it be useful to have access to virtual museum environments/activities that have been realised by other teachers, or do you prefer to create your own? Would it be valuable to co-design such activities with the collaboration of experts (e.g. researchers) and teachers?

- Is it easy to locate such virtual museum environments (as the ones presented) on the web? Would it be valuable to create a repository with such resources? If yes how would this virtual museum environment be organised to support easy search for you?

- In looking at how virtual museum environments can be implemented in the school curriculum, what are the most important problems you envision? Describe your main ideas.

- How does the school as an institution allow the use of such tools? What are the limitations of the current school practice for implementing such methodologies? (Classrooms with many students, not well-equipped labs, large time investment, lack of resources and materials, the limitations of the curriculum organisation, schools pressures, lack of professional development support, etc.). How could we overcome these difficulties?

- What is the status of teacher training programmes on the use of virtual museums (simulations, analysis tools etc.)? Are there clear methodological approaches?

APPENDIX B Visionary Workshop 2 (VW2)

2nd Introductory Workshop on MAS. Using virtual museum environments for language arts teaching, Kolossi Primary School, June 7, 2020

The workshop titled "Using virtual museum environments for language arts teaching" is taking place in Limassol, Cyprus, in the framework of continuous teachers professional development programme of the Pedagogical Institute. The main objective of the workshop is to introduce the participants to modern ICT enhanced methods for language arts teaching, involving the direct use of a desktop application in the form of a virtual museum environment. This workshop is organised as part of the MAS project, a project funded by the Research and Innovation Foundation in Cyprus. MAS aims to develop digital infrastructure to make these tools more accessible, usable and exploitable by the interested user groups.

Background information and objectives

Numerous digital resources, tools and applications are currently available for teaching diverse learners. Although such resources are of high quality, there are significant barriers in finding them, retrieving them and using/ reusing them efficiently. Therefore, a two-fold effort is in progress, both within the MAS initiative and within similar projects: on the one hand, digital services must be built that will make the content more accessible, usable and exploitable and on the other hand, the major user groups must be educated concerning these emerging services. This workshop's objective is to introduce the participants to the notion of digital social innovation and inform on online learning and inclusion, focussing on the affordances and the potential of virtual museum environments and online learning platforms, and how these can be used in a daily classroom.

To that end, the main axes of the presentation are a) Introduction to the MAS project, scope and objectives b) introduction of tools and resources and c) instructional design principles to employ the MAS approach. The intended outcome is to introduce the participants on the project, its purpose and services in a way that it will inspire them to incorporate it in their everyday practice. At the same time, the MAS invites interested educators to provide their perceptions on the needs and challenges, concerning digital tools and inclusive teaching and learning.

Outline of the workshop

The workshop is structured in three parts. During the first part, one museum educator-mentor presents innovative scenarios that she/he has implemented in their classrooms by using the specific virtual museum environment. A description of the virtual museum environment is given by the educator. During the second part, participants are asked to design their scenarios using the same tool. The mentor-educator and the MAS representative are supporting their colleagues in the process. Finally, a brainstorming session in groups aims to answer specific questions related to the user requirements for the MAS portal. This activity facilitates the process of organising these resources and at the same time to create affinity spaces that support the development of learning scenarios with the use of virtual museums. More specifically, the structure of the workshop is:

Part A: Introduction to language arts teaching using virtual learning environments (1 hour)

2. Teaching about adjectives. Plural (Presentation by Marianna Koutsokoumni)

Part B: Participants are developing their scenarios using the proposed virtual museum environment (1.5 hours).

Part C: Designing the MAS Portal (0.5 hours)

This part of the workshop will take place in small teams of 5-6 people. The teams, at the end of the session, will present their collaborative answers to the following questions:

- Are you currently using virtual museums in your school? If yes which virtual museums are you using? And how often?
- Are you collaborating with other teachers in the framework of these activities or are you working on your own?
- Would it be useful to have access to virtual museum environments/activities that have been realised by other teachers, or do you prefer to create your own? Would it be valuable to co-design such activities with the collaboration of experts (e.g. researchers) and teachers?
- Is it easy to locate such virtual museum environments (as the ones presented) on the web? Would be valuable to create a repository with such resources? If yes how this virtual museum environment would be organised to support easy search for you?
- In looking at how virtual museum environments can be implemented in the school curriculum, what are the most important problems you envision? Describe your main ideas.
- How does the school as an institution allow the use of such tools? What are the limitations of the current school practice for implementing such methodologies? (Classrooms with many students, not well-equipped labs, large time investment, lack of resources and materials, the limitations of the curriculum organisation, schools

pressures, lack of professional development support, etc.). How could we overcome these difficulties?

- What is the status of teacher training programmes on the use of virtual museums (simulations, analysis tools etc.)? Are there clear methodological approaches?

