Be Ready

Supporting the continuation of teaching STEM subjects during the COVID-19 Pandemic through project-based online practices

IO2 – four on-line course for teachers

SUMMARY

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Erasmus+

Declaration

This report has been prepared in the context of the BEREADY project. Where other published and unpublished source materials have been used, these have been acknowledged.

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Introduction

The Intellectual Output 2 was defined as the release of an online course that revolves around the development of 4 modules that bring forward exemplary interdisciplinary STEM projects for secondary school education.

The output started by defining the objectives and setting a consistent, monthly course structure. The online course introduced innovative tools for online teaching and realization of STEM projects. In reaching this goal 4 interdisciplinary in nature projects were designed. The design of the 4 interdisciplinary projects followed the pedagogical methodology described in output 1 (O1) and came together with training materials suitable for online/distance learning including simulations, video, presentations and how-to instructions that will enable teachers to look behind the development of the resources. The BEREADY online course offered access to OERs thematically categorized per module and included a series of 4 webinars (one for each project/module) that enabled teachers' familiarization with the design of interdisciplinary projects in STEM. The ultimate goal was teachers to receive training on STEM project realization online but at the same time to gain an understanding on how the course, the integrated tools and OERs were designed. This information was unfolding as the online course progresses. The resources that were developed were incrementally integrated in the online course. Single module lasted one month. The asynchronous e- learning was enriched with a series of live webinars.

WUT coordinated this output. Uni Siena, Edumotiva and Uni of Mihno facilitated the OERs development from a pedagogical perspective contributing to project development based on their expertise. To ensure the on time delivery of the course task leaders have been also addressed. The participating schools contributed to output 2 by providing their input that informed the modules development and final refinement.

Implementation of IO2 was divided into seven tasks, namely:

Task 1: Setting of objectives and creation of a consistent, monthly course structure (ALL)

Task 2: Platform selection and review of project scenarios in Science, Technology, Engineering and Maths that meet the objectives that have been set(WUT)

Task 3: Development of Module 1: Design of a project with primarily (but not limited) focus on Science and related OERs for teachers for online teaching (WUT)

Task 4: Development of Module 2: Design of a project with primarily (but not limited) focus on Engineering and related OERs for teachers for online teaching (Uni Siena)

Task 5: Development of Module 4: Design of a project with primarily (but not limited) focus on Maths and related OERs for teachers for online teaching (Uni of Mihno)

Task 6: Development of Module 3: Design of a project with primarily (but not limited) focus on Technology and related OERs for teachers for online teaching (Edumotiva)

Task 7: Webinars preparation stage (ALL)

This report aims to summarize realization of abovementioned tasks.

Task 1: Setting of objectives and creation of a consistent, monthly course structure

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19.09.2021, v.1.0, 15.02.2022, v.2.0 after revision

19.03.2022, v.3.0, revised after C2 meeting

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Intellectual Output 2: The BeReady online course for teachers
Task 1: „Setting of objectives and creation of a consistent, monthly course structure"

Introduction

This introduction is adopted from grant proposal:

The online courses should bring forward exemplary interdisciplinary STEM projects for secondary school education. The online course introduces innovative tools for online teaching and the realisation of STEM projects. The design of interdisciplinary projects follows the pedagogical methodology described in Intellectual Output 1 (IO1) and comes together with training materials suitable for online/distance learning including simulations, video, presentations and how-to instructions that will enable teachers to look behind the development of the resources.

Templates for presentations, video template, logos etc. that should be used during development of Open Educational Resources are available at BeReady GoogleDrive:
https://drive.google.com/drive/folders/1JF2LQCD2eS1jMS-7FBn-QSmp5k3n6VNx?usp=sharing

Basic information about courses:

The workload of trainee: we assume that teachers will take our classes probably in the evenings, after conducting own classes at school for many hours – to make our course possible to be followed a workload shouldn't be greater than about 2-3 hours per each week of individual or group plus no more than 1-2h/week of webinars. Optionally this workload can be higher but not more than 6h/week in total, but we recommend rather to do more work during the synchronous meetings, not to extend asynchronous work for more than 2 h/w.

Every course starts and ends with a synchronous webinar. There may be additional webinars if needed during the other weeks. We recommend working as an available tutor instead of a synchronous meeting for all.

During the opening webinar not only timeplan and technical details shall be given but also there should be a lot of interactions with trainers! We'd like to immerse teachers in one of the tools that we're proposing in the Handbook (example: use of Mural as a part of a webinar).

All webinars will be recorded and posted at BeReady YouTube channel as soon as possible, for the teachers that couldn't participate live in synchronous meetings but are willing to take the training.

