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ImTech4D

Immersive Technologies for Education

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Intellectual Output 3

ImTech4Ed university student and in-service STEAM teacher training program

Draft Document for internal use.

Leading Partner : OUC

Contributing Partners : ALL

Country   : ALL

O3 or in short, the "Teacher Training Program," aims at developing participants' knowledge, skills, and dispositions for applying the ImTech4Ed Methodological approach in game design and/or STEAM teaching and learning.

It is designed and developed by OUC in collaboration with all Partners. The Partners accepted the proposed by OUC Program structure, focusing on the key aspects of a rounded approach for the preparation of inservice as well as pre-service (i.e. university students) teachers, for applying the ImTech4Ed approach in the classroom while paying attention to aligning the content and activities to the respective curriculum.

The Program being developed consists of 4 Modules as described below:

- Module 1: Introduction to STEAM education

  Focus: the interdisciplinary STEAM approach, contemporary pedagogical models and approaches, technological tools and resources and strategies for motivating students to pursue STEAM studies.

- Module 2: Game-based STEAM education

  Focus: Game-based education and its pedagogical strengths and limitations, game-based STEAM pedagogy and contemporary learning theories, digital game evaluation, instructional strategies for facilitating STEAM learning with games.

- Module 3: Exploring authorware tools available

  Focus: Presentation of a selection of preferably Open Source authorware tools and practical training of participants with selected tools. The practical activities will take into consideration the framework and techniques covered in the previous Modules.

- Module 4: Applying the ImTech4Ed approach in the classroom and aligning it to the curriculum

  Focus: Introduction to STEAM scenarios, comparison and evaluation of interdisciplinary scenarios, adaptation of existing scenarios based on the ImTech4Ed approach, collaborative re-design of STEAM activities, introduction to action research (teachers as researchers). Enactment of STEAM scenarios in school settings, collection of data to evaluate and improve teaching practices and student learning outcomes, reflection on current teaching practices.

Implementation Plans

The Program is designed for a blended learning approach, i.e. it is expected to include f2f and online asynchronous activities (note: this approach may need to be revised to fully online, given any Covid restrictions that may be in place at the time).

It will be implemented utilising a Moodle LMS site, provided by IHU. Moodle will be used to host and deliver the overall Program, which will include study materials (e.g., guides, presentations, video-tutorials, references to external resources) in support of all learning activities. Additional Moodle tools for communication and collaborative work will also be made available to instructors.

To aid the teaching and learning, the Modules will have a similar structure and will offer user friendly guides. Specifically, each Module will include a short introduction, a list of learning objectives, expected time for completion, specific learning activities to help participants achieve module objectives