APPENDIX THREE- Practice Reflection Workshops (PRW1, PRW2, PRW3)

Purpose:

These workshops will aim to answer the following questions:

- ✚ Are the initial objectives of the proposed MAS approach being met?
- ✚ Is the proposed organisation scheme of the virtual museum environment and its respective scenarios useful for the educators' practice?
- ✚ What is the impact of the project implementation in museums and schools (along with other activities) on the individual educator? On the school and museum?
- ✚ What are the necessary changes (both pedagogical and technical) to develop a more suitable environment for experimentation?

Participants:

Museum educators/School teachers/teacher trainers/curriculum leaders who have been involved in several different MAS activities (training/implementation) in WP6 and WP7.

Time: 3 hours

Workshop outline:

Introduction to the workshop 10min	A brief update on the MAS project developments and the aims of this workshop
Case study presentations 60min	Who: Approximately 28 participants who have been chosen in advance and who have each been involved in different implementation activities.

What:

Each of the chosen participants will present a short (5-10 minute) case study of their involvement in the MAS activities.

This case study should include:

- ✓ The activities undertaken
- ✓ The impact of the use of the MAS platform and MAS Cabinet scenarios on the teachers and students
- ✓ The impact or potential future impact of the proposed environment and activities on the school and curriculum
- ✓ The challenges – those that have been overcome and those which still need addressing

Whilst listening to the case studies, the rest of the group work together in pairs or small groups to see whether themes are emerging from the case studies e.g. do many of the case studies refer to the teacher role

	<p>Student engagement? Subject knowledge?</p> <p>In the end, there will be a group discussion of the emerging themes.</p>
<p>Theme analysis 20min</p>	<p>The themes that have emerged from the case studies should be recorded centrally on using large pieces of paper or an online collaborative document such as Padlet.</p> <p>Participants will then work in groups to add examples from the case studies and importantly from their own MAS experiences that illuminate the emergent themes.</p> <p>For example: One theme might be the <i>Teacher Role (or the profile of the effective MAS user)</i>. Participants would then briefly record their experience of the impact of the MAS activities and activities on Teacher Role. They can do this by either typing into the collaborative online document under that heading, or writing on a sticky note which they then place onto the large piece of paper designated for that theme.</p> <p>In this way, all participants' experiences are documented.</p>
<p>Break 15min</p>	<p>Coffee break</p>
<p>The MAS teacher 50mins</p>	<p>Working in small groups of approximately 5-6, participants consider the MAS multiliteracies educator.</p> <p>Using either pen and paper or a free online poster building tool such as www.glogster.com, participants work in their groups to create an annotated poster representation of what it means to be a MAS multiliteracies educator</p> <p>Once all the posters are complete, groups should share their work. In this situation also the whole group should consider and discuss whether there are themes that emerge from the groups' posters.</p>
<p>Final discussions and recommendations 25min</p>	<p>In a group discussion, the facilitator will refer back to the case studies and highlight some of the challenges that were described as well as reflect on the emerging themes for both the impact of the MAS approach and activities and the MAS multiliteracies educator.</p> <p>The final activity will then draw on the participants' professional knowledge to consider some recommendations for the further Implementation of the MAS scenarios.</p> <p>Participants should again break into groups to consider their top 5 recommendations.</p> <p>Specifically, these should highlight approaches that would address and begin to overcome on-going challenges and further support teachers to become an effective user of the MAS environment.</p>

APPENDIX FOUR Practice Reflection Workshop 2 (PRW2)

Purpose:

This online workshop will aim to answer the following questions:

- ✚ Are the initial objectives of the proposed MAS approach being met?
- ✚ Is the proposed organisation scheme of the virtual museum environment and its respective scenarios useful for the educators' practice?

- ✚ What is the impact of the project implementation in museums and schools (along with other activities) on the individual educator? On the school and museum?

- ✚ What are the necessary changes (both pedagogical and technical) to develop a more suitable environment for experimentation?

Participants:

Museum educators/School teachers/teacher trainers/curriculum leaders who have been involved in several different MAS activities (training/implementation) in WP6 and WP7.

Time: 3 hours **Location:** Online

Workshop outline:

Introduction to the workshop 10min	A brief update on the MAS project developments and the aims of this workshop
Case study presentations 60min	<p>Who: Approximately 27 participants who have been chosen in advance and who have each been involved in different implementation activities.</p> <p>What: Each of the chosen participants will present a short (5-10 minute) case study of their involvement in the MAS activities.</p> <p>This case study should include:</p> <ul style="list-style-type: none"> ✓ The activities undertaken