Duration: one month, 4 weeks, 5-6h/w, in total about 20-24h of training.
The selected platform for the course: Google Classroom, https://classroom.google.com/
The account for bereaded.erasmus@pw.edu.pl was created and four Workspaces:

Science - zf6yo4o, https://classroom.google.com/c/MzkwOTIzMzQ4NDky?cjc=zf6yo4o
Engineering - cndgwcs, https://classroom.google.com/c/NDQ3OTI0NDk3NDM5?cjc=cndgwcs
Math - kxkv7gg, https://classroom.google.com/c/NDQ3OTI0NDk3NTk5?cjc=kxkv7gg
Technology - zsogavb, https://classroom.google.com/c/NDQ3OTI0NDk3NjQz?cjc=zsogavb

<u>Mode:</u> mix of synchronous and asynchronous learning, with a mont divided into smaller modules with check-points (example: one week - one webinar, or a half-way webinar)

<u>Trainees:</u> teachers from schools involved in the project. As the course is dedicated to online teaching the project groups should be done on-line mixed between schools. We estimate 5-10 teachers from every school - number ans size of groups will be determined accordingly to topic of the course.

<u>Important note:</u> because during the next step we have webinars to show to teachers in detail how we created a particular training, it's a good practice to record a screen during preparation materials. Such webinars (Task A9) are called "behind the scenes" and are supposed to reveal technical and pedagogical aspects of the module that has ended. They should last about 1h. That webinars should also be as interactive as possible and engaging. We strongly encourage teachers to share their experience - we recommend splitting a group into smaller rooms during a webinar to facilitate the process of sharing knowledge between teachers and to inspire themselves to use a particular tool in their curriculum (example: question "how can I use this?" discussed for a few minutes in subgroups and answers gathered on Mural)

Side note: because a part of a project is a dissemination of results it is helpful to document the process - for example to take a picture or printscreen during the webinar and post it on social media.

<u>Evaluation:</u> to gather teachers feedback it is recommended to do an evaluation session during the last synchronous meeting. Feedback can be qualitative or quantitative, depending on the module, but we'd like to assess how useful the module was and how we can refine its structure to better answer teachers needs.

Reference to the summary of methodology from IO-1 (p.7):

1. Choose a focus for a project
   Disciplines of primary focus are already assigned (Science – WUT, Engineering – UniSiena, Maths – Uni of Minho, Technology – Edumotiva), but the choice of a particular project is still pending. Projects should be interdisciplinary, demandemanding the use of diverse tools and be challenging but achievable in given circumstances (time and online work).
   Below there is an example "The egg drop challenge" will be used, described in the Handbook: the point is to throw a raw egg out of a window so that it will land safely.

2. Identify essential knowledge and skills that will be stressed through the project
   Basic knowledge and skills to be gained should be specified at the beginning of the course during the introduction. The first week should be spent on bringing all participants on the same page with the basic knowledge needed, showing them different possibilities and approaches to the problem (how to land safely: how parachutes work? How amortisation works? How buoyancy works? How jet propulsion works?) and also giving basic skills that can be used (How to measure the high of a drop? How to measure the collision velocity?).

3. Introduce the project and invite students to shape it. The final project should reflect students' interests and preferences
   If the problem is set but the solution is open then trainees may choose what kind of solution they want to explore. It is a trainee's decision to choose a particular solution to the final project out of learned ones (design parachute or build amortisation?) and uses adequate tools (measure final velocity with video-analysis in Tracker or with Arduino with accelerometers attached to egg-drop-vehicles or in another way?). Such an approach will result in diverse outcomes that can be inspiring between groups.

4. Give students an active role and act as a facilitator of the learning process. In PBL there is less emphasis on teacher presentation and more on providing support and guidelines.
   The roles change during the training – trainees gradually shift from passive to active participation and from processes designed by us towards own project only supervised by us. We assume that we provide quite basics on use of a particular tool but present diverse tools – trainees could deepen his/her knowledge if necessary using additional resources provided (not necessarily made by us – but collected from CC licence).

5. Establish milestones and set deadlines
   Though the course is mainly asynchronous and lasts a month, a division into shorter periods will stimulate effective work and oppose procrastination. Each week should have its own milestone (like creating requested video analysis as proof of gained efficiency in Tracker or pictures/plans of designed/built vehicles after the second week).

6. Monitor student progress using planning, reporting, and feedback tools
   Each module should check trainee progress – during the first modules by fulfilling small tasks that will emerge during training (like having an automated test after playing with a simulation or uploading a file with analysis of pre-prepared video). After the end of a further module, an assignment (like documentation of project prototype) has to be checked manually.

