EDICULA

Educational Digital Innovative Cultural heritage related Learning Activities

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TEACHERS COURSE
Summary of Learning Outcomes

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Summary of Learning Outcomes of the Teachers Course

The implementation of the EDICULA Teachers' Course aimed to train higher education teachers to promote the transdisciplinary scientific synthesis as the key element for innovative education. Although the two basic axes of universities are education and research, their interconnection is not always projected into society. Thus, the EDICULA project aimed to connect Society with higher education in order to transfer research achievements to the wide audience, using the field of Cultural Heritage (CH) as a carrier. Within this framework, Innovation emerged as the most effective catalyst to transform Research into novel educational approaches to achieve authentic learning.

At a first level, the wide audience and experts were approached through digital games (O4) and the EDICULA educational toolkits (O1). At a second level the EDICULA project provided added value regarding the connection of Society with higher education by demonstrating the importance of innovative transdisciplinary scientific synthesis to teachers in reformed post-graduate programs (O2). These support an improved didactic process, with emphasis on the critical scientific and technical issues of cultural heritage protection. This didactic process, at these levels, creates a multidisciplinary and synthetic mentality for the students or the users which expands their knowledge of the grand challenges.

At a third level EDICULA developed an improved hands-on education framework (O3) through the analysis of the current and projected hands-on methodologies utilized in higher education studies; through bridging the gap between XR community and CH end-users to enable a transformation from authentic learning to real-world learning, through a hands-on experience and into an immersive AR educational methodology that encompasses all latest technological advancements and transdisciplinary consideration of scientific results; through the adoption of a cooperative hands-on educational approach that converges the needs of the trainees with the latent capacities of the technical, scientific, and professional communities, as evidenced in the hands-on workshops and multiplier events organized during the EDICULA project.

At a fourth level the EDICULA project' learning outcomes focused on the dynamic incorporation of Innovation in Education. It regarded Innovation produced in the various scientific fields – in the case of the EDICULA project in the scientific field of cultural heritage protection – which within a feed-back path allow for an improved education of the next generations of scientists, professional and citizens. This level of learning outcome was supported by the innovation of emblematic use case of the Holy Aedicule rehabilitation. This learning outcome, thus, regards an Innovation-focused and Innovation-driven transformation of the Education, with emphasis on the level of higher education studies. Within this level, EDICULA project aimed to foster students to a professional and entrepreneurship mentality, by advancing education in collaboration with enterprises concerning technical works and digital applications, and thus enhance learning outcomes to ensure professional qualifications.

Following from the above, the assessment of learning outcomes for EDICULA transdisciplinary teaching involves identifying transdisciplinary abilities that can evolve into hallmarks of transdisciplinary learning. These abilities may be expressed in the language of assessment and evaluated and analyzed at both the trainers; methodology and at the trainees levels.

Transdisciplinary mentality development includes a balance between subjective and objective thinking, more sensitivity to ethical issues, enlarged perspectives of horizons, ability to synthesize and integrate more creative thinking, and more listening skills.

Transdisciplinary approach contributes to the development of key cognitive skills in ways that are different to single-subject approaches, mainly because the skills require viewing the approaches, knowledge products and processes of relevant disciplines from a detached and comparative viewpoint.

EDICULA Teachers' Course fostered the following cognitive abilities: The ability to (i) develop and apply perspective-taking techniques, (ii) develop structural knowledge of complex problems, (iii) integrate conflicting insights from more than two disciplines, (iv) produce an advanced transdisciplinary understanding of complex problems.

The EDICULA Teachers' Course methodology included challenges to view perspectives of more than two disciplines to better understand a complex problem, integrated innovation in research, proposed holistic approaches.

In conclusion, the EDICULA Teachers' Course learning outcomes were the following. The attendees were able:

- to engage in perspective-taking,
- to develop structural knowledge pertaining to a complex problem,
- to integrate knowledge drawn from innovation,
- to produce a transdisciplinary understanding of a complex problem.

Based on the above, the design, development and implementation of the Teachers Course was successful and addressed the project's targets and will have a significant impact, following the diffusion of the acquired know-how and methodology to other institutions and postgraduate programs.