	<ul style="list-style-type: none"> ✓ The impact of the use of the MAS platform and MAS Cabinet scenarios on the teachers and students ✓ The impact or potential future impact of the proposed environment and activities on the school and curriculum ✓ The challenges – those that have been overcome and those which still need addressing <p>Whilst listening to the case studies, the rest of the group work together in pairs or small groups to see whether themes are emerging from the case studies e.g. do many of the case studies refer to the teacher role</p>
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	<p>Student engagement? Subject knowledge?</p> <p>In the end, there will be a group discussion of the emerging themes.</p>
Theme analysis 20min	<p>The themes that have emerged from the case studies should be recorded centrally on using an online collaborative document such as Padlet.</p> <p>Participants will then work in groups (breakout rooms on Skype) to add examples from the case studies and importantly from their own MAS experiences that illuminate the emergent themes.</p> <p>For example: One theme might be the <i>Student Agency (or the profile of the effective MAS user)</i>. Participants would then briefly record their experience of the impact of the MAS activities and activities on Student Agency. They do this by typing into the collaborative online document under that heading.</p> <p>In this way, all participants' experiences are documented.</p>
Break 15min	Coffee break (virtual)
The MAS teacher 50mins	<p>Working in small groups of approximately 5-6 (breakout rooms on Skype), participants consider the MAS multiliteracies educator. Using either pen and paper or a free online poster building tool such as www.glogster.com, participants work in their groups to create an annotated poster representation of what it means to be a MAS multiliteracies educator.</p> <p>Once all the posters are complete, groups should share their work. In this situation also the whole group should consider and discuss whether there are themes that emerge from the groups' posters.</p>
Final discussions and recommendations 25min	<p>In a group discussion, the facilitator will refer back to the case studies and highlight some of the challenges that were described as well as reflect on the emerging themes for both the impact of the MAS approach and activities and the MAS multiliteracies educator.</p> <p>The final activity will then draw on the participants' professional knowledge to consider some recommendations for the further Implementation of the MAS scenarios.</p> <p>Participants should again break into groups to consider their top 5 recommendations.</p> <p>Specifically, these should highlight approaches that would address and begin to overcome on-going challenges and further support teachers to become an effective user of the MAS environment.</p>

APPENDIX FIVE Practice Reflection Workshop 3 (PRW3)

Purpose:

This online workshop will aim to answer the following questions:

- ✚ Are the initial objectives of the proposed MAS approach being met?
- ✚ Is the proposed organisation scheme of the virtual museum environment and its respective scenarios useful for the educators' practice?
- ✚ What is the impact of the project implementation in museums and schools (along with other activities) on the individual educator? On the school and museum?
- ✚ What are the necessary changes (both pedagogical and technical) to develop a more suitable environment for experimentation?

Participants:

Museum educators/School teachers/teacher trainers/curriculum leaders who have been involved in several different MAS activities (training/implementation) in WP6 and WP7.

Time: 3 hours **Location:** Online

Workshop outline:

Introduction to the workshop 10min	A brief update on the MAS project developments and the aims of this workshop
Case study presentations 60min	Who: Approximately 49 participants who have been chosen in advance and who have each been involved in different implementation activities. What:

	<p>Each of the chosen participants will present a short (5-10 minute) case study of their involvement in the MAS activities.</p> <p>This case study should include:</p> <ul style="list-style-type: none"> ✓ The activities undertaken ✓ The impact of the use of the MAS platform and MAS Cabinet scenarios on the teachers and students ✓ The impact or potential future impact of the proposed environment and activities on the school and curriculum ✓ The challenges – those that have been overcome and those which still need addressing <p>Whilst listening to the case studies, the rest of the group work together in pairs or small groups to see whether themes are emerging from the case studies e.g. do many of the case studies refer to the teacher role</p>
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	<p>Student engagement? Subject knowledge?</p> <p>In the end, there will be a group discussion of the emerging themes.</p>
<p>Theme analysis 20min</p>	<p>The themes that have emerged from the case studies should be recorded centrally on using an online collaborative document such as Padlet.</p> <p>Participants will then work in groups (breakout rooms on Skype) to add examples from the case studies and importantly from their own MAS experiences that illuminate the emergent themes.</p> <p>For example: One theme might be the <i>Student Agency (or the profile of the effective MAS user)</i>. Participants would then briefly record their experience of the impact of the MAS activities and activities on Student Agency. They do this by typing into the collaborative online document under that heading.</p> <p>In this way, all participants' experiences are documented.</p>
<p>Break 15min</p>	<p>Coffee break (virtual)</p>
<p>The MAS teacher 50mins</p>	<p>Working in small groups of approximately 6-8 (breakout rooms on Skype), participants consider the MAS multiliteracies educator. Using either pen and paper or a free online poster building tool such as www.glogster.com, participants work in their groups to create an annotated poster representation of what it means to be a MAS multiliteracies educator.</p> <p>Once all the <u>posters</u> are complete, groups should share their work. In this situation also the whole group should consider and discuss whether there are themes that emerge from the groups' posters.</p>

Final discussions
and
recommendations
25min

In a group discussion, the facilitator will refer back to the case studies and highlight some of the challenges that were described as well as reflect on the emerging themes for both the impact of the MAS approach and activities and the MAS multiliteracies educator.

The final activity will then draw on the participants' professional knowledge to consider some recommendations for the further implementation of the MAS scenarios.

Participants should again break into groups to consider their top 5 recommendations.

Specifically, these should highlight approaches that would address and begin to overcome on-going challenges and further support teachers to become an effective user of the MAS environment.

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