7. Invite students to extend the project and document ideas for new projects
   The final week is devoted to reflection on the effort made by teams – each team answering questionnaires about their work and work of others (like: what was planned, what was done, what could have gone better, what could be improved in the next iteration of design). At BeReady YouTube channels we're going to share the work of teachers! #MakeYouLearningPublic

8. Bring students in contact with experts and/or representatives of specific communities (collaboration with others may inspire their thinking and boost the project progress)
   Project-specific. We may facilitate contact if requested (but as training is taken by adult teachers they may reach experts on themself). At least we'd like to answer questions like: "imagine that you would like to invite someone - who will this person be? How will you communicate your needs to him/her? How would you invite him/her over? How would you organise your course?"

The objective of courses:
Knowledge:
- Project-specific knowledge (like dependence of drag for on the surface of a parachute)
- Awareness of possible tools to be used for STEM projects (like GeoGebra, FreeCad, Tracker)

Skills:
- hands-on exercises give abilities like mastering the use of a particular software
- use of online communication & collaboration tools in practice

Attitude:
- stimulation group work and cross-group collaboration
- positive feedback session strengthening trainee self-esteem

A8/A9: We are starting online courses for teachers in January 2022. **We agreed that 4 weeks before the author of a particular course sends "course description" to the consortium and after a week of discussion and refinements in 3 weeks before the start of course he sends the invitation to teachers.** Reason: if there is a need for purchase for schools, they need this time! Such a description should involve a final timing (dates of start, dates of synchronous webinars, full list of equipment, link to platform etc.). The first course - as is not demanding additional purchase - will have this time shortened to two weeks.

General course structure:

Week 1: Introduction. Individual preparations.
  Module 1.1. Introductory video - inspiration
  Module 1.2. Introduction: videos, simulations
  Module 1.3. Hands-on
  Module 1.4: Summary/feedback/reporting/troubleshooting/FAQ
Week 2: Team effort
  Module 2.1. Introductory video:
  Module 2.2. Hands-on
  Module 2.3 …
  Module 2.4: Summary/feedback/reporting
Week 3: Cross-group learning
  Module 3.1. Introductory video:
  Module 3.2. Hands-on
  Module 3.3. ….
  Module 3.4: Summary/feedback/reporting
Week 4: Refinements & Summary
  Module 4.1. Introductory video:
  Module 4.2. Hands-on
  Module 4.3. Summary and feedback

EXAMPLE - draft of Module 1 - SCIENCE (WUT)

Task 2: Platform selection and review of project scenarios in Science, Technology, Engineering and Maths that meet the objectives that have been set(WUT)

After revision of tools and platform, that are presented in BeReady Handbook and internal discussions, Google Classroom was selected as the platform for our courses, as presented in revised version of Task 1. Later in this documents the scenarios are presented.

Task 3: Development of Module 1: Design of a project with a primary (but not limited) focus on <u>Science</u> and related OERs for teachers for online teaching (WUT)

Course description

Goals of the course Module:
- Make participants acquaintance with a scientific method
- Present a series of three physical experiments with increasing levels of complexity
- Strengthen the abilities of mathematical analysis of data (video analysis and curve fitting)

Partner responsible for this Module:
Warsaw University of Technology, Dariusz Aksamit, dariusz.aksamit@pw.edu.pl, +48 608-294-583

Link to course platform:
All materials or links will be embeded at this Google Classroom site or given there in the stream:
https://classroom.google.com/c/MzkwOTIzMzQ4NDky?cjc=zf6yo4o
Technical notice: the participant is required to have a private Google Account. Google Account does not require Gmail, one could register Google Account using any kind of e-mail. School (institutional) e-mail create for school G-Suite is not eligible.

Equipment required:
- Kitchen supplies (water, ice, glasses, bowls etc.)
- Camera (in a smartphone is suitable)
- Installation Tracker software https://physlets.org/tracker/ (use of online version is possible)
- No additional purchase is needed

Course timetable:
Week 1, 17-23.01.2022: Introduction to the scientific method
- **Synchronous: Monday 17.01.2022, 17:00-19:00 CET (2:00h), introductory meeting**
- Workshop on scientific method cycle (at Mural - link will be sent during the meeting)
- Example of a very simple experiment, but conducted in a scientifically-rigorous way
- as training for hypothesis formulation.
- Asynchronous homework (1-2h): Home experiment with ice and upload of a report.

Week 2, 24-30.01.2022: Mathematical analysis of an experiment
- Asynchronous homework: Data analysis - Tracker and GeoGebra tutorial (2-3h) with a case of
- droplets of water.
- **Synchronous: Friday 28.01.2022, 17:30-19:00 CET (1:30h), summary meeting**
- Summary of experimental homework - methodical issues
- Summary of tutorial homework - technical issues

Week 3, 31.01-06.02.2022: Experiment done in a step-after-step way
- **Synchronous: Monday 31.01.2022, 17:00-18:30 CET (1:30h), announcement meeting**
- Description of a problem: a surprising phenomena to be analysed. Discussion on an
- experimental setup and way of analysis. Step-afer-step instruction.
- Asynchronous homework: Perform an experiment according to instruction and upload of a
- report (2-3h).

Week 4, 07-13.02.2022: Experiment done in an open way
- Asynchronous homework: After asynchronous feedback of basic version of an experiment it's
- time for a remake of an experiment with creative changes.
- **Synchronous: Wednesday 09.02.2022, 17:30-19:00 CET (1:30h), closing meeting**
- Presentations of experiments
- Summary, Q&A session, discussion

List of resources related to the course

Opening meeting: https://youtu.be/fMC1vQHRL-A
Example of tutorial: https://youtu.be/q8CmHSod07s
Summary of week 2 https://youtu.be/-3RpNUxLWbQ
Into to week 3: https://youtu.be/JuWDixZLQzA
Summary of week 4: https://youtu.be/c8oXfuzEDQ8
Webinar about module: https://youtu.be/J7jwA5moZuA

Task 4: Development of Module 2: Design of a project with a primary (but not limited) focus on <u>Engineering</u> and related OERs for teachers for online teaching (USIENA)

Course description
Goals of the Course Module:
- Make participants acquaintance with the process of product design
- Present a step-by-step example for the design of a product
- Strengthen the abilities to manage the main steps of design flow
- Introduction to CAD modeling and additive manufacturing techniques

Partner responsible for this Module:
University of Siena, Monica Malvezzi, monica.malvezzi@unisi.it, +39 366 5610708

Link to course platform:
All materials (videos, scripts) will be embedded at this Google Classroom site or given there in stream:
https://classroom.google.com/c/NDQ3OTI0NDk3NDM5?cjc=cndgwcs
Technical notice: the participant is required to have a private Google Account. Google Account does not require Gmail, one could register Google Account using any kind of e-mail. School (institutional) e-mail create for school G-Suite is not eligible.

Equipment required:
- Personal computer.
- Notebook, pencils
- The course focuses on the design process. A list of components necessary to realize the prototype will be defined during the course, but the purchase of such components and their assembly is not mandatory for the course.

Course timetable:

Week 1, 14-20.02.2022: Introduction and tools
- **Synchronous: (2:00h February 14, 2022 -17:00-19:00 CET), introductory meeting**
  - The design flow
  - The tools that will be used in the course
  - First step: defining design requirements
  - Problem presentation: design of a drone for environmental monitoring.
- Asynchronous video and homework on how to install and getting familiar with CAD systems (~1 h)
- Asynchronous homework on the definition of design requirements(1-2h)

Week 2, 21-28.02.2022: let's start designing
- **Synchronous:(2:00h February 21, 2022 -17:00-19:00 CET), refining the requirements and starting sketching**
- Asynchronous video on how to draw sketches with CAD (~1 h)
- Asynchronous homework: let's start designing (~1 h)

Week 3, 28.02.2022-06.03.2022: design refinement and evaluation
- **Synchronous: (2:00h February 25, 2022 -17:00-19:00 CET), refining the design, design evaluation, towards prototyping**
- Asynchronous video on how to make 3D objects with CAD (~1 h)

- Asynchronous homework: from drawing to model

Week 4, 07.03.2022-13.03.2022: project review

List of resources related to the course

Lecture 1

Video recording
https://drive.google.com/file/d/14enAhHFWEbmqxVTlTEWhFOpuJlZQ_6RX/view?usp=sharing
Slides
https://drive.google.com/file/d/1fV_5eQJEcx-xusNP80zQ9Gh40omiHbex/view?usp=sharing

Additional resources
Link to the assignments and supplementary material for week 1
Tinkercad
https://www.tinkercad.com/
Start exploring Tinkercad
Tinkercad Tutorial Video

Video on engineering
What is Engineering?

Lecture 2

Video recording
https://drive.google.com/file/d/1NS7U-xVGakj4OlgQTbNJsxO93M4kBKoK/view?usp=sharing
Slides
https://drive.google.com/file/d/1CeFxgNoRJ4BYoXs8RwMdvxPrXFTnV9gT/view?usp=sharing
Extra exercise (optional for groups)
https://drive.google.com/file/d/10geFdiw024xErDhUMP_nLUZek9-CMifm/view?usp=sharing

Lecture 3

Video recording
https://drive.google.com/file/d/1y3YkNK6KLh3oCabd4-3Aar4KtQD5-SAV/view?usp=sharing
Lecture slides (pdf)
https://drive.google.com/file/d/1P7OFAUrPMr5v7gjZtWu3UbUc_Vov5g9-/view?usp=sharing
Lecture slides (ppt)
https://docs.google.com/presentation/d/18h1TD0uf5A04C29oP7TmYZehr3T2IMdf/edit?usp=sharing
&ouid=106564985096851388971&rtpof=true&sd=true
Additional resources
Additional material: AM technologies (full presentation)
https://drive.google.com/file/d/1281AtO1VpXx3fWIAf3jb4Qx-m65Cf2b_/view?usp=sharing
Some journal papers describing the State of the Art on Additive Manufacturing technologies
https://drive.google.com/file/d/1BeWd2iiPA5No1nWPvmjvXo2UdkCQ-AxN/view?usp=sharing
https://drive.google.com/file/d/1fEpz4XXhBFdI19HhpjC8gzOWouJSOurO/view?usp=sharing

Lecture 4

Video recording, part 1
https://drive.google.com/file/d/1-9q7p8A6LRMhXMxeK9GoTCBzLmrA9eP0/view?usp=sharing
Video recording, part 2
https://drive.google.com/file/d/1-9q7p8A6LRMhXMxeK9GoTCBzLmrA9eP0/view?usp=sharing
Slides
part 1
https://drive.google.com/file/d/1-9q7p8A6LRMhXMxeK9GoTCBzLmrA9eP0/view?usp=sharing
part 2
https://drive.google.com/file/d/1xzMUpIsg4eiNJmcpBwWJCGwzoSC-jHUO/view?usp=sharing

Task 5: Development of Module 4: Design of a project with primarily (but not limited) focus on <u>Maths</u> and related OERs for teachers for online teaching (Uni of Mihno)

Course description
Goals of the course Module:
- Make participants acquaintance with some basics of statistics applied to STEM areas;
- Present a series of some practical examples with increasing levels of complexity;
- Strengthen the abilities of statistical analysis of data.

Partner responsible for this Module:
University of Minho, José Alberto Lencastre

Link to course platform:
All materials or links will be embedded at this Google Classroom site or given there in the stream:
https://classroom.google.com/c/NDQ3OTI0NDk3NTk5
Technical notice: the participant is required to have a private Google Account. Google Account does not require Gmail, one could register Google Account using any kind of e-mail. School (institutional) e-mail create for school G-Suite is not eligible.

Equipment required:
- Camera (in a smartphone is suitable);
- Internet access on computer, tablet or smartphone;
- No additional purchase is needed.

Course timetable:
Week 1, 21/03/2022 to 26/03/2022: Introduction to descriptive statistics
- **Synchronous: Tuesday 22/03/2022, 18:30-20:30 CET (2:00h), introductory meeting**
  - Workshop on: information about the learning objectives of the mathematics course
  - Definition of the theme and working groups (3 to 4 teachers)
    - Definition of a study topic (an example of applying descriptive statistics in everyday life);
    - Define activity objectives;
    - Plan data collection.
  - Online communication with Google Meet

- **Asynchronous homework** (1-2h) - practical activity involving:
  - The construction of a questionnaire, on Google Forms, per group;
  - Collect data (type of variable, method to defining a sample).

Week 2, 28/03/2022 to 02/04/2022: Charts and graphics
- **Synchronous: Tuesday 29/03/2022, 18:30-20:30 CET (2:00h), announcement meeting**
  - Workshop on: tables, charts and graphics
  - Online communication with Google Meet
- Asynchronous homework (1-2h): In group analyse the collected data through tables and graphs.

Week 3, 04/04/2022 to 09/04/2022: Location measures
- **Synchronous: Monday 04/04/2022, 17:00-18:30 CET (1:30h), announcement meeting**
  - Introduction to Interpretation of information from the data (frequencies, measures of central tendency);
  - Online communication with Google Meet.
- Asynchronous homework: Interpret the information from the data collected and draw conclusions according to the objectives of the study. (1-2h).

Week 4, 11/04/2022 to 13/04/2022: presentations and discussion
- Asynchronous homework: asynchronous feedback about the activities developed by the teachers.
- **Synchronous: Wednesday 13/04/2022, 18:30-20:00 CET (1:30h), closing meeting**
  - Presentations of work done by groups through the individual digital portfolio
  - Summary, Q&A session, discussion
  - Online communication with Google Meet

The "behind the scenes" Webinar
- **Synchronous: Tuesday 26/04/2022, 19:00 CET (1h).**

List of resources related to the course

Presentation is available at:
https://docs.google.com/presentation/d/1uwNGaTLiLI6UexF9QVaXnd5mLXZ90bZc/edit?usp=drive _link&ouid=110900831486675351527&rtpof=true&sd=true

Task 6: Development of Module 3: Design of a project with primarily (but not limited) focus on Technology and related OERs for teachers for online teaching (Edumotiva)

Course description

Goals of the Course Module:

The main goal of this course is to showcase methods and strategies on how the teachers can support the realization of STEAM projects through online teaching, and specifically how they can contextually introduce their students to technical tasks (programming, using tools to create virtual experiences and more). To do that, the creation of a virtual gallery will be used as a flexible and interdisciplinary scenario around which the module will unfold. In particular, the module will allow teachers to delve into the concepts and strategies related to the organization and the creation of a virtual gallery, identify key aspects regarding the content/thematic of the virtual gallery that need to be exhibited, and (eventually) start making the necessary steps towards creating the virtual gallery.

The module

- supports trainees in understanding how an online course can be designed and realized
- guides trainees towards creating their own virtual gallery and organizing content for this purpose
- provides opportunities to explore programming concepts through tools that are appropriate for school education
- offers opportunities for exploration of animated artefacts construction
- guides trainees in using a virtual environment for creating virtual experiences and 3D interactive narratives
- brings different subject areas together towards creating digital and virtual experiences
- Offers opportunities to practice the stage of brainstorming, planning, creating and sharing inherent in project-based learning practices

Partner responsible for this Module:
EDUMOTIVA, Rene Alimisi & Chrissa Papasarantou, ralimisi@edumotiva.eu +306932218143
You can also contact us through the group in What's App anytime and through Google Classroom messages.

Link to course platform:
All materials (videos, scripts, presentations, reference guides) will be uploaded at this Google Classroom site:

https://classroom.google.com/c/NDc5NTgwOTU5NDUw?cjc=bwjvvfh
Password: bwjvvfh

Requirements:

Personal computer, reliable connection to the internet, microphone, camera, speakers, notebook (optional), a folder to store digital content (locally or in a usb stick).
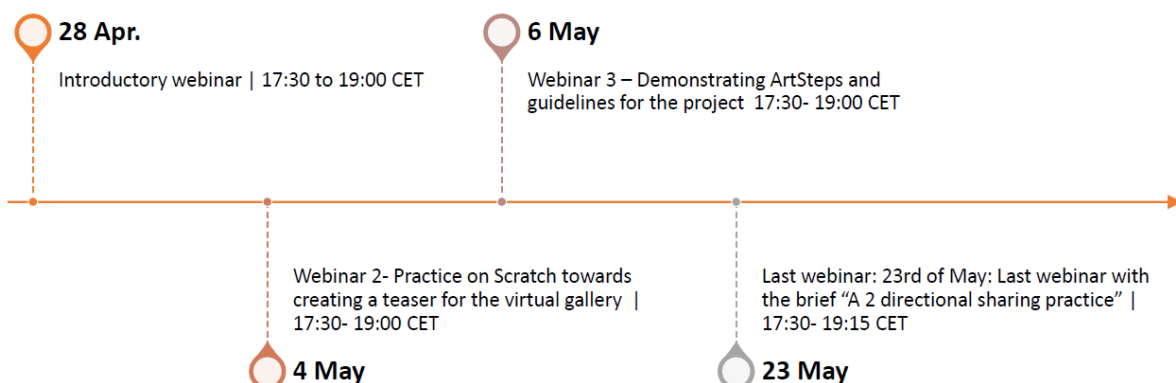

Retrieved from: https://www.pressherald.com/2020/06/24/high-school-art-exhibit-goes-online/
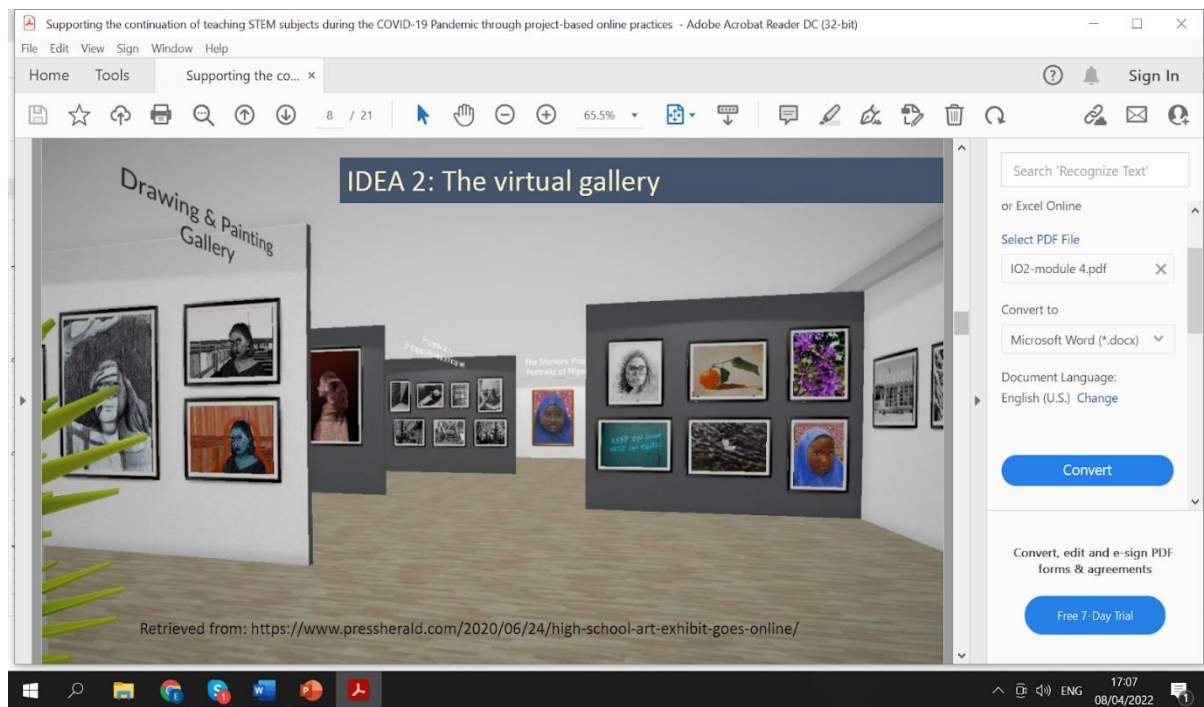
Number of webinars: The module includes four (4) live webinars.

All the webinars will be held in **Zoom**:
https://us06web.zoom.us/j/88102462413?pwd=L3lSOUZ0UFVUWkZJUFRDaHQ5TE1qUT09

The 4 webinars in a timeline
- **Introductory webinar:** April 28, 17:30-19:30* CET *(*duration: 1h30-2h00 hours)*
- **Webinar 2:** May 4, 17:30- 19:00 CET
- **Webinar 3:** May 6, 17:30- 19:00 CET
- **Webinar 4:** May 23, 17:30- 19:15 CET

28 Apr.

Introductory webinar | 17:30 to 19:00 CET

6 May

Webinar 3 – Demonstrating ArtSteps and guidelines for the project 17:30- 19:00 CET

Webinar 2- Practice on Scratch towards creating a teaser for the virtual gallery | 17:30- 19:00 CET

4 May

Last webinar: 23rd of May: Last webinar with the brief "A 2 directional sharing practice" | 17:30- 19:15 CET

23 May

Course structure

Week 1:
The module starts with the 1st webinar (April 28 at 17:30 CET).

The focus of the 1st webinar will be around the concept of virtual gallery. Through a number of reflective tasks an attempt will be made to go deeper into this concept and its aspects. What is a virtual gallery? What do we mean by virtual experiences creation? Are there any learning benefits connected with the creation of virtual galleries?
A brainstorming session will follow, inviting teachers to start thinking about the thematic area for their virtual gallery. Guidelines for next webinars will be provided and an overview of the procedures to be followed will be presented.

Week 2:
Two (2) webinars will take place during this week.

Webinar 2 (May 4 at 17:30 CET): Towards creating 2D digital experiences.
The webinar guides teachers towards creating their own animated teaser in Scratch using simple programming concepts. The development of the teaser will take place online. The webinar covers the basics of Scratch (inherent in the teaser development), includes demonstrations and showcases examples. The online practice will happen through a half-baked scenario.

Webinar 3 (May 6 at 17:30 CET): Towards creating 3D virtual experiences

The focus here is on the use of ArtSteps virtual environment to create 3D virtual experiences. The webinar includes: Demonstrations, Step by step guidelines, Examples, Real time navigations.

Week 3-4
This is the period for teachers to carry out their project and create a virtual gallery on the thematic area of their choice. Online and offline support mechanisms will be activated (even one to one support will be available if needed).

Last webinar will be held on May 23 at 17:30. The webinar will have the form of a 2-directional sharing practice where trainees will present their work ("grand opening of the virtual galleries") and Edumotiva will share how this module was designed (key considerations. key steps, challenges and more). Guidelines on how this will be done will be provided by the trainers in advance. An evaluation form will also be provided for gathering feedback by the participating trainees.

List of resources related to the course

1st webinar:
        part 1: https://www.youtube.com/watch?v=rCx2pksCxfU
        part 2: https://www.youtube.com/watch?v=VO6AWWUh4pY
        part3: https://www.youtube.com/watch?v=VdkA0ig2MgM
2nd webinar:
        part 1: https://www.youtube.com/watch?v=D35hYuA42b8
        part2: https://www.youtube.com/watch?v=mOGoV0zA2gc
3rd webinar:
        part 1: https://www.youtube.com/watch?v=waWwZsW5xX0
        part 2: https://youtu.be/UDZYuiZqJMQ
4th webinar:
        https://www.youtube.com/watch?v=Nq17Os5bHpg

Links to resources (including outcome – trainee projects/homeworks)

Resources provided by the trainers
1st webinar
Material used during the introduction of the module (ppt file):
https://drive.google.com/file/d/1hzQfkX21o3g26kXn8xqx1DWxYq398pdQ/view?usp=share_link

2nd webinar
Guidelines for creating a virtual gallery in scratch (pdf file):
https://drive.google.com/file/d/1VFbchwVs21CxV6s7e-xpWgjycOpC7V8o/view?usp=share_link
Presentation on how a virtual gallery can be created in scratch (ppt file):
https://drive.google.com/file/d/1WpvEYTjiMB86ihqRGjj9OiumIksafxh6/view?usp=share_link

3rd webinar
Guidelines for creating a virtual gallery in Artsteps (pdf file):
https://drive.google.com/file/d/1TI41syAZ9gYXH2QRD2CMk-ShEdNl-tFg/view?usp=share_link
Presentation on how a virtual gallery can be created in Artsteps (ppt file):
https://drive.google.com/file/d/1f2IHycStNy_Kxm3Xp5MA-y90yDKnp3uv/view?usp=share_link
Useful links helping towards the implementation of the project:
https://docs.google.com/document/d/1s5DeFuYkXNF0TcBk2UPL8RKCqitezoWM_t8BK8bqEE8/edit

4th webinar
Module 4 backstages (ppt file):
https://docs.google.com/presentation/d/1ukrWt6dEsL986mgeJUr1bjy_l1cX0J_F/edit#slide=id.p1
Video to module 4 backstage: https://youtu.be/sE2iVV75gmY
In order to support teachers online and facilitate different learning styles we created additional videos to what we have originally planned, creating content for making a virtual gallery using different methods (i.e. through programming, through adjustable models in ArtSteps, by creating a model from Scratch.) In addition, the release of how we worked on the module took place in an innovative way by creating a virtual gallery by scratch with the thematic "The backstage: how we worked on module 4". This attracted trainees' interest and made the session more attractive and engaging.

Resources provided by the trainees
Link to table where the trainees registered their topic by providing the title of their gallery, a short description of the topic of their gallery, and 2-3 representative examples that would be exhibited in their gallery
https://docs.google.com/document/d/1d6vRl0Ozyh7Ed0ylhgiJxZlHG9brMF_a5j81qBSwcoE/edit

Project produced by the Greek team:
https://drive.google.com/drive/folders/1iPSH7HGiXnMVNSkUN93yUDiCAQm1o0bw
Project produced by the Italian team:
https://drive.google.com/drive/folders/1nIhEE9ThK8wzgqRlnzlQphJ-tS8i1due
Project produced by the Polish team:
https://drive.google.com/drive/folders/1HxSW8wv5MU7NxCIcitvhPQT7FUv3YMel
Project produced by the Portuguese team:
https://drive.google.com/drive/folders/1BrIaC0ZAeXMwEl_WAbJkjSOwvJIgY5eu

Task 7: Webinars preparation stage (ALL)

WUT:

https://youtu.be/J7jwA5moZuA

GR:

https://youtu.be/sE2iVV75gmY

PT:
https://drive.google.com/file/d/1tep0tQvE44uD3kKz0BZpKk8dPDu_8A5j/view?usp=drive_link

IT
https://drive.google.com/file/d/1FMkgqhQFFkFku5yWYoC6_PlevPcio8DJ/view?usp=sharing